Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
2017-18			
Differential Equations	FCBS 0102	2016	Skill Development(Students will know about the modelling of different engineering application)
Linear Algebra & Vector	FCBS 0103	2016	Skill Development(Students will know about modelling of problems related to system of equations in engineering application)
Electricity and Magnetism	FCBS0404	2016	Skill development (Students will develop the skill of identifying circuit elements and operating different electrical circuits)
Applied Analytical Chemistry	FCBS0401	2016	Employability-Water Analysis, Soil Analysis, Chemistry of fuels. Skill- All practices
Industrial Chemistry	FCBS0402	2016	Employability-: Preparation of soap, dyes and oil analysis ,Analysis of cement Skill-All Practices
Applied Engineering Materials	FCBS0403	2016	Employability-Nano Materials,Polymers,Composites. Skill- All Practices
Foundations of English Communication	FCHU1201	2016	Skill Development(Students will develop basic interpersonal communication skill (BICS))
Communicative Practice Laboratory -1	FCHU1202	2016	Skill Development(Students will enhance their communication skills in english both academic and proffessional context)
Business Communication	FCHU1203	2016	Skill Development(Students will enhance their communication skills in english in bussiness context)
Communicative Practice Laboratory-II	FCHU1204	2016	Skill Development(Students will enhance their communication skills in english both academic and proffessional context)
Corporate Readiness Laboratory	FCHU1205	2016	Skill Development(Students will develop professional communication skill)
IT Enabled Communication	FCHU1206	2016	Skill Development(Students will enhance their communicative competency through the use of technology)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Career Communication	FCHU1207	2016	Skill Development(Students will enhance their communicative competency in professional career)
Personality Development	FCHU1208	2016	Skill Development(Students will learn basic ettiquette in professional sphere)
Seminar and Technical Writing	FCHU1209	2016	Skill Development(Students will learn the convention followed in academic and technical writting)
Professional Etiquette	FCHU1210	2016	Skill Development(Students will learn basic ettiquette in professional sphere)
Creative Writing	FCHU1211	2016	Skill Development(Students will enhance their competency level using innovative method for creative writting)
English for Competition (GRE/GMAT/TOEFL/IELTS)	FCHU1212	2016	Skill Development(Students will enhance their competency level to compete with students of global standard)
Life Skills Development (LSD) – I	FCHU0210	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Life Skills Development (LSD) – II	FCHU0211	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Life Skills Development (LSD) - III	FCHU0212	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Economics	FCMG0101	2016	Skill Development(to provide students with a basic understanding of the economic principles, methodologies and analytical tools that can be used in business decision making problems) Employability & Entrepreneurship (Student shall understand and apply the impact of economic policies on managerial decision-making by providing an understanding of fiscal policy, and national and global economic issues affecting business.)
Accounting & Finance	FCMG0102	2016	Skill Development-Students will be able to create, balance and deliver a budget and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			use budget information for planning and decision purposes; Employability & Entrepreneurship (Students to Undertake various costing techniques and information for planning and decision-making)
Management Processes and OB	FCMG0103	2016	Skill Development-Students shall be able to analyze and compare different models used to explain individual behaviour; Employability & Entrepreneurship (Students shall be able toresolve conflict, motivate the employees, handle stress and communicate effectively and manage diversified workforce in workplace)
Production and Operation Management	FCMG0104	2016	Skill Development (Acquire a working understanding of the roles/functions of production management in the context of business enterprise.) Employability & Entrepreneurship (Student can use specialized knowledge in Operations Management to solve business processes)
Marketing Management	FCMG0105	2016	Skill Development (Students will learn the application of various marketing tools for solving business problems). Employability and Entrepreneurship (students will acquire and develop the marketing skills to be a successful marketing person)
Introduction to Research	FCMG0108	2016	Skill Development (Students will be able to understand the process of doing a research). Employability and Entrepreneurship (Students will be able to write a research report.)
Indian Society and Culture	FCMG0113	2016	Skill Development (Students will be familiarized with the science and technology policies that would benefit modern India). Employability and Entrepreneurship (Students would develop an idea about the socio-cultural environment in which they would be

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			working as scientists, researchers and enterpreneurs.)
Disaster Management	FCMG1201	2016	Skill Development (students would begin to understand the relationship between vulnerability, disasters, disaster prevention, risk reduction and the basic understanding of the research methodology for risk reduction measures.). Employability and Entrepreneurship (Students would develop rudimentary ability to respond to their surroundings with potential disaster response in areas where they live, with due sensitivity)
Material Sciences	ENFC0102	2017	Employability and Skill development (Students will able to identify materials for engineering use.Students will able to select best materials for a specific design and production.)
Basic Electronics	FCEN0102	2016	Skill development (Students will develop the skill on various technology of electronics engineering)
Signals & Systems	FCEN0103	2016	Skill Development Understand mathematical description and representation of continuous and discrete time signals and systems. Develop input output relationship for linear shift invariant system and understand the convolution operator for continuous and discrete time system. Understand and resolve the signals in frequency domain using Fourier series and Fourier transforms. Understand the limitations of Fourier transform and need for Laplace transform and develop the ability to analyze the system in s- domain. Understand the basic concept of probability, random variables & random signals and develop the ability to find correlation, CDF, PDF and probability of a given event.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Digital Electronic Circuits	FCEN0104	2016	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Basic Electrical Engineering	FCEN0105	2016	Skill Development (Students will get the skill to design devices and systems using electrical components such as resistors, capacitors, transistors, etc
Electrical Machines – I	FCEN0106	2016	Skill Development (Students will get the skill to analyse about the principle of operation & performance of rotating electrical machine like DC Motor, DC Generator, and Transformer
Analog and Digital Electronics	FCEN 0107	2016	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Workshop Technology	FCEN0108	2016	Skill development (students will be able to can suggest suitable manufacturing technique for given component.)
Engineering Mechanics	FCEN0109	2016	Skill development (To provide the student with a thorough understanding of concept, drawing and free body diagrams.)
Thermal Engineering	FCEN0110	2016	Skill development (Students will be able to prepare energy balance sheet will be able to understand various processes of thermodynamic cycles Will be familiar with the steam table which will further help them in advanced thermodynamics for understanding power cycles)
Introduction to Internet Technology	FCEN0201	2016	Skill And Employability(Develop a static, interactive and well-formed webpage using JavaScript, CSS3 and HTML5)
Basic Electronics Laboratory	FCEN0202	2016	Skill Developement Students would be able to understand and interpret the specifications, Shall be able to select optimal design topologies, Shall be able to interpret datasheets and thus select appropriate components and devices, Shall

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			be able to design an electronic system/sub-system and validate its performance by simulating the same
Signals and Systems Laboratory	FCEN0203	2016	Skill Developement Understand use of different transforms and analyze signals and systems in the time/frequency domain, Capable of calibrating and resolving different frequencies existing in any signal
Digital Electronic Circuits Laboratory	FCEN0204	2016	Skill Developement Design and implement Digital Logic hardware circuit to test performance and application
Electronics Workshop – I	FCEN0205	2016	Skill Development Design and implement different electronics circuits in harware to test performance and application
Basic Electrical Engineering Lab	FCEN0206	2016	Skill Development(Students will get the skill to perform the experiments based on basic concepts of electrical science.
Electrical Workshop Practice	FCEN0207	2016	Skill development(Students will Enhance their skill of operating electrical instruments, hand tools and power tools)
Basic Electrical Simulation Lab	FCEN0208	2016	Skill development(Students will Develop a skill to construct and analyse a practical electrical circuits without having practical knowledge)
Electrical Machines-I Lab	FCEN0209	2016	Skill Development(Students will get the skill to perform the experiments based on DC machines and Transformers.
Analog and Digital Electronics Lab	FCEN0210	2016	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Automation Lab (PLC)	FCEN0211	2016	Skill development(Students will be able to use a number of PLC programming languages to develop control solutions.)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Geometric Drawing	FCEN0212	2016	Skill development(Students will be able to Demonstrate use of CAD in Civil Construction, basic knowledge of operating software & commands, and benefit of civil developments in the construction industry. Do 2d &3d drafting /design with AUTO CAD software.)
Electrical Load Survey	FCEN0304	2016	Skill development(Students will be skilled enough to carry out load survey and energy auditing on his/her own.)
Basic Fluid Mechanics	FCEN0401	2016	Skill development(• After completion of the course, the students will able to evaluate finite difference/volume schemes on model problems of computational fluid dynamics. • Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems)
Introduction to Programming in C	FCEN0402	2016	Skill And Employability(Case study to be given to students on uses of C program for development of various real time applications like online examination system, online quiz competetion etc.)
Object Oriented Programming Using C++	FCEN0403	2016	Skill And Employability(Case study to be given to students on uses of C++ program for development of various real time applications like online examination system, online quiz competetion etc.)
Database Management System	FCEN0404	2016	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL-Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Functions – Triggers Case study in industrial standards of Database Management)
Building Materials & Construction	FCEN0406	2016	Skill development(Knowledge: Able to learn basic theory about main building- and construction materials. Skills: Able to make right and well-founded choice of materials. General competence: Understand how properties of materials that are important in engineering can be related to the characteristics of the material.)
Basic Surveying	FCEN0407	2016	Skill development(Doing centering, leveling & measuring coordinate points of area and calculation, transfer to data from Total station to software spectrum link Doing field work using of simple machine parts such as Total –Station, Auto- level)
Python Programming	ENFC0411	2017	Skill And Employability(Case study to be given to students on uses of python program for development of various real time applications .)
Programming for Problem solving– Java	ENFC0412	2017	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Electrical Circuit Drawing (AutoCAD)	FCEN0603	2016	Skill development(Students will know the use of AutoCAD Software and will develop skill of designing generalized electrical Machine blueprint)
Programming Internet of Things	ENFC1401	2017	Skill (Hands on training for understanding of the communication protocols in IoT communications.)
Build Your Own Computer	ENFC1402	2017	Skill (Hands on training to build computing devices.Troubleshoot various faults in a computer system and network)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Cloud Computing Applications	ENFC1403	2017	Skill (Hands on in accessing cloud Storage systems and Cloud security and develop cloud application)
Software Development Methodologies	ENFC1404	2017	Skill (Students get to apply software engineering principles and techniques learnt to a real-life project topic of their choice in a contemporary domain and design-implement novel solution by working together as a team.)
Estimation & Quantity Surveying	CECC0201	2017	Skill development(Students will be able to Estimating, brick calculations & cost for different materials, foundation & footing calculations. Gain knowledge about how to schedule & estimate different construction works both manually and using software.)
Concrete Technology	CECC0412	2017	Skill development(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)
Geotechnical Engineering - I	CCCE0401	2015	Skill development(To obtain knowledge about soil properties and methods of soil properties determination in the laboratory, using field tests and considering comparable experience. Basic stability and deformation problems. Principle of spread and deep foundation design. To understand fundamental knowledge of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			geotechnical works for soil improvement, interaction of structure and subsoil. Basic design methods for excavation and foundation pits with dewatering and sealing systems)
Advanced Surveying	CCCE0407	2015	Employability(• Students will gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs used for map production in the modern cartographic workflow.)
Foundation Engineering	CECC0402	2017	Skill development (Upon successful completion of the course, students are expected to be able to design different retaining structures and foundations in different conditions)
Highway Engineering	CCCE0402	2015	Skill development (Carry out the geometric design of the highways. Identify the properties of the materials used in highway construction and determine the properties in a laboratory. Perform pavement design for highways. Understand the traffic management)
Water supply & Sanitary Engineering	CCCE0403	2015	Skill development (the principles of water treatment units and the design of the treatment units. the principles of waste water treatment and the design of treatment units. the distribution network of the drinking water and the treated waste water. to treat the waste water and reuse to make an eco-friendly environment.)
Hydrology & Irrigation	CECC0405	2017	Interprenuership: knowledge of irrigation implementation on hydrology, water power and water quality along with acquaintance of planning, design, construction and application of irrigation/hydraulic

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			structures in management of surface and subsurface water. • Project oriented skills shall be gained by students to work efficiently in survey, planning, design and construction in irrigation sector. Understand the accelerated flight performance Understand takeoff and landing performance Effectively use and understand stability for Aircraft. Able to understand the process of aerodynamic designing)
Computer Aided Design of Steel structure	CECC0407	2017	Skill development(to gain the knowledge of Steel design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.PRO)
Computer Aided Design of Concrete Structures)	CECC0408	2017	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.Pro.)
GIS and Digital Cartography	CECC0410	2017	Skill: To understand the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs used for map production in the modern cartographic workflow
Strength of Material	MECC0411	2017	Employability(Students will acquire knowledge and skill to analyze the effect of force and motion on rigid bodies to solve

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			engineering problems through application of basic laws of mechanics.)
Hydraulics & Hydraulic Machine	CCCE0102	2015	Skill Development (Analyse the boundary layer flows and methods of controlling the separation of Boundary layer. b. Determine the lift and drag forces on bodies c. Design channels of best economic section and channels flowing at uniform depth. d. Solve the canal transition problems and the hydraulic jump computations. e. Understand the working principles of centrifugal pumps, reciprocating pumps and turbines (impulse and reaction). f. Determine the dimensions of the Pelton wheel bucket and those of Francis turbine.)
Quality Control in Construction Industry	DECP0411	2015	Skill Development (Generate quality control schedule for different projects in construction industry. Prepare quality control inspection check lists for selected civil engineering structures. Carryout the field and laboratory tests for quality assessment in construction industry)
Geotechnical Investigations	DECP0412	2015	Skill Development (Plan geotechnical investigations before constructing a structure. Conduct the laboratory and field tests as a part of geotechnical investigations. Analyze the geotechnical investigation test data and prepare a report for selected categories of structures)
Safety & Risk Management in Construction Industry	DECP0413	2015	Skill Development (Plan a set of constructional activities eliminating risk in execution of a constructional activity. Carry out the constructional activities in

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			civil engineering works following prescribed safety measures. Realize the necessity and significance of insurance in construction industry)
Construction Equipment Management	DECP0414	2015	Skill Development (Identify the particular equipment to be used in the construction project they will undertake. Prepare plans for economic management of the equipment in the projects they undertake)
Pre-Fabricated Structures	DECP0211	2015	Skill Development (Become knowledgeable regarding the processes of planning, production, storage, transportation and site installation of various prefabricated units pertaining to a civil engineering construction project)
Repairs, Renovation, Rehabilitation of Buildings	DECP0611	2015	Skill Development (Become knowledgeable regarding the processes of planning, production, storage, transportation and site installation of various prefabricated units pertaining to a civil engineering construction project)
Internship	DEET0800	2015	Employability (Skill development course)
Computer Graphics	DEPD0231	2015	Skill Development (learning software which helps to draw complicated drawings and also helps in producing detail drawings in proper scale. Learning software which helps to better visualize complicated forms and also helps in producing photo realistic images of those 3D forms)
Architectural Design	DEPD0232	2015	Skill Development (be able to do the design of any building by not only considering the plan but also the climate of the area.)
Computer Aided Design of Advanced Concrete Structures	DEPD0431	2015	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			BOM by using STADD.Pro.)
Computer Aided Design of Advanced Steel Structures	DEPD0433	2015	Skill development(to gain the knowledge of Steel design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.PRO)
Design of Earthquake Resistant Structures	DEPD0132	2015	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.Pro.)
Design Project	DEPD0331	2015	Skill Development (Bridge / Culvert Project (Topics to be covered in Project) b. Hydroelectric Project c. Commercial / Hospital / Educational Complex Project d. Industrial steel structure building/ steel structure office buildings)
Remote Sensing and Image Processing	DESP0921	2015	Skill development(• Students will gain knowledge of basic concepts of remote sensing, aerial photogrammetry. • Students will gain knowledge of applications different satellites imagery, image classification techniques and image analysis and interpretation.)
Surveying for Civil Projects	DESP0922	2015	Skill development (to do live projected Related to Dams, Railways, Highways, Water resources using GIS.)
GIS & Digital Cartography	DESP0923	2015	Skill development(• Students will gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			used for map production in the modern cartographic workflow.)
LIDAR Application	DESP0221	2015	Skill development(• Students will gain knowledge about LIDAR and its application. • Students will be more skilled in CATIA Civil module)
Design Project (RS & GIS based Natural Disaster management project)	DESP0321	2015	Skill development(• Students will gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs used for map production in the modern cartographic workflow.)
Data Structures using C	CCCS0401	2015	Skill (Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems using C
Design and Analysis of Algorithms	CCCS0402	2015	Skill(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems.)
Advance DatabaseManagement System	CCCS0403	2015	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL-Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored Functions – Triggers Case study in industrial standards of Database Management)
Computer Networking	CCCS0104	2015	Skill(Identify the different types of network topologies andprotocols. Identify the different types of network devices and their functions within anetwork. Understand and building the skills of subnetting and routingmechanisms. Create an opportunity for the job as a network administrator)
Software Engineering	CCCS0105	2015	Skill (Students get to apply software engineering principles and techniques learnt to a real-life project topic of their choice in a contemporary domain and design-implement novel solution by working together as a team.)
Introduction to Theory of Computation	CCCS0106	2015	Skill (Be able to design FAs, NFAs, Grammars, languages modelling, small compilers)
Building of Cloud Infrastructure	DECT0901	2015	Skill And Employability(Analyze and Understanding the functioning of different components involved in Amazon web services.Acquire cloud technology skill which helps students in getting jobs in different MNCs)
Deployment Architecture -I	DECT0902	2015	Skill And Employability(Ability to evaluate cloud application requirements and make architectural recommendations for implementation, deployment and provisioning applications on AWS)
Deployment Architecture - II	DECT0903	2015	Skill And Employability(Ability to evaluate cloud application requirements and make architectural recommendations for

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			implementation, deployment and provisioning applications on AWS)
Advanced Networking	DECT0904	2015	Skill And Employability(Students had Implemented various VPC,VPN and optimization of network cost and also Understand and building the skills of sub-netting and routing mechanisms)
Oracle Database Administration and SQL	DEST0401	2015	Skill And Employability(Provides an exhaustive coverage of SQL Admin to understand the architecture and processes of the Oracle database)
Problem Solving through Coding	DEST0201	2015	Skill And Employability(Obtain skills to solve problems involving text, numbers and graphics, producing a top-level plan with refinements.)
Linux and Lamp Administration	DEST0402	2015	Skill And Employability(Obtain skills in Linux server administration. Content includes LINUX and Web server installation, system startup/shutdown, hardware configuration, disk and file system structure, package management, TCP/IP networking, system management and security, X-Windows usage and configuration, user management)
Testing and Test Automation	DEST0403	2015	Skill And Employability(students had alpplied various modern software testing processes in relation to software development and project management)
Web Services using Java	DEST0404	2015	Skill And Employability(Developed knowledge-based force to serve the IT industry with the latest technologies.)
Python for Data Science and Machine Learning	DEML0201	2015	Skill And Employability(Implement ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and computer vision, energy and natural language processing.)
Supervised and Unsupervised Machine Learning	DEML0401	2015	Skill And Employability(Implement sevaral ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Advanced Neural Network (RNN & CNN)	DEML0402	2015	Skill And Employability (Design and train a CNN, RNN language models and also able to apply deep learning principles using tools such as TensorFlow, Keras)
ML Techniques in Image Processing	DEML0202	2015	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Deep Learning Techniques and Neural Network	DEML0403	2015	Skill And Employability(Design and train a CNN, RNN language models.Be able to apply deep learning principles using tools such as TensorFlow, Keras)
Introduction to IT Networking & Security	DEIS0121	2015	Skill And Employability(To understand, design and implement appropriate security technologies and policies to protect computers and digital information)
Advanced Networking	DEIS0421	2015	Skill And Employability(Understand and explain Data Communications System and its components and Identify the different types of network topologies and protocols. Enumerate the layers of the OSI model and TCP/IP and explain the functions of each layer,identify the different types of network devices and their functions within a network)
White Hat Hacking Techniques and Tools	DEIS0422	2015	Skill And Employability(Information technologies skill like vulnerabilities, defense-in-depth, penetration testing, the methodology for pen testing/ethical

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			hacking, vulnerability management, incident management, and creating and implementing a security policy will be understood)
Information Technology Infrastructure Library	DEIS0122	2015	Skill And Employability(Obtain the skill about IT Service Management best practices, generic concepts, key principles, gain a comprehensive understanding of the purpose and scope of service strategy, service design, service transition, service operations, and Continual Service Improvement)
Network Security Audit of an Organisation	DEIS0221	2015	Skill And Employability(To perform an IT Netwok securiy audit of an organization and prepare a detailed report identififying different weakness of the architecture)
CCNA	DEIS0222	2015	Skill And Employability(hands on training to manage Network for an Organization)
Introduction to Unity Game Engine	DEAR0241	2015	Skill And Employability(End to End Game Development Pipeline)
Game Assets & Object	DEAR0641	2015	Skill And Employability(Able to built different models, assets and objects like temple, park, agriculture field etc..)
Game Animation & Scripting	DEAR0642	2015	Skill And Employability(Able to built game environment)
Building Game Environment	DEAR0643	2015	Skill And Employability(Able to design different cartoon animations and UI)
Design & Deployments	DEAR0644	2015	Skill And Employability(Design several 3D games which supports cross platforms)
Analog Electronic Circuits	CCEC0101	2015	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Network Analysis and Synthesis	CCEC0102	2015	Skill Developement Applying network topology concepts in the formulation and solution of electric network problems. Applying two-port network analysis in the design and analysis

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			of filter and attenuator networks. Identifying the properties and characteristics of network functions, and verify the mathematical constraints for their physical realisation. Synthesizing passive one-port networks using standard Foster and Cauer forms.
Control Systems Engineering	CCEC0103	2015	Skill Developement Categorize different types of system and identify a set of algebraic equations to represent and model a complicated system into a more simplified form. Characterize any system in Laplace domain to illustrate different specification of the system using transfer function concept
Electromagnetic Field Theory and Transmission Lines	ECCC0101	2017	Skill Development This subject is a base subject for wireless communication, Antenna Engineering and other advanced communication based subject.
VLSI Design	ECCC0407	2017	Employability (Design combinational and sequential circuit using CMOS logic Enhancement of complex digital VLSI logic design skill of students which will help them to complete any project work undertaken in higher semesters. Perform back-end physical design)
Analog Electronic Circuits Laboratory	CCEC0201	2017	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Electronics Workshop-II	CCEC0601	2015	Skill Development Design and implement different electronics circuits in harware to test performance and application.
Mobile Communication: MIMO-OFDM	DECS0431	2015	Skill Development and Employability Emerging issues for implementing MIMO wireless channels. Different fading channel

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			distributions in multipath wireless channel. OSTBC design for multiple antenna system. Computation of performance parameters of MIMO wireless system
CCNA Routing and Switching	DECS0234	2015	Skill Development and Employability Install, operate, and troubleshoot a medium-sized network, including connecting to a WAN and implementing network security. Describe the effects of new technologies such as IoE, IoT, IWAN, and SDN on network evolution
4G LTE Communication Technology	DECS0435	2015	Skill Development and Employability Understand the system architecture and the functional standard specified in LTE 4G. Analyze the role of LTE radio interface protocols and EPS Data convergence protocols to set up, reconfigure and release data and voice from users.
RF Planning and Drive Test	DECS0237	2015	Employability (Students will develop skill on GSM RF Planning tool, Use of mapping software's like Map info/Google KLM, drive test tool TEMS and NEMO Tool for 4G LTE optimization with field exposure This will lead employment as RF engineer)
Advanced C Programming & Data Structure	DEES0411	2015	Employability Provides the knowledge of basic data structures and their implementations. Gives understanding for importance of data structures in context of writing efficient programs. Develops skills to apply appropriate data structures in problem solving.
Embedded C Programming	DEES0412	2015	Skill Developemnt and Employability Write programs in C to solve engineering problems. Program embedded microprocessors or microcontrollers in C. Define input and output modules for an embedded system. Design embedded

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			systems as solutions to real-world problems
Real Time Operating System & VXWORKS	DEES0413	2015	Skill Developemnt and Employability Provide a basic understanding of Real-Time Requirements To understand the complexities of RTOS scheduling and synchronization. To learn how to configure, boot, test and deploy real-time embedded systems. To give students the confidence to apply these concepts to their next RTOS project
Model Based System Design	DEES0414	2015	Skill Developemnt and Employability Build mathematical models for components in a system. Follow a process of continuous refinement and improvement to generate accurate models. Connect component models together to model a larger more complex system. Set up and run Model-in-the-Loop Simulations (MIL). Set up and run real-time simulations for a physical system. Set up and run Hardware-in-the-Loop Simulations (HIL). Apply basic control algorithms to a real physical system. Deploy a control algorithm on a real-time target. Apply verification and validation methods to a model of a physical system. Use Design of Experiment methods to create models of physical systems.
Linux: Kernel Programming and Device Driver	DEES0415	2015	Skill Developemnt and Employability Configure, compile, and install a Linux kernel/kernel module from sources. Navigate and read the Linux kernel sources. Understand and use correctly the Linux kernel internal services needed by devices drivers, including mutual exclusion, memory mapping, kernel memory allocation, interrupt handling, timekeeping, and scheduling. Design and implement a

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			kernel module. Modify, or design and implement a device driver. Measure the performance of what you have modified or implemented.
Internet of Things	DEES0416	2015	Employbility, Skill development (Understand the meaning of the Internet of Things and its importance. Examine future market opportunities that can be discovered by IoT. Study of wireless sensor network protocols.)
Digital System Design using VERILOG	DEVL0421	2015	Skill Development, Entrepreneurship (Pursue a bright career as a RTL design and verification Engineer and Verilog Programmer in VLSI industry which leads to Employability)
Electrical Machine-II	CCEE0102	2015	Skill development (Students will develop the SKILL about various rotating machine like Alternator, Synchronous Motor, 3 phase IM, 1 phase IM etc.)
Electrical Measurement &Instrumentation	CCEE0103	2015	Skill development (Students will develop the SKILL about various bridges used to measure R, L, C and measuring instruments like Galvanometer, Potentiometer, CT & PT)
Control Systems	CCEE0104	2015	Skill development (Students will develop the SKILL related to time domain and frequency domain analysis, root locus, bode plot, nyquist plot etc.)
Transmission & Distribution	CCEE0105	2015	Skill development (Students will develop the SKILL related to various electrical power transmission and distribution schemes available in India.)
Power Electronics	CCEE0106	2015	Skill development (Students will develop the SKILL about various power electronics devices like rectifier, Inverter, Chopper, AC voltage controller, Cycloconverter etc)
Micro Processors & Micro Controllers	CCEE0109	2015	Skill development (Students will develop the SKILL related to various

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			microprocessors and microcontrollers used in electronics circuits)
Network Theory Lab	CCEE0201	2015	Skill development (Students will develop the SKILL related to verify different theorems practically)
Electrical Machine-II Lab	CCEE0202	2015	Skill development (Students will develop the SKILL to perform various experiments related to Alternator, Synchronous motor, 1 phase and 3 phase IM etc)
Measurement &Instrumentation Lab	CCEE0203	2015	Skill development (Students will develop the SKILL about experiments related to bridges used to measure R, L, C and measuring instruments like Galvanometer, Potentiometer, CT & PT)
Control Systems lab	CCEE0204	2015	Skill development (Students will develop the SKILL to perform experiments based on various control system.)
Power Electronics Lab	CCEE0205	2015	Skill development (Students will develop the SKILL about various experiments related to rectifier, Inverter, Chopper, AC voltage controller, Cycloconverter under different load condition)
Micro Processors & MicroControllers Lab	CCEE0208	2015	Skill development (Students will develop the SKILL related to experiments on various operations of microprocessors and microcontrollers used in electronics circuits)
General PLC	DEIA0111	2015	Skill development(Students will develop skill of designing Automatic Control System using PLC)
Basic Electrical (Automation based) and Panel Designing	DEIA0211	2015	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using relevent software & hardware tools)
Variable Frequency Drive	DEIA0212	2015	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using relevent software & hardware tools)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Allen Bradley SLC 500	DEIA0413	2015	Skill development (Students will gain Functional skill set with hands-on; on System Automation by using relevent software & hardware tools)
Siemens S7-300	DEIA0414	2015	Skill development (Students will gain Functional skill set with hands-on; on System Automation by using relevent software & hardware tools)
SCADA Schneider Wonderware InTouch and Win CC Flexible	DEIA0415	2015	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using SCADA-Schneider-Wonder ware In Touch tools)
Schneider MODICON TSX-Micro, GE Versamax- Microplus	DEIA0416	2015	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using Allen Bradley Micrologix1000, Siemens S7-300 tools)
HMI-Allen Bradley-Panel View C600	DEIA0213	2015	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
Overview of Transmission System	DEOM0131	2015	Skill Development (Students will develop different transmission scheme with software application)
Overview of Distribution System	DEOM0132	2015	Skill Development (Students will develop different distribution scheme with software application)
Power and Distribution Transformer Operation and Testing	DEOM0431	2015	Skill Development (Students will develop skill set with hands on training & practice on Type & Routine test of distribution transformer upto 33KV class)
System Protection and Auxiliaries	DEOM0432	2015	Skill Development (Students will develop different protection scheme with hardware & software integration)
Construction Details of HT and LT lines, Cables and Testing	DEOM0433	2015	Skill Development (Students will develop skill set with hands on training & practice on Routine test of LT & HT Line Cable upto 33KV class)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Safety Practice and First Aid	DEOM0231	2015	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques)
Electrical System Layout and Drawing	DEOM0232	2015	Skill Development (Students will develop different electrical system layout with software application)
Design of transformer core	DETD0121	2015	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification)
Design of transformer winding	DETD0122	2015	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification)
Design of transformer tank & Accessories	DETD0123	2015	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification)
Testing and Commissioning	DETD0421	2015	Skill Development (Students will develop skill set with hands on training & practice on Type & Routine test of distribution transformer upto 33KV class)
Safety and protection	DETD0422	2015	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques & operation of protection schemes in transformer)
Transformer Repair & Maintenance	DETD0423	2015	Skill Development (Students will develop skill set with hands on training & practice on Repair & Maintenance of distribution transformer upto 33KV class)
Renewable Energy Sources and Technology	DERE0161	2015	Skill Development (Students will learn and develop the different technologies of renewable energy Sources)
Solar Photovoltaic Technology	DERE0162	2015	Skill Development (Students will learn and develop the different technologies of Solar photovoltaic)
Solar Thermal Technology	DERE0163	2015	Skill Development (Students will learn and develop the hybrid generations that

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			combines the solar photovoltaic along with the Thermal power generations)
Solar Systems for Buildings	DERE0464	2015	Skill Development (Students will learn and develop the roof top solar generation system)
Solar Power Plant	DERE0465	2015	Skill Development (Students will learn the principle of solar power plant)
Decentralized and Smart Power Grids	DERE0466	2015	Skill Development (Students will learn the principle of solar power plant)
Solar Photovoltaic Laboratory	DERE0267	2015	Skill development (Students will gain the knowledge with hands-on; on different smart power grids like wind, solar by using relevant software & hardware tools)
Solar Thermal Laboratory	DERE0268	2015	Skill Development (Students will develop hands-on, on different solar related live product/project)
Theory of Machines	CCME0405	2015	Skill And Employability (Student will learn how to analyze the motions of mechanisms, design mechanisms)
Manufacturing Technology 1	MECC0401	2017	Skill And Employability (Students will have Knowledge and Skills to Understand Actual Manufacturing Processes used in Industry and will be Able to Correlate a Specific Process with the Part / Component being Produced. Students will be Able to Select the Most Optimum Manufacturing Process for a Specific Product Design and Application.)
Manufacturing Technology 2	MECC0402	2017	Skill And Employability (Students will be Able to Do Process Planning, Develop CNC Part Programs. Students will have Knowledge and Skills to Operate CNC Machines.)
Finite Element Analysis	MECC0404	2017	Skill And Employability (Students will be Able to Deploy Practical and Industrial Approach using FEA towards Solving Engineering Problems)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Internal Combustion Engines	MECC0406	2017	Skill And Employability (Students will be able to test internal combustion engines for various performance parameters using engine test rigs.Students will be able to carry out emission tests using various types of fuels commonly used in internal combustion engines.)
Renewable Energy Systems	MECC0408	2017	Skill (To have a knowledge of energy scene in India.To acquire the skill of analyzing and designing renewable energy systems.To expose the students about energy demand and supply situation in India.)
Fluid Power	MECC0409	2017	Skill (Students will be able to identify various elements used in fluid power systems and will be able to deliver fluid power circuit diagrams.)
Mechanics of Machines	MECC0410	2017	Skill (Students will have knowledge and skills to analyse, design and develop mechanisms suiting specific applications. Students will have knowledge skills to study and understand working of complex mechanisms and machines enabling them to safely operate and maintain such installations.)
Fluid Mechanics and Heat Transfer	MECC0414	2017	Skill And Employability (Students will be able to Analyze and Design various Equipment used in Industry using Principles of Fluid Mechanics and Heat Transfer.)
Jigs and Fixtures	DECM0101	2015	Employability and Skill development (Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			processes and machineries. Strengthens the Industrial-Institutional partnership.)
Process Planning and Cost Estimation	DECM0102	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Cylindrical Shape Component	DECM0201	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Prismatic Shape Component	DECM0202	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			processes and machineries. Strengthens the Industrial-Institutional partnership.)
CNC Machining	DECM0601	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improvemanufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Non-Traditional Machining and 3D Printing	DECM0602	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Wood Engineering	DECM0203	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Introduction to Refrigeration & HVAC	DERC0101	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Control System for Refrigeration & Air Conditioning	DERC0201	2015	Employability and Skill development(This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Design and Maintenance of Automobile Air Conditioning	DERC0202	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Maintenance and Testing of Refrigerator	DERC0203	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Maintenance and Testing of Coolers, Window and Split AC	DERC0204	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Design and Maintenance of Central Air Conditioning Plant	DERC0401	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Design and Maintenance of Cold Storage	DERC0102	2015	Employability and Skill development (This helps student to have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Air conditioning and Refrigeration Technology so that they will be able to properly equipped to take up gainful employment in this sector.)
Joining Processes & Technology	DEWD0401	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Arc Welding, Gas Welding & Brazing	DEWD0201	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Metal Transfer & Weld Metallurgy	DEWD0402	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Design of Welded Joints	DEWD0101	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Welding of Stainless Steel, Aluminium, Copper, Cast Iron and Hard Surfacing	DEWD0601	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Testing of Welded Joints (DT, NDT & Microstructure)	DEWD0602	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to Automobile Engineering	DEAE0101	2015	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Subsystems of Automobile	DEAE0401	2015	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Design and Maintenance of Electric Vehicles	DEAE0402	2015	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Entrepreneurship Opportunities in Automobile Trade	DEAE0102	2015	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Maintenance of 4 Wheeler	DEAE0201	2015	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			service.The students can also successfully run their own business in this field.)
Maintenance of 2 Wheeler	DEAE0202	2015	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Operation and Maintenance of Diesel Forklift and Hydraulic Equipments	DEAE0203	2015	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Power System Generation	DEOC0121	2015	Skill development (Students will learn the SKILL of generating electrical powers from different sources used in Power System)
Power Plant Engineering	DEOC0131	2015	Skill development (Students will be able to work out the problems related to power plant engineering. Students will be able to understand the basics of power plant design.)
Basic Metallurgy	DEOC0134	2015	Employability and Skill development (Understand the correlation between processing, structure and properties of metals. Ensure production of metallic components for use in consumer or engineering products)
Basic Electrical Maintenance	DEOC0221	2015	Skill development(This course will enable students to safely undertake electrical maintenance of domestic and Industrial appliances)
Automotive Electrician	DEOC0222	2015	Skill development(Student will acquire the skills to identify and solve problems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			related to electrical parts (harness) of the vehicle)
Advanced power electronics	DEOC0421	2015	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications in Power Electronics by using relevent tools)
Electrical Drives	DEOC0422	2015	Skill development (Students will gain Functional skill set related to different DC & AC drives.)
Advance Control System	DEOC0423	2015	Skill development (Students will gain Functional skill related to control theory, Advanced process control (APC) that refers to a broad range of techniques and technologies implemented within industrial process control systems
Advanced Structural Analysis	ISSD1101	2016	Skill development(• Skill in developing computer program for the structural analysis of two-dimensional frames. • To obtain some experience in the use of modern structural analysis programs.)
Structural Dynamics	ISSD1102	2016	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
Theory of Elasticity & Plasticity	ISSD1103	2016	Skill development(• Ability to apply the knowledge of mathematics, science and engineering with Elasticity concept to solve problems in two Dimensional Problems in Polar Coordinates. • To provide the students with basic skill of plasticity concept applicable in structural systems)
Architectural Design	ISSD1104	2016	"Skill development(Provide skill with a well-educated workforce that is ready and able to perform valuable architectural and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			construction engineering and managerial services immediately after graduation The ideas / concepts learned in Basic Design and other related subjects have to be carried forward into the architectural design now envisaged. The exercises may be taken up as mentioned herein.)"
Computer Graphics (2D & 3D Drafting)	ISSD1106	2016	Skill development(At the end of the course, the students have a skill and emplyobility to: Event driven I/O and callback programming & typical structure of an interactive, real-time computer graphics program ¨ 2&3D transformations, homogeneous co-ordinates, post-multiplication ¨ Modelling and instantiati)
Finite Element Method	ISSE1201	2016	"Skill development(• Enable the students to identify, formulate and skill to engineering problems related to one, two and three Dimensional structures subjected to static loads. • To show the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to wrong analysis)"
Design of Prestressed Concrete Structures	ISSE1202	2016	Skill development(Skill to control of the losses involved of pre-stressing concrete and ability to justify advantages and disadvantage.)
Concrete Technology	ISSE1203	2016	Skill development(• To study and understand various types of technology added in concrete • Have a skill to develop in design of various grades of concrete)
Research Methodology	ISRM1201	2016	"Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)"
3D Modeling using ANSYS and CATIA	ISSE1205	2016	Skill development(Introduction to Engineering Design Different types of Numerical Methods & Applications, Practical Applications of FEA, Basics of finite element method (FEM),)
Prefabricated Structures or Preengineered Buildings	ISSE1206	2016	"Skill development(• Grasp of the construction methods using these elements have the skill of the construction methods using these prefabricated elements)"
Renovation and Retrofitting of green structures	ISSE1207	2016	"Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)"""
Advanced Construction Materials	ISSE1208	2016	"Skill development(• To study the polymers in civil engineering construction • To study the corrosion of concrete in various environments)"
Soil Dynamics and Geotechnical Earthquake Engineering	ISSE1209	2016	Skill development(Develop skill in applying theory of vibrations to basic facets of soil behavior under dynamic loading together with the exposure of the fundamental principles of wave propagation in engineering example)
Evolution of Management Thought	MGGM1101	2011	Application of Basic mangement principles-Skill development
Basic Communication Skills	MGGM1102	2011	Competence in oral, written, and visual communication: Employability, Use current technology Practicals - Skill development
Managerial Computing	MGIT1101	2011	MS Word, Excel, power point- Skill development

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Management Information Systems	MGIT1202	2011	Utilize Management Information Systems in achieving business competitive advantage - Skill development
Communication Perspective of Management	MGGM1206	2011	Write business proposals and reports- Skill development
Summer Internship Programme	MGGM1211	2011	To make self-disciplined, self-motivated and integrate theory and practice- Skill development
Live Project	MGEL2401	2015	To make self-disciplined, self-motivated and integrate theory and practice- Skill development
GIS and Participatory Planning	MGEL2403	2015	Identification of the resources needed, develop a project scope utilizing GIS technology- Skill development
Total Quality Management	MGOM2311	2011	Use statistical approach for quality control, ISO and QS certification process- Employability, Entrepreneurship & Skill development
Business Process Re-engineering & Simulation	MGOM2307	2011	Model and develop improved business processes that require IT and organizational redesign- Skill development
Enterprise Resource Planning	MGOM2308	2011	Develop Generic Model of ERP and Implementation of General ERP Methodology- Employability, Entrepreneurship & Skill development
Training and Development	MGHR2311	2011	Assess, design and implement various methods, techniques and sources of training- Employability & Skill development
Leadership Development	MGHR2313	2015	Develop critical thinking skills and lead the organization- Employability, Entrepreneurship
Rural Immersion Programme (Practice)	MGRM2305	2015	Carry out participatory planning with the community, develop strategies for intervention - Employability & Skill development
Sustainable Livelihood System	MGRM2306	2015	Introduce and train people on alternative livelihood options- Employability, Entrepreneurship & Skill development

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Public System Management	MGRM2307	2015	Comprehend and apply the basic principles of public administration model - Employability, Skill development
Management Information Systems for Hospital	MGHM2302	2017	Analyze existing systems and design technology solutions appropriate to the hospital- Employability & Skill development
Management of Out-Patient Department	MGHM2303	2017	Deal the issues effectively in emergency services, can plan, organize and supervise the activities of Minor Operation Theatre, Manage treatments of referral & cross referral cases- Employability & Skill development
Patient Care and Behaviour	MGHM2311	2017	Motivate patients and instrumental in shaping positive attitude towards hospital, Carry out audit on patient behaviors, Handle the role of hospital administrator effectively- Employability & Skill development
Web Traffic Generation	MBDM2201	2017	Increase traffic in any website, Popularizing websites- Employability, Entrepreneurship & Skill development
Link Building & e-WoM	MBDM2202	2017	Increase links through web, Building relationships through the web- Employability, Entrepreneurship & Skill development
Social Media Marketing	MBDM2203	2017	Develop effective social media marketing strategies for various types of industries and businesses- Employability, Entrepreneurship & Skill development
Mobile & E-Mail Marketing	MBDM2208	2017	Ability for technology adoption, various devices, changing nature of services and ecosystems - Skill development
Search Engine Optimization	MBDM2209	2017	Able to improve sales volume through search engine optimization - Skill development
Search Engine Marketing	MBDM2210	2017	Abile to improve sales volume through Google AdWords and other elements of Search Ad - Skill development

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Technology of e-Commerce	MBDM2211	2017	Able to integrate distributed database technologies within the internet architecture - Skill development
Online Reputation Management	MBDM2212	2017	Ability to give a structure of quality websites and portals - Skill development
Web Content Writing	MBDM2214	2017	Ability to develop creativity and creating quality content- Skill development
Affiliate Marketing	MBDM2213	2017	Able to structure quality web designing for affiliate marketing - Skill development
Basics of Data Warehousing and Business Intelligence	MGDA1106	2016	Able to make better business decisions by using Data warehousing business intelligence tool- Skill Development
ETL , Data modeling and Cube Design	MGDA1215	2016	Able to analyze data objects and figuring out the relationships between them- Employability and Skill development
Data Visualisation with Power BI and Tableau	MGDA1216	2016	Able to represent data visualization for business analytics- Skill development
Unstructured Data Analytics & Machine Learning	MGDA1213	2016	Make data-driven recommendations and decisions based on only the input data- Skill development
Advanced Data Modelling & Mining with R	MGDA1214	2016	Use the tool to clean, analyze, and graph data- Skill Development
IT Enabled Communication	MGDM 1103	2014	Use IT tools for effective communication - Skill development
Organizing Conference –I	MGDM 1221	2014	Learning skills for organizing events - Employability,
Internship-I	MGDM 2331	2014	To apply and evaluate the learned concepts, theories in real time situations- Employability, Entrepreneurship & Skill development
Internship-II	MGDM 2332	2014	To apply and evaluate the learned concepts, theories in real time situations- Employability & Skill development
Internship-III	MGDM 2333	2014	To apply and evaluate the learned concepts, theories in real time situations- Employability & Skill development

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Gender Mainstreaming for Development	MGDM 2301	2014	Being sensitive to gender issues in the society, analyse the facets of Gender and its role for development - Employability & Skill development
Skill Building and Employability Training	MGDM 2302	2014	Understand the skill ecosyetm and its dimensions, Effectivness measurement of skill training initiatives - Employability
Financial Inclusion & Micro-finance	MGDM 2303	2014	To appraise the scenario of financial inclusion in the country , acquire skills to opearte in Micro Finance sector - Employability, Entrepreneurship
Rural Haat & Market Analysis	MGDM 2304	2014	Develop skills for assessing rural markets - Employability, Entrepreneurship & Skill development
Internship-IV	MGDM 2431	2014	To apply and evaluate the lerned concepts, theories at real time situations- Employability, Skill development
Internship-V	MGDM 2432	2014	To apply and evaluate the lerned concepts, theories at real time situations- Employability, Skill development
Internship-VI	MGDM 2433	2014	To apply and evaluate the lerned concepts, theories at real time situations- Employability, Skill development
Understanding & communicating to rural consumers	MGDM 2404	2014	Develop skills to communicate with rural consumers effectively- Employability & Entrepreneurship
Organizing Conference –II	MGDM 2421	2014	Learning skills for promoting events- Skill development
Principles of Management	MGAM1101	2017	Application of Basic mangement principles- Skill development
ICT in Agriculture	MGAM1102	2017	Applications of information & Community technology in various fields of agriculture and promoting the applications of ICT in agriculture - Skill development
Disaster Management	MGAM2106	2017	To build skills and abilities in analyzing potential effects of disasters and the strategies to avert the disasters: Employability

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Contract Farming	MGAM2206	2017	Develops strategies for fostering contract farming, legal aspects and skill development in planning and setting up of contracting operations : Employability
Social Entrepreneurship	MGAM2210	2017	Promotes social enterprises Skill development
Computer application in business	BBAR1105	2016	Identify and utilize appropriate technology for effective decision-making and improved performance- Skill Development
MS EXCEL	BBAR1205	2016	Use Microsoft Excel for data analysis-Skill Development
Tally and ERP	BBAR2205	2016	Preparation of financial statement of different types of organisations with Tally: Skill development
Summer Internship	BBAR3103	2016	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
Business Policy	BBAR3201	2016	Discuss and define the factors that shape the SWOT analysis of a firm and develop an environment appraisal that will lead to formulation of strategic plans: Employability & Entrepreneurship; Analyze the suitability of strategies that firms have developed in the real world scenario to achieve valuable outcomes: Skill Development
SPSS	BBAR3203	2016	Use SPSS for analyzing data and define a variety of statistical variables-Skill Development
Consumer Behaviour	BBAM3101	2016	Apply the concepts and theories covered in the course to devise effective solutions: Skill Development
Tally.ERP 9	BBAR2109	2017	Preparation of financial statement of different types of organisations with Tally: Skill development
Advanced Excel	BBAR2208	2017	Utilize advance features of Ms-excel in the day to day activities of the business,alsofor

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			improved decesion making and performance- Skill development
On Job Internship-I	BBAR3111	2017	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
On Job Internship-II	BBAR3211	2017	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
Communication Research and Advanced Research Methods	CCMC0909	2016	Analyse data with techniques of social science, media research - Skill development, Employability
Digital Media	CCMC0910	2016	Students will be able to Competence skills in mordern media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. - Skill development and Entrepreneurship
International Communication	CCMC0911	2016	Skill development: The historical dimensions of international communication and the role of culture in international communication scenario.
Cultural Studies	CCMC0912	2016	Skill development; Competence in the process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures
Radio and TV Program Production	CCMC0914	2016	Skills development in audiovisual production techniques, camera handling and planning and producing programs for television and Radio.
Internship	CCMC0801	2016	Employability : Industry setup and will be able to working in a real environment by understanding the industry constraints and this will help them to develop their professional skills.
Project	CCMC0301	2016	Skill development in television and radio program production.

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Animation	DCMC0601	2016	Ability to create quality animation performance through a creative and professional portfolio using principles of animation.Will help in Employability and Skill development
Radio Jockeying	DCMC0602	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.
TV Anchoring	DCMC0603	2016	Skill development in the aggregate capacity to develop the skills of a Television Anchor.
Fashion Photography	DCMC0604	2016	Skill development: Developing compitency for professional fasion photography.
Media literacy and Film Appreciation	DCMC0605	2016	Skill development: Competence in different aspects of Film and will be able to analyze film as an art and develop the competency for critical analysis of media content.
Page to Television	DCMC0606	2016	Skill development: Competence in the process from intial stage to on air television content.
Web Content Development	DCMC0607	2016	Skill development: Competence in Content development for web site or degital media.
Basics in Computer Application	DCMC0608	2016	Skill Development: Competence in ms-office and other software.
Theatre Film and Television	DCMC0609	2016	Students will be able to develop skills in different aspects of Film and will be able to analyze film as an art. Skill Development and Employability
Gaming	DCMC0610	2016	Skill development: Competence in the skills of game development.
Communication in History and History of Communication	FCMC0901	2016	Utilise the skill in communication of the stucents- Skill development and students can able to work in new communication technologies at different points of time-Employability
Introduction to Communication Theory	CCMC0901	2016	Use the Communication skill and able to differentiate between different forms and types of communication and Competence

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			of audience research traditions - Skill development
Introduction to Electronic Media	FCMC0902	2016	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development
Media, Communications and Culture	FCMC0903	2016	Enhance the skill of student can analyse process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures-Skill development
Organizational Communications	CCMC0903	2016	Develop the skill on role of communication in organizational system-Skill development
Development Communication	CCMC0904	2016	Students will make strategy designing and campaign designing skill and able to develop contents for development purposes.-Skill development
Gender and Communication	CCMC0905	2016	Students will enhance their skill and able to raie gender issues and role of media in it-Skill development
Intercultural Communication	CCMC0906	2016	Competence on intercultural communication and culture influences the communication process across societies and the role of culture to influence nonverbal communication-Skill development
Communication, Culture and Popular Art	CCMC0907	2016	Develop the skill on Media, Culture and Society relationship. Skill development
Media Institutions policy and Ethics	CCMC0908	2016	Develop the skill on ethical dimensions for the media content.-Skill development
Internship	DCMC0800	2016	Improve competency for the work in a real environment by understanding the industry constraints-Employability, developing professional skills.-Skill development
Final Project	DCMC0300	2016	Skill development;Analysing Media issues and analysis of media content.
Mathematical Physics	MSCP1101	2017	Skill - Tensors: Tensor analysis, Pseudo-tensors, Dual tensors. Gamma function and Beta Function, Fourier Transforms:Fourier

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			Transforms, Properties of Fourier Transforms, Convolution Theorem. Partial differential equations (PDEs):Second order PDEs, Classification of PDEs, Laplace equation, Fourier's Heat flow equation, Wave equation. Green's Functions: One-dimensional problems, Qualitative idea of Green's functions in 2- and 3-dimentions.
Modern Physics Lab	MSCP1105	2017	Skill - Practice course
Computational Physics	MSCP1203	2017	Skill - Learning several numerical differentiation and integral methods to solve physical problems. Problems are solved using programming.
Computational Physics Lab	MSCP1204	2017	Skill and employability - Learning simulation and solving problems using programming.
Electronics Devices Lab	MSCP1205	2017	Skill - Experiments done on electronic devices like Junction Diodes, Zener Diode, BJT, FET, OPAMP, Rectifiers circuits etc.
Microprocessor lab	MSCP2306	2017	Skill - Microprocessors Lab
Materials Lab I	MSCP2307	2017	Skill - Materials Lab I
Electronics simulation Lab	MSCP2402	2017	Skill - Electronics simulation lab.
Materials Lab II	MSCP2405	2017	Skill - Materials lab II, Employability - synthesis of materials, Analysis of dielectric properties of a material, Analysis of electrical properties of a material. Analysis of AC and DC conductivity of a material
Project/Dissertation	MSPP2401	2017	Skill - project work, writing a report, writing a research article.
Seminar I	MSPS2301	2017	Skill - Learning to develop a PPT and improving communicaiton skill.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Seminar II	MSPS2401	2017	Skill - Learning to develop a PPT and improving communicaiton skill.
Introduction to Research	MSRM5101	2017	Skill - Research Process, Data Analysis, Building Mathematical Models, Documentation and Presentation.
Polymer Chemistry	MSCC1104	2017	Employbility-Kinetics of melting, crystal morphology, free volume, distribution of molecular size, stoichiometric imbalance. X-ray diffraction study, Microscopy,Price - Alfrey equation, Flory - Huggins theory, polymer fractionation, Mark - Houwink - Sakurada equation, diffusion coefficient and friction factor,Power Law for pseudo plastic liquids, effect of shearing forces, segmental friction factor, Bueche theory. Skill-Thermal analysis and physical testing,Polymer Processing-I&II,Elastic deformation, shear modulus and compliances, Maxwell model, Voigt model, dynamic viscoelasticity, molecular theory for viscoelasticity - Rouse model,Mechanical properties
Chemistry Laboratory 1	MSCC1105	2017	Skill-Inorganic Chemistry Practical-I,Organic Chemistry Practical-I
Advanced Inorganic Chemistry II	MSCC1202	2017	Employbility-Metal n -Complex,Metal Clusters,Organometallic Chemistry I &II . Skill-Symmetry and Group Theory in Chemistry-III.
Chemistry Laboratory 2	MSCC1205	2017	Skill-Organic chemistry practical-III
Water Quality Analysis	SBFE3127	2017	Skill- Water Quality Analysis
Pharmaceutical Chemistry	MSCC1001	2017	Skill-Pharmaceutical Chemistry
Clinical Practice lab	SBFE3152	2017	Skill-Clinical Practice Lab

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Analytical Chemistry	MSCC1002	2017	Skill-Analysis of soil,food products,Chromatography
Advanced Inorganic Chemistry III	MSCC2301	2017	Skill-Instrumental Method of Analysis,Raman Spectroscopy,Homogeneous and Heterogeneous Catalysis,Displacement and Isomerization reaction. Hydrogenation, Hydroformylation, Wacker (Smidt) Process, Olefin Metathesis, Fischer-Tropsch synthesis, Zeigler-Natta polymerization, Water gas reaction Employbility-Mechanism of Substitution Reactions,Electron Transfer Reactions
Advanced Physical Chemistry III	MSCC2303	2017	Employbility-Electronic spectra of molecule,Electronic spectra of diatomic molecules,Electronic spectra of polyatomic molecules. Skill-Nuclear Magnetic Resonance Spectroscopy,Fluorescence,Data analysis
Advanced Solid State Chemistry	MSCC2304	2017	Employbility-Bonding in Solids,of solids-band theory,Mechanical Properties of Solids,Organic Solids. Skill-Diffraction Methods,Neutron Diffraction
Chemistry Laboratory 3	MSCC2305	2017	Skill-Physical Chemistry Practical
Green Chemistry Lab	MSCC2306	2017	Skill-Green Chemistry Lab
Advanced Organic Spectroscopy	MSCC2401	2017	*Skill-Ultraviolet Spectroscopy,IR Spectroscopy,IR Spectroscopy-II ,Nuclear Magnetic Resonance Spectroscopy-I&II,Mass Spectrometry,Structural problems based on combined spectroscopic techniques.*
Seminar	MSCS2401	2017	Skill-To creat a research mind in students
Chemistry Laboratory 4	MSCC2403	2017	Skill-Instrumental Methods of Analysis Lab

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MATHEMATICAL MODELLING	MSMA 4701	2017	Skill- Mathematical modelling through ordinary differential equations of first order. Employability - Mathematical modelling through the systems of ordinary differential equations
PARTIAL DIFFERENTIAL EQUATION-II	MSMA 4704	2017	Skill- Eigen value Problems Employability - The Cauchy Problem, The method of Separation of Variables
ADVANCED CALCULUS	MSMA 4802	2017	Skill- Derivatives of functions on Rn, Differentiation of composite functions Employability - Set functions, Transformations and Multiple integrals
TENSOR ANALYSIS	MSMA 4805	2017	Skill- Riemann Geometry Employability - Tensor Algebra, Applications of Tensor methods to surface Geometry.
OPERATION RESEARCH – II	MSMA 5104	2017	Skill- Graphical method for 2 X n and, m X 2 matrix games Employability - Second order optimality condition, Lagranges method
COMMUNICATIVE ENGLISH AND WRITING SKILL	BSMA2001	2017	skill- Effective oral and written communication
FORTRAN-95 PROGRAMME	BSMA2002	2017	skill- Learn fundamental concepts of FORTRAN-95 and able to translate scientific and engineering problems into machine understandable.
MAT LAB	BSMA2003	2017	skill- Write systems of equations in matrix form
Plant Diversity	MSBO1102	2017	Higher studies/Skill-Pursue higher studies and enhance their skill on culture, maintenance of cyanobacteria, use of cyanobacteria as biofertilizer, algae in the environment, agriculture, biotechnology and industry

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Botany Laboratory-I	MSBO1105	2017	Employability/Skill-Acquire general idea on instruments used in microbiology laboratory
Genetics and Molecular Biology	MSBO1201	2017	Higher studies/Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing.
Biostatics and Instrumentation	MSBO1203	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy and data analysis using chi square test, student t test etc.
Botany Laboratory-II	MSBO1205	2017	Skill-Gain practical knowledge on molecular biology, physio and biochemical analysis; skill on statistical analyses and water quality parameters
Natural Resource Management and Utilization	MSBO2302	2017	Skill/ Employability- Bioresource management.
Embryology and Anatomy	MSBO2303	2017	Skill-Gain practical knowledge on anatomical identifications of plant parts
Botany Laboratory-III	MSBO2305	2017	Skill-Acquire practical knowledge on economic crops; learn media preparation and sterilization methods for micro propagation
Scientific visit	MSBP2301	2017	Skill- Observe and get knowledge on various fields of research in science in different scientific organization.
Seminar	MSBS2401	2017	Skill-Build up confidence to present their research paper in Conferences/Seminars
Bio-fertilizer	MSLS1001	2017	Skill- Isolation of Rhizobium or Aztobacter from plant root nodules& rhizosphere, Identification of soil cyanobacteria from different soil samples. Preparation of culture media. Crop development using azolla as abiofertiliser.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Tools and Techniques in Biosciences	MSLS1002	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy etc.
Phytochemistry and Pharmacogonsy	MSLS1003	2017	Skill- Practice oh phytopharma, plant based drug discovery and secondary metabolite isolation.
Apiculture	MSLS1004	2017	Skill- Study of chamber of honey box, honey bee culture..Honey extraction and analysis of population of honey bee
Medical Diagnostics	MSLS1005	2017	Skill-Perform experiment on stool ,sputum and semen ,urine, blood analysis and and problem solution.
Animal Diversity	MSZO1101	2017	Skill - Protozoan parasites in brief (Trypanosome, Plasmodium), Canal system in Sponges, Coral reef formation and significance, Water vascular system in Echinoderms, Flight adaptation in Birds General characters of Prototheria and Metatheria, Adaptive radiation in mammals.
Zoology Laboratory-I	MSZO1105	2017	Skill - 1. Study of Museum Specimen 2. Preparation & mounting of Microscopic Slides 3. Taxonomical practice of various species 4. Estimation of DNA 5. Estimation of RNA 6. Separation of proteins, lipids & nucleic acids from tissues and their quantification 7. Isolation of genomic DNA from animal tissue/blood 8. Agarose gel electrophoresis of DNA 9. SDS PAGE (Demonstration) 10. Microscopy, Microtomy and Histological techniques. 11. Isolation of Mitochondria 12. WBC & RBC counting 13. Estimation of haemoglobin 14. Study of slides of endocrine glands

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			15. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Comparative Anatomy of vertebrates	MSZO1201	2017	Skill - Comparative account of respiratory organs.Comparative account of Digestive System. Evolution of heart.Evolution of aortic arches and portal systems. Blood circulation in various vertebrates groups Comparative anatomy of brain and spinal cord (CNS).Comparative account of peripheral and autonomous nervous system.Comparative account of lateral line system. Comparative account of electroreception, Flight adaptations in vertebrates' Comparative account of lateral line system
Microbiology	MSZO1202	2017	Skill - General features of Archaea, Structure, Nutrition and Reproduction of Eubacteria, Genetic recombination in bacteria (Transformation, Conjugation and Transduction), General features and pathogenecity of mycoplasma, Rickttsia and Spirochaetes.Plant virus- TMV, structure, transmission, pathogenicity and replication Animal viruses - HIV, structure, transmission, pathogenicity and replication Treatment and prevention by anti-virals and vaccine,, Microbial toxins: types, mode of actions and pathogenicity. Bacterial toxins: Endo and exotoxins, fungal toxins: toxins of Aspergillum, Penicillium, Fusarium and Alternaria Algal toxins: cyanotoxins and dinotoxins. Chemotherapeutic agents: antibiotics and their mode of action; bacterial drugs (Penicillin, fluoroquinolones, tetracycline and aminoglycosides)
Genetics	MSZO1203	2017	Skill - Sex chromosomes, Chromosomal sex determination: XX-XY, XX-XO and ZZ-ZW

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			systems, Compound sex chromosome, Meiotic behaviour of chromosomes: Primary & Secondary non-disjunction, Genic balance theory of sex determination, Sex determination in humans and Drosophila with special reference to SRY and sex lethal genes, Sex determination in plants with special reference to Melandrium, Linkage groups: Complete and incomplete linkage ,Crossing over: Relationship between genetic and cytological crossing over, Relationship between crossing over and chaisma formation, molecular mechanism of crossing over, Mitotic Recombination, Recombination within gene. Structural and numerical alterations in chromosomes: Spontaneous and induced mutations, physical and chemical mutagens, chromosomal aberrations, meiotic behavior of deletion, duplication, inversion and translocation. Euploids and aneuploids-classification, origin, induction, role of polyploidy in evolution and practical significance in crop improvement.
Zoology Laboratory-II	MSZO1205	2017	Skill - 1. Study of Museum Specimen 2. Study of anatomical slides 3. Detection of genetically disorder. 4. Estimation of gram +ve &–ve bacteria 5. Method & techniques of Bacterial culture 6. Study of immunological method 7. Study of different Parasiticforms. 8. Identification of parasitic forms 9. Antigen-Antibody Interaction (Haemoagglutinationassay) 10. Identification of histological slides of lymphoid tissue 11. Immunization Protocol Demonstration

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			of Thioglycolate induced peritonitis (cell infiltration and Inflammatory exudates) 12. Sessional work (Internal evaluate)
Physiology & Endocrinology	MSZO2301	2017	Skill - The heart: cardiac cycle & its regulation, pulmonary ventilation, respiratory surface & gas exchange, regulation of respiration, transport of gases, acid base balance. Excretory system: Urine formation, glomerular filtration, tubular function, renal Mechanism of concentrating & diluting urine General organization of central nervous system, Type of neuronal cells, Structure and function of neuron and glia, Chemical messengers, Hormones & their feedback systems, Mechanism of hormone action (fixed membrane-and mobile receptor mechanisms), hormonal signalling, Pineal, Thymus & gastrointestinal hormones, Anatomy, chemistry and biological action of adenohypophysial & neurohypophysial hormones, Thyroid gland: Anatomy, biosynthesis & function of thyroid hormones, Parathyroid gland: Anatomy & function of parathyroid hormone. Endocrine pancreas: Anatomy, Biosynthesis, chemistry & functions of pancreatic hormones, Adrenal gland: Anatomy, biosynthesis, functions of cortical & medullary Hormones, Gonads: Anatomy and biological actions of gonadal hormones.
Animal Biotechnology	MSZO2302	2017	Skill - Animal cell and tissue culture technology: Cell culture laboratory design

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			and equipment, Media and reagents, Different types of cell culture, application, scale up Biotechnology in improvement of livestock: Fish breeding, Androgenises and Gynogenesis in fish, Polyploidy in fish, Gene manipulation in aquaculture. Reproductive biotechnology: Cryopreservation and Cryoprotection and gamete banking, Assisted reproductive technology, In vitro fertilization and embryo transfer, ICSI, Sperm sexing, Vermi-culture and Vermicomposting for alternative sustainable agriculture. Soil fauna in soil formation & fertility, Organic farming, Fish culture in flow through system and recirculation technology., Medical Biotechnology: Disease diagnostic markers, Gene therapy, Mechanism of gene therapy (antisense, virus mediated, immunotherapy, stem cell therapy), Drug delivery and targeting, Forensic Biotechnology,
Quantitative Biology & wild life	MSZO2304	2017	Skill - Biodiversity: concept and principal of biodiversity, causes for the loss of biodiversity, Biodiversity conservation methods, Medicinal uses of forest plant. Wildlife of India, types of wildlife, Values of wildlife, positive and negative, Wildlife protection Act Conservation of wildlife in India, Endangered and threatened species, Wildlife and conservation, National Parks and Sanctuaries, Project Tiger, Project Gir Lion and Crocodile breeding project, Wildlife in M.P. with references to Reptiles Birds and mammals, Biospheres reserves.

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Zoology Laboratory-III	MSZO2305	2017	Skill - 1. Study of T.S,V.S,L.S of different mammalian organ 2. Detection of protein ,carbohydrate, lipid 3. Tissue culture 4. Gel Electrophoresis, Blotting 5. DATA interpreting 6. Estimation of toxic in Water Sample 7. Various tools & techniques 8. Estimation of DNA 9. Estimation of RNA 10. Separation of proteins, lipids & nucleic acids from tissues and their quantification 11. Isolation of genomic DNA from animal tissue/blood 12. Agarose gel electrophoresis of DNA 13. SDS PAGE (Demonstration) 14. Microscopy, Microtomy and Histological techniques. 15. Isolation of Mitochondria9. WBC & RBC counting 16. Estimation of haemoglobin 17. Study of slides of endocrine glands 18. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Developmental Biology	MSZO2401	2017	Skill - Primordial germ cells, Spermatogenesis, Oogenesis, Fertilization: Ultrastructure of sperm and ovum, biochemical aspects of fertilization, Cell-cell interaction and cell signalling during morphogenesis in early embryo:, Ageing: Mitochondrial control of ageing, insulin pathway control of ageing and possible relation to oxygen radicals, "Ageless" animals and environmental control of ageing, senescence & cell death, Application of developmental biology in medicine and animal husbandry: In vitro fertilization and embryo transfer, embryo sexing, Gene expression and human

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			disease: Inborn errors of nuclear RNA processing, inborn errors of translation, Teratogenesis: Environmental assaults on human development, teratogenic agents like alcohol, retinoic acid etc.
Instrumentation & Biophysics	MSZO2402	2017	Skill - Principle of operation and Instrumentation of Light, Fluorescence and Electron Microscopes Ultraviolet-visible absorption spectroscopy: Principle, Instrumentation and application, Fluorescence spectrophotometry: Principle, Instrumentation and application Radioisotope techniques: Nature of radioactivity, isotopes in biochemistry, measurement of radioactivity (carbon dating, Geiger-Muller counting and liquid scintillation counting).Principles of electrochemical techniques: Electrochemical cells and reactions, potentiometry and voltametry, the pH electrode. Centrifugation techniques: Basic principles of sedimentation, Types of centrifuges, Types of rotors, Methods in preparatory ultracentrifugation (differential and density gradient centrifugation). Chromatographic techniques: Principles of chromatography (Adsorption and Partition chromatography), planar chromatography (Paper and Thin-layer chromatography), Column chromatography (Gas chromatography, Gel exclusion/permeation chromatography, Ion exchange chromatography, Affinity chromatography, HPLC). Electrophoretic techniques: General principles, support media, electrophoresis of proteins (SDS-PAGE, native gels, gradient gels, isoelectric focusing gels and two dimensional gels), electrophoresis of nucleic acids (Agarose, pulse-field and

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			sequencing gels). Blotting techniques (Southern, northern and western blotting). Biophysics: pH meter and measurement of Ph, Paper chromatography of amino acids, mixtures, identification of unknown amino acids and sugars, Gel filtration chromatography (Separation of starch from glucose), Thin layer chromatography of amino acids and sugar, Serum electrophoresis, Determination of absorption coefficient and concentration of unknown solutions by calibration curve using a coloured solution, Absorption spectrum of a coloured solution (KMnO4), Drawings using camera lucida
English	BSFL1101	2016	Skill - Communication, Communicative Grammar, Sounds of English
Mathematical Physics-1	BSPH1101	2016	Skill - Practice using programming in C.
Mechanics	BSPH1102	2016	Skill - Mechanics Lab
Thermal Physics	BSPH1201	2016	Employability - Laws of Thermodynamics, Carnot engine & efficiency. Carnot's Theorem. Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence. Applications of Second Law of thermodynamics, Entropy, Thermodynamic Potentials, Kinetic Theory of Gases, Molecular Collisions, Real Gases. Skill- Thermal Physics Lab
Waves and optics	BSPH1202	2016	Employability - Interferometer, Diffraction grating. Resolving power of grating, Fresnel's half-Period Zones Skill - Waves and Optics Lab.
Mathematical Physics II	BSPH2301	2017	Skill - Practice using Scilab leads to computational skill.

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Electricity and Magnetism	BSPH2302	2017	Employability - Magnetic Properties of Matter, Magnetization, Electromagnetic Induction, Electrical Circuits, Network Theorem. Skill - Electricity and Magnetism Lab
Analog systems and Applications	BSPH2303	2017	Employability - Semiconductor Diodes, Two-terminal Devices and their Application, Amplifiers, Applications of Op-Amp. Skill - Analog Systems and ApplicationsLab
Mathematical Physics III	BSPH2401	2017	Skill - Develop the skill of solving mathematical problems using Scilab.
Elements of Modern Physics	BSPH2402	2017	Employability - Radioactivity, Fission and Fusion, Lasers. Skill - Elements of Modern Physics Lab
Digital systems and Applications	BSPH2403	2017	Employability - CRO uses, Integrated Circuits, Digital Circuits, Data processing circuit, Microprocessor Architecture. Skill - Digital system Lab
Quantum Mechanics & Applications	BSPH3501	2017	Employability - Schrodinger equation and its solution, its application, hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Many electron atoms. Skill - Learn to solve quantum problems through computational methods
Solid State Physics	BSPH3502	2017	Employability - Magnetic properties of materials, dielectric properties of materials, superconductivity. Skill - Solid state physics lab
Electro-magnetic Theory	BSPH3601	2017	Skill - Electromagnetic lab.
Statistical Mechanics	BSPH3602	2017	Skill - Learn to solve statistical physics problems through computational methods
Experimental Techniques	BSPH3503	2017	Employability - Experiments are done on, Thermostat, ultrasonic transducer, Calibrate Semiconductor type temperature sensor (AD590, LM35, or LM75), Create vacuum in a small chamber using a mechanical (rotary) pump and measure the

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			chamber pressure using a pressure gauge, design and study the Sample and Hold Circuit, Design and analyze the Clippers and Clampers circuits using junction diode etc enables them to become Lab Technician. Enterprenuership - Transducers & industrial instrumentation, Digital Multimeter, Sensors Skill - Experimental Techniques Lab
Embedded systems- Introduction to Microcontroller	BSPH3504	2017	Employability - Embedded system, microprocessors, 8051 microcontroller, 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development. Enterprenuership - 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development. Skill - Embedded System: Introduction to Microcontrollers Lab.
Physics of Devices and Communication	BSPH3505	2017	Employability - Physics of Devices, Power supply and Filters, Phase detector , Processing of Devices, Digital Data Communication, communication systems. Skill - Physics of Devices and Communications Lab
Advanced Mathematical Physics-I	BSPH3506	2017	Skill - Advanced Mathematical Physics lab
Advanced Mathematical Physics-II	BSPH3507	2017	Employability - Enterprenuership - Skill -
Applied Dynamics	BSPH3603	2017	Employability - Dynamical systems, Chaos and Fractals, Fluid Dynamic Skill - Applied Dynamics lab
Communication System	BSPH3604	2017	Employability - Communication and Navigation systems, Satellite Communication, Mobile Telephony System, mobile communication network,

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			Enterprenuership - Mobile Telephony System, mobile communication network, Skill - Communication Electronics Lab
Astronomy and Astrophysics	BSPH3606	2017	Employability - Astronomy and Astrophysics Skill - Astronomical Scales, Astronomical techniques, Stellar spectra and classification Structure
Dissertation	BSPH3607	2017	Employability - Project work Skill - Project work
Physics Workshop Skills	BSPH2001	2017	Skill - Experiments are done to learn different measurement methods, different types of welding, drilling, cutting metal sheets, milling, drilling etc. Learn to work with several electrical circuits and instruments.
Computational Physics Skills	BSPH2002	2017	Skill - Programming using FORTRAN
Electrical circuits and Network Skills	BSPH2003	2017	Skill - Experiments done to understand and analyse circuits and networks, to design circuits and networks involving various electrical instruments.
Basic Instrumentation Skills	BSPH2004	2017	Skill - Designing and implementing systems utilizing analog / digital control devices and learn to take measurements using digital and analog instruments. Experiments are done to larn about CRO, Q meter, LCR circuit and Oscilloscope.
Applied Optics	BSPH2005	2017	Skill - Learning about different light sources, detectors, holography and photonics.
Inorganic chemistry-I	BSCH1101	2017	Skill- Wave mechanics and Inorganic Chemistry-I Lab , enterperneurship-Atomic Structure-2,Periodicity of Elements-1&2, Employability-Chemical Bonding-1&2, Oxidation-Reduction
Physical Chemistry-I	BSCH1102	2017	Employability-Gaseous state 1 &2 ,enterperneurship-Liquid state:,gaseous state-3,Solid state,Ionic Equilibria-1&2,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Skill-bravis lattices,Qualitative treatment of acid - base, Physical Chemistry Practice
Organic Chemistry-I	BSCH1201	2017	Employability-Basics of Organic Chemistry,Stereochemistry,Chemistry of Aliphatic Hydrocarbons,Carbon-Carbon pi bonds,Electrophilic aromatic substitution , skill-Cycloalkanes and Conformational Analysis,Organic Chemistry Practice
Physical Chemistry-II	BSCH1202	2017	Employability-Chemical Thermodynamics,Second Law of Thermodynamics,Third Law of thermodynamics,Systems of Variable Composition,Dilute solutions . Enterperneurship-Chemical Equilibrium,Thermochemistry. Skill-Physical Chemistry-II Practice
Inorganic chemistry-II	BSCH2301	2017	Skill-General Principles of Metallurgy-1,-Inorganic Chemistry Practice. Employbility-Acids and Bases,Chemistry of s and p Block Elements-1,Boric acid and borates, boron nitrides, borohydrides (diborane) carboranes and graphitic compounds, silanes,Chemistry of s and p Block Elements-3,preparation and properties of Clathrates, Inorganic Polymers .
Organic Chemistry-II	BSCH2302	2017	Employbility-Chemistry of Halogenated Hydrocarbons-1&2, Organometallic compounds ,Alcohols, Phenols, Ethers and Epoxides,Carbonyl Compounds 1&2, Carboxylic Acids and their Derivatives. Skill-Organic Chemistry Practice
Physical Chemistry-III	BSCH2303	2017	Employbility-Phase Equilibria-1 &2, Chemical Kinetics-2,Catalysis,Surface chemistry. Skill-Nernst distribution law, Physical Chemistry Practice.
Inorganic Chemistry-III	BSCH2401	2017	Employbility-Coordination Chemistry-1&2,Transition Elements,Lanthanoids and Actinoids. Skill-separation of lanthanides,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Bioinorganic Chemistry-1,2 and Inorganic Chemistry Practice
Organic Chemistry-III	BSCH2402	2017	Employbility-Nitrogen Containing Functional Groups,Heterocyclic Compounds-1&2 ,Alkaloids-1. Skill-Alkaloids-2 &3, Organic Chemistry Practice
Physical Chemistry-IV	BSCH2403	2017	Employbility-Electrical & Magnetic Properties of Atoms and Moleculesand Application . Skill-Electrochemistry :II, Physical Chemistry Practice. Enterperneurship-Electrochemistry :I
Organic Chemistry-IV	BSCH3501	2017	Employbility-Nucleic Acids,Amino Acids,Peptides,Enzymes,for transfer of electrons in biological redox systems .Skill-Lipids,Pharmaceutical Compounds, Organic Chemistry Lab
Physical Chemistry-V	BSCH3502	2017	Employbility-Molecular Spectroscopy,Raman spectroscopy,Nuclear Magnetic Resonance (NMR) spectroscopy,Photochemistry. Skill-Physical Chemistry Practice
Inorganic Chemistry-IV	BSCH3601	2017	Employbility-General methods of preparation of mono and binuclear carbonyls of 3d series,Zeise's salt,Study of the some industrial processes and their mechanism.Skill-Inorganic Chemistry Practice
Organic Chemistry-V	BSCH3602	2017	Employbility-Organic Spectroscopy,Carbohydrates,Dyes,Metallocene-based Ziegler-Natta polymerisation of alkenes. Skill-Polymers Introduction and classification ,IR Spectroscopy,NMR Spectroscopy,Organic Chemistry Practice
Industrial Chemicals and Environment	BSCH3503	2017	Employbility-Industrial Gases and Inorganic Chemicals,Inorganic Chemicals,Energy & Environment,Biocatalysis. Skill-Environment and its segments, Water Pollution,Industrial effluents from the following industries and their treatment,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Industrial Chemicals & Environment practice.
Inorganic Materials of Industrial Importance	BSCH3504	2017	Employbility-Glass,Ceramics,Fertilizers,Surface Coatings,Alloys,Catalysis.Skill-Batteries,Inorganic Materials of Industrial Importance practice
Research Methodology for Chemistry	BSCH3603	2017	Skill-Methods of Scientific Research and Writing Scientific Papers-II,Chemical Safety and Ethical Handling of Chemicals,Safe storage and use of hazardous chemicals,Recovery recycling and reuse of laboratory chemicals,Data Analysis-I & II.
Instrumental Methods of Chemical Analysis	BSCH3604	2017	Skill-Introduction to spectroscopic methods of analysis,Molecular spectroscopy,Separation techniques,Instrumental Methods of Chemical Analysis practice. Employbility-Molecular spectroscopy instrumentation and application,Atomic spectroscopy,Spectrophotometers principle and application,
Basic Pharmaceutical Chemistry	BSCH2001	2017	Skill-Drugs & Pharmaceuticals,practice
Analytical Clinical Biochemistry	BSCH2002	2017	Skill-Basic understanding of Carbohydrates,Blood and Urine , practice
Green Methods in Chemistry	BSCH2003	2017	Skill-Green Chemistry lab
Basic Analytical Chemistry	BSCH2004	2017	Skill-Analysis of soil,Analysis of food products,
Calculus	BSMA1101	2016	Skill- Lab work to be performed on a Computer Employability-Asymptotes,Curvature,Tracing of Curves
Linear Algebra	BSMA1102	2016	Skill –To gain the knowledge on MATLAB and uses in algebra. Employability- Solve systems of linear equations using various methods

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Ordinary Differential Equations	BSMA1202	2016	Skill –To understand solving Free Undamped Motion of a Spring System using Python and other skills Employability- Be competent in solving linear/non-linear 1st & higher order ODEs using analytical methods to obtain their exact solutions.
Numerical Analysis	BSMA2401	2017	Skill – Numerical Solution of different linear and non-linear equations using software. Employability - Perform error analysis to select an appropriate numerical model and to estimate errors in numerical solution of a given problem.
Complex Analysis	BSMA3501	2017	Skill –Learn the Plotting of complex functions using Matlab Employability - Illustrate the applications of the calculus of residues in the evaluation of real integrals.
Discrete Mathematical Structure	BSMA3602	2017	Skill –To work with different types of Sets, Lattices and Boolean Algebra using Python Employability - To learn a particular set of mathematical facts and to apply their applications in many subjects of Computer Science and Engineering such as Cryptography, Theory of Computation & Data Networking.
Linear Programming	BSMA3601	2017	Skill - To demonstration of the utilization of Linear Programming Problems in industry and business.
Analysis-I	BSMA1201	2017	Skill- In much of analysis, the emphasis is not on finding explicit solutions to specific problems Employability- Produce rigorous proofs of results that arise in the context of real analysis
Analysis-II	BSMA2301	2017	Skill - To describe various theorems about Riemann sums and Riemann integrals and emphasize the proofs' development.

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			Employability - Apply change of variables in double integrals and triple integrals
Modern Algebra	BSMA2302	2017	Skill - To introduce students to the language and precision of modern algebra Employability - Work effectively with others to discuss homework problems put on the board.
Partial Differential Equations and System of Ordinary Differential Equations	BSMA2303	2017	Skill - Introduce students to how to solve linear Partial Differential Equations with different methods. Employability - Identify and solve Laplace, Diffusion and Wave equations.
Advanced Analysis	BSMA2402	2017	Skill - Construct rigorous mathematical proofs of basic results in real analysis; Employability - Define the limit point, interior point, neighbourhood etc.
Programming in C	BSMA2403	2017	Skill - To understand advanced concepts of C such as Arrays, Strings, functions pointers and structures in detail. Employability - Write programs that perform operations using derived data types.
Probability and Statistics	BSMA3502	2017	Skill- To apply probability and statistics in engineering and science like disease modeling, climate Prediction and computer networks etc using MATLAB Employability - Compute probabilities based on practical situations using the Binomial, Poisson and Normal distributions.
Phycology and Microbiology	BSBO1101	2017	Employability- Classification and identification of microbes and algae. Skill-Practice on staining procedure of different Algae and Bacteria.
Biomolecules & Cell biology	BSBO1102	2017	Employability- Carbohydrates,Lipids,Nucleic Acids,Bioenergetics Skill- Students Completed practicle on analysis of carbohydrates, protein, reducing sugars etc.

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Mycology & Phytopathology	BSBO1201	2017	Skill- practice on identification of diffferent casuative agent of plant pathogen like fungi, bacteria and virus and their management.
Archegoniate	BSBO1202	2017	Employability-Learn the phylogeny of archegoniate . Skill-Practice on cutting thin sections and staining procedure of Archegoniates
Anatomy of Angiosperms	BSBO2301	2017	Employability-Learn identification of plants based on cytotaxonomy, helps in forensic science, pharmagonosy and drug development. Skill- To gain hand on skills about the anatomical details of conducting tissues and secretory tissues.
Basics of Genetics	BSBO2303	2017	Skill-Learn to carry out specific activities, such as selection of parental germplasm, conservation and recording of phenotypic variation and selection among progeny; mating systems, selection, testing and germplasm maintenance of horticultural and crop plants
Molecular Biology	BSBO2401	2017	Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing
Plant Ecology and Phytogeography	BSBO2402	2017	Employability-Soil,Water,Light, temperature, wind ,fire and Plant Communities. Skill -Students do practicals on environmental laboratory and analyse on carbonates, chlorides, nitrates, sulphates, organic matter, morphological adaptations of hydrophytes and xerophytes
Plant Systematics	BSBO2403	2017	Employability- Students can easily identified plants, prepared and seposited herbarium, they also practiced digital documentation of herbarium.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Skill- Hands on skill on herbarium preparation.
Reproductive Biology of Angiosperm	BSBO3501	2017	Employability -Keen Observations of some of the variation in different parts of sample fruits, and relate these modifications to changes in function,significance of angiosperm gametogenesis and fertilization, including double fertilization. Help to pursue higher studies. Skill -Hands on skill on Pollen viability: Tetrazoliumtest. Germination: Calculation of percentage germination in different media using hanging drop method.
Plant Physiology	BSBO3502	2017	Employability- A keen observation and application of Plant water relationnship and Growth regulators. Skill-Hand on practice on calculate the area of an open stoma and percentage of leaf area open through stomata;Study the phenomenon of seed germination
Plant Metabolism	BSBO3601	2017	Employability- Students isolate and quantify the biomolecules, metabolites present on plants and analyse them. Skill- Hand on skill of bioassay of *Avena coleoptile*.
Analytical Techniques in Plant Sciences	BSBO3503	2017	Skill-Students will be exposed to ELISA, various blotting techniques, separate proteins using PAGE etc
Biostatistics	BSBO3504	2017	Skill-Hand on practice on data analysis using chi square test, student t test etc.
Bioinformatics	BSBO3603	2017	Employability- Different biological Data bases. Skill -Practicals on Nucleic acid and protein databases., Sequence homology and Gene annotation etc., skill on rug discovery studio
Natural Resource Management	BSBO3604	2017	Employability- Management of nautral resources and IPR Skill-Students practiced on Measurement

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			of dominance of woody speciesby DBH calculation, Ecological modeling.
Techniques in Biofertilizer	BSLS2001	2017	Skill- Isolation of Rhizobium or Aztobacter from plant root nodules& rhizosphere, Identification of soil cyanobacteria from different soil samples. Preparation of culture media.Culture of cyanobacteria-Media preparation&Strater culture.Sterilization of medium in autoclave. Prepare slants & Plates. Inoculation & Growth of Cyanobacteria Cyanobacterial inoculation to plants. To study different types of Mycorrhizal association. Isolation of VAM They also did the experiment on biocompositing.
Skill in Apiculture	BSLS2002	2017	Skill-Collaboration work with OUAT(Entomology Department) for performing the skill. Study of chamber of honey box, honey bee culture..Honey extraction and analysis of population of honey bee
Herbal Technology	BSLS2003	2017	Skill- Extraction and isolation of essential oil and secondarymetabolites of Tulsi, neem and lemon grass. Collection of Plants extacts like methanol,choloroform benzene with the help of soxlet apparatus. and Testing for secondary metabolites.
Techniques in Medical Diagnostics	BSLS2004	2017	Skill- Hand on practice on Blood sugar level, Partial oxygen saturation, cholestrol analysis etc.
Fundamentals of Agronomy	ASAG1101	2017	Understanding the tools of agronomy and their application in crop production: skill dev.
Fundamentals of Genetics	ASPG1101	2017	Application of genetic principles in plant breeding:employbility& skill dev.
NSS/NCC/Physical Education & Yoga Practices	ASPE1101	2017	Understanding and application of different yoga asanas and pranayama techniques for

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			physical and mental well-being :Skill & Employability
Irrigation water management	ASAG1206	2017	Understsanding the practices of water management and its application in irrigation management : skill dev.& employbility
Production Technology for Vegetables and Spices	ASHO1203	2017	Understanding the different methods i.e. seed treateament and vegetative propogation for the production of vegetable crops: enterpreneurship & skill
Crop Production Technology – I (Cereals, millets and pulses) Kharif crops	ASAG2103	2017	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Fundamentals of Plant Breeding	ASPG2103	2017	Understand the basic methods of plant beeding i.e. emasculation and crossing : Skill & Employability
Production technology of fruits and plantation crops	ASHO2102	2017	Understanding the different methods i.e. grafting, budding and layering for production of fruit and plantation crops: enterpreneurship & skill
Communication skills and personality development	ASEE2104	2017	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Crop Production Technology –II (Oil seeds, fiber, sugar, tobacco, and fodder Crops) Rabi crops	ASAG2204	2017	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Production Technology for Ornamental Crops, MAP and Landscaping	ASHO2204	2017	To gain expertise in production of ornamental crops and landscaping : ,employbility & skill development
Manures, Fertilizers and Soil Fertility Management	ASAC2202	2017	Understanding the manures and fertilizer and its application:skill and employbility.
Entrepreneurship Development and Business Communication	ASEE3103	2017	Development of enterpreneurial mindset and entrepreneurial skills for building a start-ups: skill dev

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Problematic Soils and their Management	ASAC3103	2017	Understanding fertility and pH levels of soil to manage problematic soils :skill dev and employability
Crop Improvement-I (Cereals,millets,pulses and oil seeds etc)(Kharif crops)	ASPG3104	2017	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Geoinformatics and Nano-technology for Precision Farming	ASAG3110	2017	To gain knowledge in nano materials and geoinformatics applicaions i.e. moonsoon tracking system, drainage networks for precision farming:Employbility, skill and enterprenureship
Farming System & Organic farming for Sustainable Agriculture	ASAG3207	2017	To gain expertise in organic farming practice: employbility, skill development and Enterpreneurship
Post-harvest Management and Value Addition of Fruits and Vegetables	ASHO3205	2017	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Pests of horticultural crops and their management and Beneficial Insects	ASEN3204	2017	Identification and management of crop & storedgrain pests :employability & skill dev
Crop Improvement-II (fibre, sugar, starches, narcotics, Vegetables, fruits, and flowers)	ASPG3205	2017	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Principles of Integrated Pest and Disease Management (50% Entomology and 50% Pathology)	ASPP3204	2017	Identification of insects pests of different crops and its integrated pest management-Entrepreneurship& skill dev,employability
Protected cultivation and post harvest technologies	ASAE3204	2017	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Intellectual Property Rights	ASIP3201	2017	Understanding the process to file patent and register for copyrights:skill and employbility.

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Agribusiness Management	ASFE2207	2017	Understanding agriculture and allied business along with building skills i.e. marketing of agri-based products : Skill &Enterpreneurship
Commercial Plant Breeding	ASFE2204	2017	Understanding of commercial plant breeding techniques i.e. emasculation, crossing and storage practices :Employability & skill development
Food safety and Standards	ASFE2201	2017	Understanding the different food safety principles i.e. pasturization, canning etc: Skill
Biopesticides & Biofertilizers	ASFE2205	2017	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
Micro propagation Technologies	ASFE2208	2017	Gaining knowledge in different micro irrigation techniques i.e. sprinkler and drip irrigation: Skill &Employbility
Hi-tech. Horticulture	ASFE2202	2017	Gaining knowledge in different techniques i.e. vertical farming and hydroponics of hitech horticulture: skill & employbility
Remote Sensing & GIS Applications	ASFE2209	2017	Understanding the applications of remote sensing i.e. analyzing the condition of rural roads and detecting land use: Employability, Entrepreneurship and Skill development
Climate Smart Agriculture	ASFE2210	2017	Gaining knowledge on the usage of drones in agriculture for crop improvement: Employability, Entrepreneurship and Skill development
Agricultural Waste Management	ASFE2203	2017	Understsanding the various methods for agricultural waste management i.e. green waste, waste silage: Skill development
Principles of Aquaculture	ASFE2213	2017	Understanding the various methods i.e. breeding, raising and harvesting in fish production :Employability, Entrepreneurship and Skill development
RAWEP	AGRW4101	2017	To impart diagnostic and remedial practical training and skills in crop production/horticulture/plant protection

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			through work experience: employbility,enterpreneurship and skill development.
AELP	AGEL4201	2017	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Principles and practices of weed management	MAAG 1102*	2017	Skill development: Identification of different weeds and their control which in turn would further provide a scope to students in chemical industries
Principles and practices of water management	MAAG 1103*	2017	Skill development: The students can learn about judicious water management using different efficient technologies which would further lay emphasis on job opportunities as well as they can make themselves self sufficient by serving as entrepreneurs to serve the farming community
Agronomy of major cereals and pulses	MAAG 1204*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Agronomy of oilseed, fibre and sugar crops	MAAG 1205*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Cropping systems and sustainable agriculture	MAAG 1206*	2017	Skill development: The students acquire knowledge about different cropping systems under various climatic situations and they can make themselves self employed as sucessful entrepreneurs
Dry land farming and watershed management	MAAG2107*	2017	Skill development: On the basis of climatic situations, students will learn raising of different climate resilient crops

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Soil fertility and fertilizer use	MASA1101	2017	Skill development: Students gain knowledge on the application of fertilizers and soil fertility status
Management of problem soils and waters	MASA1202	2017	Skill development: students study different methods for the reclamation of problematic soils as well as their management
Statistical methods for applied sciences	MAST 2102	2017	Skill: To exploit various statistical tools as well as techniques to compile raw data for representing the results
Library and information services	MALI1101	2017	Skill development: To gain knowledge on the utilization of library resources for the rsearch finding of experiments.
Technical writing and communication Skills	MACS1101	2017	Skill development: learn the style and skill of writing technical papers
Intellectual property and its management in agriculture	MAIP 1201	2017	Employability and Skill development: students get an overall idea of IPR and their applications towards the protection of property rights
Basic concepts in laboratory techniques	MALT1201	2017	Skill: students do learn the usage of different laboratory equipments along with the standard operating procedures for handling them
Agricultural research, research ethics and rural development programmes	MAAR2101	2017	Employability and Skill development: Acquire knowledge for research ethics and government policies.
Production technology of cool season vegetable crops	MAVS 1101*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.
Production technology of warm season vegetable crops	MAVS 1102*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.

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Seed production technology of vegetable crops	MAVS 2106*	2017	Entrepreneurship, skill and research: Development of quality seeds and planting materials
Fundamentals of processing of vegetables	MAVS 2108*	2017	Entrepreneurship and skill: To utilize the knowledge in various processing units
Post harvest technology for fruit crops	MAFS1205	2017	Entrepreneurship and skill
Principles and practices of water management	MAAG1103	2017	Skill and research: To learn the judicious utilization of water during various developmental stages of plants
Principles of genetics	MAGP 1101*	2017	Practical skills and concepts leading to research to generate high yielding varieties.
Principles of cytogenetic	MAGP 1102*	2017	Practical skills and concepts leading to entrepreneurship and research to generate high yielding and disease resistant varieties.
Principles of quantitative genetics	MAGP 1204*	2017	Technical Skills leading to research in quantitative genetics
Heterosis breeding	MAGP2107	2017	Understanding the principles of dominance, co-dominance, over dominance: Skill
Biotechnology for crop improvement	MAGP 1206*	2017	Research and skill: To raise new crop varieties using the tools of molecular biology and genetic engineering
Master's Seminar	MAGP 2191*	2017	It is a skill to bring forward the problems as well as solutions to combat the problems relating to the molecular biology of the plant
Techniques in molecular biology I	MAMB1205	2017	Skill: Students learn the techniques of molecular biology and further carry out research and also serve as entrepreneurs
Development communication and information management	MAEX1102*	2017	Skill and research: students can learn the skills and involve in research activities

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e-Extension	MAEX 1207*	2017	Skill: Students can learn the usage of various tools related to ICT activities and further carry out research
Market led extension management	MAEX 1208*	2017	Entrepreneurship: students can learn the marketing and entrepreneurial skills
Human Resource Development	MAEX 2109*	2017	Skill: Students can learn the skills of studying human behaviour leading the management of human resources
Agricultural Marketing & Price Analysis	MAAE 1201	2017	Entrepreneurship: students can learn the marketing skills and serve as entrepreneurs
Statistical methods for social sciences	MAST 1203	2017	Skill: Students can learn the usage of different stastical tools that in turn would provide them a scope for employment
Non-Parametrics	MAST 2104	2017	Skill: Students can learn the usage of different non parametrics such as descriptive statistics and statistical inferences which would help them for carrying out research activities
Participatory methods for technology development and transfer	MAEX1104	2017	Skill and employability: students can learn the basic concepts of participatory techniques and thereby help in technology transfer from lab to land
Entrepreneurship Development and Management in Extension	MAEX2110	2017	Entrepreneurship: Students do learn the entrepreneural skills which ultimately provides them with a scope to serve as entrepreneurs
Taxonomy of Shellfish	FSRM1102	2017	Gain knowledge about the morphometric and meristric character of shellfish for identification. Skill development
Fish Food Organisms	FSAQ2109	2017	Learn and practice the nutritional requirements of fish/shellfish larvae and knowledge on mass culture and enrichment of live food organisms. Employability and Skill development
Freezing Technology	FSPT2103	2017	Understanding the different types of low temperature preservation, handling, storage of different type of fish and fishery products to minimize the spoilage along

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			with post harvest loss. Employability and Skill development
Genetics and Breeding	FSAQ2111	2017	Gain knowledge on genetic basis of inheritance and breeding plans for commercially important fishes. Employability, Entreperneurship and Skill development
Fish Immunology	FSHM2106	2017	Study the types of immunity, antigen-antibody interactions and learn the Serological methods in disease diagnosis. Employability and Skill development
Fisheries Economics	FSEE2102	2017	Learning the interface between economics and effective management decisions for fisheries business firm. Employability and Skill development
Coastal Aquaculture and Mariculture	FSAQ2204	2017	To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters. Employability and skill development
Fish Nutrition and Feed Technology	FSAQ2208	2017	Practical knowledge of feed formulation and different feed processing techniques and prepare feed based on the nutritional requirements of fish/shell fish. Employability and skill development
Fish Packaging Technology	FSPT2205	2017	Learn the different types of packaging, importance of packaging in fish processing, functions, objectives and requirements. Skill development
Fish and Shellfish Pathology	FSHM2201	2017	Study fish and shellfish pathogens, their control measures and treatments. Employability and Skill development.
Fishing Craft Technology	FSFE2203	2017	Study the operation of various types of traditional and mechanised fishing craft, design and modification. Skill development
Fisheries Extension Education	FSEE2207	2017	Acquire skills required to practice various fisheries extension approaches, the transfer of modern and scientific findings of lab to the farmers land.

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Shellfish Hatchery Management	FSAQ2206	2017	Practical skills of seed production and hatchery management of commercially important crustaceans and molluscs and can setup his/her own hatchery. Employability, Entrepreneurship and Skill development.
Communication Skills and Personality Development	FSEE2208	2017	Students will improve interpersonal skills, active listening and responding skills, communication into everyday practice, teamwork and group discussions skills. Employability and Skill development.
Concepts of Toxicology	MSFS2102	2017	Skill & Employability, : Students gains basic knowledge about disposition and translocation of toxicants, analytical toxicology, toxic agents such as pesticides, metals etc and their effects & applications of toxicology.
Modern and Applied Analytical Forensic Chemistry	MSFS2103	2017	Skill & Employability : Student learns about basic concepts of forensic nuclear chemistry, gains knowledge about drug chemistry, petroleum chemistry and fire chemistry. learns about analysis of lipids and fats of different oils and analysis of dairy products
Pharmacology and Pharmaceutical Drug Analysis Laboratory	MSFS2104	2017	Skill & Employability : Students do qualitative and quantative analysis of Phramaceutical drug by various chemical and instrumental techniques.
Concepts of Toxicology Laboratory	MSFS2105	2017	Skill & Employability, : Students do analysis of various poison such as metallic poison, pesticides, plant poisons etc. and gains knowledge about interpretation of toxicological finding and preparation of reports.
Modern and Applied Analytical Forensic Chemistry Laboratory	MSFS2106	2017	Skill & Employability : Student performs analysis of Various Cases in Forensic Chemistry, Validation of new methods & Accreditation in FSL's, Analysis of NDPS, Explosives, Fire, Petroluem Products,

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			Beverages, Bribe Trap Cases, Adultrated food, Fibres & Exmination of Forensic Chemicals.
Assignment	MSFS2107	2017	Skill : Student study various cases where forensic science played significant role in delivery of justice and write reports.
Seminar	MSFS2108	2017	Skill : Student takes up cases and topics relevant to their specialization subjects and delivers the same.
Advances in Physical Techniques Laboratory	MSFS2124	2017	Skill & Employablity : Students perform examination of evidences by EDXRF, measures RI of physical evidences.
Concepts of Conventional and Modern Ballistics Laboratory	MSFS2125	2017	Skill & Employablity : Students perform examination of barrel wash, analysis of GSR
Audio Recognition and Video Analysis Laboratory	MSFS2126	2017	Skill & employability : Students record, edit & process audi files using goldwave software, speech acquisition and analysis of speech samples using CSL-4500 software, Video analysis and detection of tampered video files using videofocus
General Microbiology	MSCM1101	2016	Functions of cell organelles in microorganisms; Growth of microorganisms: Skill dev and Employbility
Analytical Techniques	MSCM1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Basic Microbiology Lab	MSCM1105	2016	Techniques for staining microorganisms, isolating and culturing microorganisms: Skill and Employbility and Enterpreunership
Business Communication	FCHU0203	2016	Enhancement of basic language skills, i.e., listening, speaking, reading and writing: Skill dev.
Systemic Bacteriology	MSCM1201	2016	Understanding the Morphological identification, pathogenesis, laboratory diagnosis and epidemiology of clinically

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			significant bacteria: Skill dev and Employbility
Medical Parasitology & Mycology	MSCM1203	2016	Clinical features of important parasites, protozoans, fungi: Skill dev. & Employbility
Applied Microbiology	MSCM1204	2016	Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Bacteriology, Parasitology & Mycology Lab	MSCM1205	2016	Pathological investigations of urine, stool and other biological specimen; Culture for Pathogenic Fungi : Skill dev. & Employbility & Enterpreunership
Immunology & Virology	MSCM2301	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Diagnostic Bacteriology	MSCM2302	2017	Diagnosis of bacteria from infective regions of the body: Skill dev and Employbility
Biochemistry	MSCM2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSCM2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSCM2305	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Communicative Practice Laboratory- II	FCHU0204	2017	Effectiveness in participation in group discussion and job interviews: Skill dev. And Employbility
Immunology, Histopathology & Biochemistry Lab	MSCM2306	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility. Performing histopathological analysis and their interpretation: Skill dev and Employbility
Project	MSCM2401	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	MSCM2402	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Medical Instrumentation and Technique	MSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Hematology Lab	MSMT1105	2016	Performing various hematological tests: Skill and Employbility and Enterpreunership
Clinical pathology	MSMT1203	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership
Blood Banking	MSMT1205	2016	Blood collection and transfusion techniques and possible errors associated with it: Skill dev. & Enterpreunership
Clinical pathology & Microbiology Lab	MSMT1204	2016	Collection of blood, stool, body fluids and study their chemical and morphological examination: Skill dev. & Enterpreunership culturing and identification of pathogenic microorganims: Skill dev. & Employbility & Enterpreunership
Immunology, Bacterial Serology & Parasitology	MSMT2301	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Clinical Hematology	MSMT2302	2017	Quality assurance required in hematology; Examination of bone marrow: Skill dev and Enterpreunership
Biochemistry	MSMT2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSMT2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSMT2305	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Immunology, Biochemistry & Histopathology Lab	MSMT2306	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility. Assay on blood serum for biochemical test: Skill dev and Employbility. Performing histopathological analysis and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			their interpretation: Skill dev and Enterpreunership.
Project	MSMT2401	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	MSMT2402	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Basic Haematology	BSCM1103	2017	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Instrumentation & Techniques	BSCM1104	2017	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
General Microbiology	BSCM1201	2017	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology & Diagnosis	BSCM1203	2017	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical Pathology, Biochemisrty & Microbiology Practical	BSCM1204	2017	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership; Microscopic analysis of specimen collected: Skill dev. & Enterpreunership; principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Communicative Practice Laboratory- II	FCHU0202	2017	Effectiveness in participation in group discussion and job interviews: Skill dev. And Employbility
Basic Hematology	BSMT1103	2016	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation & Techniques	BSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Microbiology	BSMT1201	2016	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology	BSMT1203	2016	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical pathology Lab & Microbiology Lab	BSMT1204	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership, Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Immunology	BSMT2301	2017	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Applied Hematology	BSMT2302	2017	Concept of Haemopoietic disorders, laboratory diagnosis of leukemia, hemolytic anemia, haemophilia, ITP: Skill dev. & Employbility & Enterpreunership
Basic Histology	BSMT2304	2017	Concept of Histotechnology, histopathology: Skill dev. & Employbility & Enterpreunership
Immunology & Histology Lab	BSMT2305	2017	Performing Serological reactions: Skill and Employbility
Parasitology	BSMT2401	2017	Understanding the life cycle and lab diagnosis of various clinically significant parasite: Skill dev. and Employbility
Advance Biochemistry	BSMT2402	2017	Learning the principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Advanced Hematology	BSMT2403	2017	Understanding the lab diagnosis for Leukamoid reactions, DIC: Skill dev and Employbility and Enterepreneurship
Human Values & Professional Ethics	BSMT2404	2017	Understanding the value of Education, harmony, society: Skill dev.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Basic Computers and Information Science	BSMT2405	2017	Concept for Input & output device, Processor & memory, Word, excel, power point: Skill dev and Employbility
Biochemistry & Advanced Microbiology Lab	BSMT2406	2017	Analysis of urine and serum sample for biochemical parameters: Skill dev and Enterepreneurship; Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Basic Medical Instrumentation & Techniques	BSRT1105	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Medical Imaging Lab - 1	BSRT1204	2016	Care and maintenance of x-ray equipment: Skill dev & Enterpreunership
Special Radiographic Technique and Procedures	BSRT2303	2017	Understanding of special procedures and importance of contrast media: Skill dev. and Employbility
Basics Equipment's in Radiodiagnosis	BSRT2304	2017	Understanding of gamma rays and its use in radiography, magnetron and klestron: Skill dev and Enterpreunership
Medical Imaging Lab - 2	BSRT2305	2017	Performing radiographic positioning, application of contrast media, Darkroom procedures: Skill dev and Enterpreunership
Radiotherapy and Branchy Therapy Techniques In Malignant And Non Malignant Diseases	BSRT2401	2017	Concept on treatment of cancer, dose limits for individuals: Skill dev and Employbility
Interventional Radiology & Drugs Used in Radiology	BSRT2403	2017	Concept on use of anaesthesia in diagnostic radiology: Skill dev and Employbility
Human Values & Professional Ethics	BSRT2404	2017	Understanding the association of Ethics in work and society: Skill dev
Basic Computer & Information Science	BSRT2405	2017	Concepts of basic input & output device; Processor & memory; Word, excel, power point: Skill dev.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Hospital posting Medical Imaging Lab - III	BSRT2406	2017	Exposure to different hospitals, training of x-ray, CT and MRI: Skill dev. & Employbility & Enterpreunership
ORIYA (LANGUAGE-I)	MSIL1101	2015	Comprehending with the fundamentals of Oriya Language: skill dev.
HINDI (LANGUAGE-I)	MSIL1102	2015	Comprehending with the fundamentals of Hindi Language: skill dev.
BIOCHEMISTRY LAB	BSOL1102	2015	Gaining adequecy in the concept of metabolism of various macromolecules in humab body and the diagnosis of diseses associted with their malfunction: Skill dev. & Employbility
GENERAL ANATOMY & PHYSIOLOGY LAB	BSOL1103	2015	Learning about basic structure and connections between the various parts of the body and their integrative function: Skill dev & Employbility
OPTICS LABORATORY-II	BSOL1201	2015	Predicting the distribution of light under various conditions: Skill and Employbility
ANATOMY& PHYSIOLOGY LAB (CLINIC-I)	BSOL1202	2015	Learning about basic structures in eye and their integrative function: Skill dev & Employbility
OPTOMETRIC OPTICS- I	BSOP2303	2015	Ability to measure the power of lens, lens centration using conventional techniques, identify different forms of lenses: Skill dev. and Enterpreunership
CLINICAL EXAMINATION OF VISUAL SYSTEM	BSOL2301	2015	Performing various clinical tests, their interpretation and finding: Skill dev. and Entrepreneurship and Employbility
CLINICAL OPTOMETRY-I	BSOL2302	2015	Measurement of lens power, lens centration using conventional techniques, transposition of various types of lenses: Skill dev. and Entrepreneurship and Employbility
OPTOMETRIC OPTICS II	BSOP2403	2015	Developing the art and science of dispensing spectacle lens and frames based on the glass prescription: Skill dev. and Entrepreneurship and Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
CLINICAL OPTOMETRY II	BSOL2401	2015	To gain practical knowledge regarding Ocular Diseases, Visual Optics, Optometric Optics: Skill dev. and Entrepreneurship and Employbility
BINOCULAR VISION & SQUINT	BSOP3501	2015	Binocular muscle coordination; Integration of motor and sensory system into binocular vision; Differentiate different types of strabismic anomalies; non strabismic anomalies related to accommodation & convergence: Skill & Employbility
LOW VISION AID	BSOP3503	2015	Training for Low Vision subjects with Low vision devices: Skill and Employbility
CONTACT LENS LABORATORY	BSOL3502	2015	Applying the concepts of contact lenses: Skill dev. & Employbility
OCULAR DISEASES LABORATORY II	BSOL3503	2015	Performing the basic workup for a patient in a hospital and clinic set up: Skill dev. and Entrepreneurship and Employbility
STATISTICS & OCCUPATIONAL OPTOMETRY	BSOP3601	2015	Interpretation and ability to prescribe suitable corrective lenses and eye protective wear: Skill dev. and Entrepreneurship and Employbility
PEDIATRIC & GERIATRIC OPTOMETRY	BSOP3602	2015	Ability to identify, investigate the age-related changes in the eyes: Skill dev. & Employbility
OPTOMETRIC INSTRUMENTS LABORATORY-II	BSOL3602	2015	Gaining practical skill in handling the advanced instruments in an Optometry Lab: Skill dev. and Entrepreneurship and Employbility
Human Anatomy and Physiology I– Theory	BPHT1101	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Analysis I – Theory	BPHT1102	2017	Skill-Employability-Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Pharmaceutics I – Theory	BPHT1103	2017	Skill- Employability- Entrepreneurship - Understand the impact of pharmaceutical

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			solutions in a global, economic, environmental, and societal context
Pharmaceutical Inorganic Chemistry – Theory	BPHT1104	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Communication skills – Theory *	BPHT1105	2017	Skill- Students can improve their coomunication Skill
Human Anatomy and Physiology – Practical	BPHL1101	2017	Skill-allows Students to verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Analysis I – Practical	BPHL1102	2017	Skill- Employability- Students can assay ,preparaed and standarized various Heavy metals and Chemicals
Pharmaceutics I – Practical	BPHL1103	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Pharmaceutical Inorganic Chemistry – Practical	BPHL1104	2017	Skill- Students can perform purity test on drugs or chemicals
Communication skills – Practical*	BPHL1105	2017	Skill- Students can improve their coomunication Skill
Remedial Biology – Practical*	BPHL1106	2017	Skill- Students can learn about structure and functional system of plant and animal kingdom
Human Anatomy and Physiology II – Theory	BPHT1201	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Organic Chemistry I – Theory	BPHT1202	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Pathophysiology – Theory	BPHT1204	2017	Skill-Employability-student get to know about various communicable diseases and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			pathophysiology along with all thetechniques for screening test .
Computer Applications in Pharmacy – Theory *	BPHT1205	2017	Skill-Employability-Buiding compitancy in programme coding, various softwares, simulation techniques, statistical application etc.
Human Anatomy and Physiology II –Practical	BPHL1201	2017	Skill- allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Organic Chemistry I– Practical	BPHL1202	2017	Skill-Students can do qualitative analysis and synthesis of Organic Compound
Biochemistry – Practical	BPHL1203	2017	Skill- Students can demostrate different Biochemical Test
Computer Applications in Pharmacy – Practical*	BPHL1204	2017	Skill-Allows students to details with Database, Database Management system, computer application in clinical studies and use of databases
Apparel Production & Marketing	CUTM3029	2017	Employability/Skill - Practice and Project
Line Stitching Supervising	CUTM3030	2017	Employability/Skill - Practice and Project
Apparel Production	CUTM3031	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Light Motor Vehicle Driving	CUTM3032	2017	Employability/Skill - Practice and Project
Fork Lift Operation	CUTM3033	2017	Employability/Skill - Practice and Project
Heavy Vehicle Technology	CUTM3034	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Two Wheeler Service Technology	CUTM3035	2017	Employability/Skill - Practice and Project
Four Wheeler Service Technology	CUTM3036	2017	Employability/Skill - Practice and Project
E-Vehicle Assembly and Service Technology	CUTM3037	2017	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Robotics	CUTM3038	2017	Employability/Skill - Practice and Project
Poultry Farming	CUTM3039	2017	Employability/ Entrepreneurship/Skill
CNC Programming (CAM)	CUTM3040	2017	Employability/Skill - Practice and Project
Design Supervising Wooden and Modular Furniture	CUTM3041	2017	Employability/ Entrepreneurship/Skill - Practice and Project
2018-19			
Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Differential Equations	FCBS 0102	2016	Skill Development(Students will know about the modelling of different enggineering application)
Linear Algebra & Vector	FCBS 0103	2016	Skill Development(Students will know about modelling of problems related to system of equations in enggneering application)
Integral Transform	FCBS 0104	2016	Skill Development(Students will know to find the solution using laplace and fourier transform)
Complex Analysis	FCBS 0105	2016	Skill Development(Students will know to find the solution usingcomplex integral)
Discrete Mathematics	FCBS 0106	2016	Skill Development(Students will know about graphs, sets and logic)
Probability & Statistics	FCBS0108	2017	Employability (Students will know about probability distribution) Skill (Students will know about mean, media, mode)
Numerical Methods	FCBS0109	2017	Skill Development(Students will know about solution of differential equation using different numerical techniques)
Electricity and Magnetism	FCBS0404	2016	Skill development (Students will develop the skill of identifying circuit elements and operating different electrical circuits)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Applied Analytical Chemistry	FCBS0401	2016	Employbility-Water Analysis,Soil Analysis,Chemistry of fuels. Skill- All practices
Industrial Chemistry	FCBS0402	2016	Employbility-: Preparation of soap, dyes and oil analysis ,Analysis of cement Skill-All Practices
Applied Engineering Materials	FCBS0403	2016	Employbility-Nano Materials,Polymers,Composites. Skill- All Practices
Foundations of English Communication	FCHU1201	2016	Skill Development(Students will develop basic interpersonal communication skill (BICS))
Communicative Practice Laboratory -1	FCHU1202	2016	Skill Development(Students will enhance their communication skills in english both academic and proffessional context)
Business Communication	FCHU1203	2016	Skill Development(Students will enhance their communication skills in english in bussiness context)
Communicative Practice Laboratory-II	FCHU1204	2016	Skill Development(Students will enhance their communication skills in english both academic and proffessional context)
Corporate Readiness Laboratory	FCHU1205	2016	Skill Development(Students will develop professional communication skill)
IT Enabled Communication	FCHU1206	2016	Skill Development(Students will enhance their communicative competency through the use of technology)
Career Communication	FCHU1207	2016	Skill Development(Students will enhance their communicative competency in professional career)
Personality Development	FCHU1208	2016	Skill Development(Students will learn basic ettiquette in professional sphere)
Seminar and Technical Writing	FCHU1209	2016	Skill Development(Students will learn the convention followed in academic and technical writting)
Professional Etiquette	FCHU1210	2016	Skill Development(Students will learn basic ettiquette in professional sphere)

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Creative Writing	FCHU1211	2016	Skill Development(Students will enhance their competency level using innovative method for creative writting)
English for Competition (GRE/GMAT/TOEFL/IELTS)	FCHU1212	2016	Skill Development(Students will enhance their competency level to compete with students of global standard)
Life Skills Development (LSD) – I	FCHU0210	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Life Skills Development (LSD) – II	FCHU0211	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Life Skills Development (LSD) - III	FCHU0212	2016	Skill Development(Students will develop life skill including time management skill, personality and others)
Economics	FCMG0101	2016	Skill Development(to provide students with a basic understanding of the economic principles, methodologies and analytical tools that can be used in business decision making problems) Employability & Entrepreneurship (Student shall understand and apply the impact of economic policies on managerial decision-making by providing an understanding of fiscal policy, and national and global economic issues affecting business.)
Accounting & Finance	FCMG0102	2016	Skill Development-Students will be able to create, balance and deliver a budget and use budget information for planning and decision purposes; Employability & Entrepreneurship (Students to Undertake various costing techniques and information for planning and decision-making)
Management Processes and OB	FCMG0103	2016	Skill Development-Students shall be able to analyze and compare different models used to explain individual behaviour; Employability & Entrepreneurship (Students shall be able toresolve conflict, motivate the employees, handle stress and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			communicate effectively and manage diversified workforce in workplace)
Production and Operation Management	FCMG0104	2016	Skill Development (Acquire a working understanding of the roles/functions of production management in the context of business enterprise.) Employability & Entrepreneurship (Student can use specialized knowledge in Operations Management to solve business processes)
Marketing Management	FCMG0105	2016	Skill Development (Students will learn the application of various marketing tools for solving business problems). Employability and Entrepreneurship (students will acquire and develop the marketing skills to be a successful marketing person)
Introduction to Research	FCMG0108	2016	Skill Development (Students will be able to understand the process of doing a research). Employability and Entrepreneurship (Students will be able to write a research report.)
Indian Society and Culture	FCMG0113	2016	Skill Development (Students will be familiarized with the science and technology policies that would benefit modern India). Employability and Entrepreneurship (Students would develop an idea about the socio-cultural environment in which they would be working as scientists, researchers and enterpreneurs.)
Disaster Management	FCMG1201	2016	Skill Development (students would begin to understand the relationship between vulnerability, disasters, disaster prevention, risk reduction and the basic understanding of the research methodology for risk reduction measures.). Employability and Entrepreneurship (Students would develop rudimentary ability to respond to their surroundings with potential disaster

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			response in areas where they live, with due sensitivity)
Human Rights	FCMG0115	2018	Skill Development (Student would have an understanding of human rights, its history, characteristics, types, protection, violation and the legal framework for their protection, therefore, a fair knowledge of the Universal Declaration of Human Rights.). Employability and Entrepreneurship (students shall gain a holistic view of human rights and their implications)
Introduction to Ethics	FCMG0116	2018	Skill Development (Students shall be able to demonstrate their respect of different ethical perspectives). Employability and Entrepreneurship (students shall be able to clearly formulate their ethical position on an issue and develop arguments based on sound inferences and clear premises (through project))
Gender Issues in Development	FCMG0401	2018	Skill Development (Students shall be able to develop an understanding of perspectives on gender and development). Employability and Entrepreneurship (Familiarise with the different tools and techniques for gender planning, analysis and evaluation in the development sector)
Engineering Mechanics	ENFC0101	2018	Skill development (To provide the student with a thorough understanding of concept, drawing and free body diagrams.)
Material Sciences	ENFC0102	2017	Employability and Skill development (Students will able to identify materials for engineering use.Students will able to select best materials for a specific design and production.)
Thermodynamics	ENFC0103	2018	Skill development (Students will be able to prepare energy balance sheet will be able to understand various processes of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			thermodynamic cycles Will be familiar with the steam table which will further help them in advanced thermodynamics for understanding power cycles)
Geometric Modelling Lab	ENFC0202	2018	Skill development(Students will be able to Demonstrate use of CAD in Civil Construction, basic knowledge of operating software & commands, and benefit of civil developments in the construction industry. Do 2d &3d drafting /design with AUTO CAD software.)
3D Modeling	ENFC0204	2018	Skill Development (learning software which helps to draw complicated drawings and also helps in producing detail drawings in proper scale. Learning software which helps to better visualize complicated forms and also helps in producing photo realistic images of those 3D forms)
Electrical Workshop Practice	ENFC0205	2018	Skill development(Students will Enhance their skill of operating electrical instruments, hand tools and power tools)
Engineering Metrology and Measurements	ENFC0401	2017	Employability and Skill development (To Make Students Familiar with the Measuring Systems, and the Standard of Measurements. Learns about Basic Measurement Devices.Selecting Suitable Measuring Instruments for Basic and Typical Applications in the Industries.)
Basic Fluid Mechanics	ENFC0402	2017	Skill development(• After completion of the course, the students will able to evaluate finite difference/volume schemes on model problems of computational fluid dynamics. • Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems)

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Basic Surveying	ENFC0403	2017	Skill development(Doing centering, leveling & measuring coordinate points of area and calculation, transfer to data from Total station to software spectrum link Doing field work using of simple machine parts such as Total –Station, Auto- level)
Basic Electrical Engineering	ENFC0404	2017	Skill Development (Students will get the skill to design devices and systems using electrical components such as resistors, capacitors, transistors, etc
Electrical Machines	ENFC0405	2018	Skill Development (Students will get the skill to analyse about the principle of operation & performance of rotating electrical machine like DC Motor, DC Generator, and Transformer
Introduction to automation	ENFC0406	2018	Skill development(Students will be able to use a number of PLC programming languages to develop control solutions.)
Programming in C	ENFC0409	2018	Skill And Employability(Case study to be given to students on uses of C program for development of various real time applications like online examination system, online quiz competetion etc.)
Programming for Problem Solving – Java	ENFC0412	2017	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Data Base Management System	ENFC0414	2018	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL-Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Functions – Triggers Case study in industrial standards of Database Management)
Problem Solving & Programming	ENFC0418	2018	Skill And Employability(To enhance the problem analysis capability and problem solving techniques and solves various real life problems using raptor and scratch tools)
Data Structures and C Programming	ENFC0419	2018	Skill And Employability(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems)
Operating System	ENFC0422	2018	Skill And Employability(This course enables students to understand the basic concepts of operating system with different types of OS, services and system calls, get knowledge of process management, Inter process communication and various CPU scheduling algorithms. It also helps to understand the concept of memory management -paging and segmentation and learn about various I/O systems and mass storage structures.)
Big Data Analytics	ENFC0423	2018	Skill And Employability(This course helps in gaining the ability to choose the right solution for a commercial task involving big data, including databases, architectures and cloud services. Also focuses on understanding of the analysis of big data including methods to visualise and automatically learn from vast quantities of data. Develop the programming skills to build solutions using big data technologies such as Map Reduce, scripting for No-SQL, Apache Mahout, Hive and the ability to

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			write parallel algorithms for multi-processor execution.)
Block Chain and Smart Contracts	ENFC0424	2018	Skill And Employability(Hands on in design and program smart contracts and decentralized applications)
AI Tools, Techniques and applications	ENFC0603	2018	Skill And Employability(Introduce state-of-art AI tools and techniques to solve various problems faced by Engineers in design and analysis)
Cloud Computing and its applications using Linux OS	ENFC0602	2018	Skill (Hands on in accessing cloud Storage systems and Cloud security and develop cloud application)
Problem Solving using Python	ENFC0901	2018	Skill And Employability(Eenhance the problem analysis capability and problem solving techniques and solves various real life problems using raptor and scratch tools)
Object Oriented Programming through Java	ENFC0902	2018	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Web Technologies	ENFC0903	2018	Skill And Employability(Develop a static, interactive and well-formed webpage using JavaScript, CSS3 and HTML5)
Software Engineering using Agile	ENFC0904	2018	Skill (Students get to apply software engineering principles and techniques learnt to a real-life project topic of their choice in a contemporary domain and design-implement novel solution by working together as a team.
Internet of Things	ENFC1407	2018	Skill (Hands on training for understanding of the communication protocols in IoT communications.)
Build your own Computer	ENFC1402	2018	Skill (Hands on training to build computing devices.Troubleshoot various faults in a computer system and network

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Cloud Computing Application	ENFC1403	2018	Skill (Hands on in accessing cloud Storage systems and Cloud security and develop cloud application)
Hydraulics & Hydraulic Machines	CECC0103	2018	Skill development(Effectively use performance calculations Understand the accelerated flight performance Understand takeoff and landing performance Effectively use and understand stability for Aircraft. Able to understand the process of aerodynamic designing)
Estimation & Quantity Surveying	CECC0201	2017	Skill development(After completion of the courses the students will gain knowledge of the processes of planning, production, storage, transportation and site installation of various prefabricated units pertaining to a civil engineering construction project. • Students will develop innovative ideas about prefabricated structures)
Pre-Fabricated Structures	CECC0202	2018	Skill Development (Become knowledgeable regarding the processes of planning, production, storage, transportation and site installation of various prefabricated units pertaining to a civil engineering construction project)
Concrete Technology	CECC0412	2017	Skill(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)

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Soil Mechanics	CECC0401	2018	Skill development(• Students will gain knowledge on soil mechanics and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve in soil mechanics)
Transportation Engineering	CECC0403	2018	Skill development(• Students will gain knowledge on planning, material selection for construction, Economics and finance and designing of elements on highway. • Acquire the skill of designing the geometric elements of highway using AUTOCAD CIVIL 3D software.)
Water supply & Waste water Management	CECC0415	2018	Entrepreneurship(• Students will gain knowledge and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve in hydrology)
Hydrology &Water Resources Engineering	CECC0416	2018	Employability(• Students will gain knowledge and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve in hydrology)

Quality Control and Risk Management in Construction	CECC0414	2018	Skill Development (Generate quality control schedule for different projects in construction industry.
			  Prepare quality control inspection check lists for selected civil engineering structures.
			  Carryout the field and laboratory tests for quality assessment in construction industry)

Computer Aided Design of Steel Structure	CECC0407	2017	Skill development(to gain the knowledge of Steel design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.PRO)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Computer Aided Design of Concrete Structure	CECC0408	2017	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards • To acquire skill of converting clients requirement to structural drawing and BOM by using STADD.Pro.)
GIS and Digital Cartography	CECC0413	2018	Skill development(• To study the basic concepts of GIS. • To study the data structure in GIS • To study data conversion in GIS and Meta data • To know the basics, importance, and methods of Cartography • To study the various maps projection and co-ordinate systems.)
Strength of Material	CECC0411	2018	Employability(Students will acquire knowledge and skill to analyze the effect of force and motion on rigid bodies to solve engineering problems through application of basic laws of mechanics.)
Functional planning and DPR	CECC0501	2018	Skill development(• Students will gain knowledge on and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve)
Site Supervision & Measurement Methods	DECP0401	2018	Employability(• Students will gain knowledge on and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve)
Geotechnical Investigations	DECP0402	2018	Skill development(To obtain knowledge about soil properties and methods of soil properties determination in the laboratory, using field tests and considering comparable experience. Basic stability and deformation problems. Principle of spread

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and deep foundation design. To understand fundamental knowledge of geotechnical works for soil improvement, interaction of structure and subsoil. Basic design methods for excavation and foundation pits with dewatering and sealing systems)
Repairs, Renovation and Rehabilitation of Structures	DECP0403	2018	Skill development(• After successful completion of the course the students will have capability/knowledge of various important, monumental but distressed and damaged modern materials that longevities old concrete and masonry structures)
Tendering Process, Bidding Contract Agreements & Arbitration	DECP0601	2018	Skill development(• Upon successful completion of the course, students shall be fit in CPWD, state Government departments and infrastructural organizations, persons working in development projects in public or private sectors. Consultancy units, research organizations as well as self-employed practitioners engaged in the planning, design, Procurement, construction, operation and maintenance. • Apply legal aspects of construction projects in construction contract, of issues related to contract administration, apply various disputes resolution techniques including arbitration)
Project	DEET0300	2015	Employability (Skill development course)
Internship	DEET0800	2015	Employability (Skill development course)
Green Building Design	DEPD0101	2018	Skill development(• To study the theory of sustainability. • To study the changing climatology and contribution of built mass • To learn reduction of carbon foot prints)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Barrier Free Design	DEPD0103	2018	Skill development(• To study the various provisions in the code • To design or modification based on provision in the code • To analyze the improved performance of the same building with different set of users)
Intelligent Building Design	DEPD0104	2018	Skill development(• To study integrates technology and process to create a facility that is safer, more comfortable and productive for its occupants • To design Smart buildings)
Architectural Design	DEPD0201	2018	Skill development(• To study the basic concepts of building Design. • To study the climatology, soil condition, site analysis and other factors on design. • To learn building bye laws application while designing any building)
3D Modelling and VR experience of Building	DEPD0202	2018	Skill development(• To understand the Generation of 2D (plan, section and elevation) and 3D modelling. • Able to carve out detailed specification and dimensioning of the following using AutoCAD, Revit Architecture and CATIA)
Remote Sensing & Digital Image Processing	DESP0401	2018	Skill development(• Students will gain knowledge of basic concepts of remote sensing, aerial photogrammetry. • Students will gain knowledge of applications different satellites imagery, image classification techniques and image analysis and interpretation.)
Geospatial Technology and its Application	DESP0901	2018	Skill development(• Students will gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs used for map production in the modern cartographic workflow.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Photogrammetry and its Application	DESP0402	2018	Skill development(• Students will gain knowledge about the survey by Photogrammetry method. • Prepare DEM, TIN model and generate contour map.)
Lidar Remote Sensing and its Applications	DESP0201	2018	Skill development(• Students will gain knowledge about LIDAR and its application. • Students will be more skilled in CATIA Civil module)
Building of Cloud Infrastructure	DECT0901	2015	Skill And Employability(Analyze and Understand the functioning of different components involved in Amazon web services and also acquire cloud technology skill for cloud partitioner certification which helps students in getting jobs in different MNCs)
Deployment Architecture -I	DECT0902	2015	Skill And Employability(Evaluate cloud application requirements and make architectural recommendations for implementation, deployment and provisioning applications on AWS)
Deployment Architecture - II	DECT0903	2015	Skill And Employability(Ability to evaluate cloud application requirements and make architectural recommendations for implementation, deployment and provisioning applications on AWS)
Advanced Networking	DECT0904	2015	Skill And Employability(Students had Implemented various VPC,VPN and optimization of network cost and also Understand and building the skills of sub-netting and routing mechanisms)
Oracle Database Administration and SQL	DEST0401	2015	Skill And Employability(Provides an exhaustive coverage of SQL Admin to understand the architecture and processes of the Oracle database)
Problem Solving through Coding	DEST0201	2015	Skill And Employability(Obtain skills to solve problems involving text, numbers and graphics, producing a top-level plan with refinements.)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Linux and Lamp Administration	DEST0402	2015	Skill And Employability(Obtain skills in Linux server administration. Content includes LINUX and Web server installation, system startup/shutdown, hardware configuration, disk and file system structure, package management, TCP/IP networking, system management and security, X-Windows usage and configuration, user management)
Testing and Test Automation	DEST0403	2015	Skill And Employability(students had alpplied various modern software testing processes in relation to software development and project management)
Web Services using Java	DEST0404	2015	Skill And Employability(Developed knowledge-based force to serve the IT industry with the latest technologies.)
Python for Data Science and Machine Learning	DEML0201	2015	Skill And Employability(Implement ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Supervised and Unsupervised Machine Learning	DEML0401	2015	Skill And Employability(Implement sevaral ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Advanced Neural Network (RNN & CNN)	DEML0402	2015	Skill And Employability (Design and train a CNN, RNN language models and also able to apply deep learning principles using tools such as TensorFlow, Keras)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
ML Techniques in Image Processing	DEML0202	2015	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Deep Learning Techniques and Neural Network	DEML0403	2015	Skill And Employability(Design and train a CNN, RNN language models.Be able to apply deep learning principles using tools such as TensorFlow, Keras)
Introduction to IT Networking & Security	DEIS0121	2015	Skill And Employability(To understand, design and implement appropriate security technologies and policies to protect computers and digital information)
Advanced Networking	DEIS0421	2015	Skill And Employability(Understand and explain Data Communications System and its components and Identify the different types of network topologies and protocols. Enumerate the layers of the OSI model and TCP/IP and explain the functions of each layer,identify the different types of network devices and their functions within a network)
White Hat Hacking Techniques and Tools	DEIS0422	2015	Skill And Employability(Information technologies skill like vulnerabilities, defense-in-depth, penetration testing, the methodology for pen testing/ethical hacking, vulnerability management, incident management, and creating and implementing a security policy will be understood)
Information Technology Infrastructure Library	DEIS0122	2015	Skill And Employability(Obtain the skill about IT Service Management best practices, generic concepts, key principles, gain a comprehensive understanding of the purpose and scope of service strategy, service design, service transition, service operations, and Continual Service Improvement)
Network Security Audit of an Organisation	DEIS0221	2015	Skill And Employability(To perform an IT Netwok secuiry audit of an organization

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and prepare a detailed report identifiying different weakness of the architecture)
CCNA	DEIS0222	2015	Skill And Employability(hands on training to manage Network for an Organization)
Electromagnetic Field Theory	ECCC0102	2018	Skill Development This subject is a base subject for wireless communication, Antenna Engineering and other advanced communication based subject.
Analog Electronic Circuits	ECCC0401	2018	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Digital Electronic Circuits	ECCC0402	2018	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
VLSI Design	ECCC0407	2017	Employability (Design combinational and sequential circuit using CMOS logic Enhancement of complex digital VLSI logic design skill of students which will help them to complete any project work undertaken in higher semesters. Perform back-end physical design)
RTOS and its Application	ECCC0412	2018	Employability (Develop the skill to implement the Real Time Operating System FreeRTOS in LPC2148 Microcontroller)
General PLC	DEIA0101	2018	Skill development(Students will develop skill of designing Automatic Control System using PLC)
Basic Electrical (Automation based) and Panel Designing	DEIA0201	2018	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using relevent software & hardware tools)
Supervisory Control and Data Acquisition (SCADA)	DEIA0401	2018	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			SCADA-Schneider-Wonder ware In Touch tools)
Micro Range Programmable Logic Controller	DEIA0402	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for micro range applications)
Small Range Programmable Logic Controller	DEIA0403	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for small range applications)
Medium Range Programmable Logic Controller	DEIA0404	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for medium range applications)
Human Machine Interface (HMI)	DEIA0202	2018	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
Variable Frequency Drive	DEIA0203	2018	Skill development (Students will gain Functional skill to operate the Drive by changing Frequency)
Modern Transmission and Distribution System	DEOM0101	2018	Skill Development (Students will learn about the Transmission and Distribution system used in Modern days)
Operation and Testing of Power and Distribution Transformer	DEOM0401	2018	Skill Development (Students will learn about the operation and testing procedures used in Power & Distribution Transformer)
System Protection and Auxiliaries	DEOM0402	2018	Skill Development (Students will develop different protection scheme with hardware & software integration)
Construction of HT and LT lines and Cables	DEOM0102	2018	Skill Development (Students will develop skill set with hands on training & practice on Routine test of LT & HT Line Cable upto 33KV class)
Safety Practice and First Aid	DEOM0201	2018	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Electrical System Layout and Drawing	DEOM0202	2018	Skill Development (Students will develop different electrical system layout with software application)
Design of Transformer Core and Winding	DEDR0101	2018	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification)
Manufacturing of Transformer HT and LT Winding	DEDR0201	2018	Skill Development (Students will Manufacture three phase Distribution Transformer windings as per BIS specification, during project work)
Manufacturing of Transformer Tank and Accessories	DEDR0202	2018	Skill Development (Students will Manufacture three phase Distribution Transformer Tank and accessories as per BIS specification, during project work)
Testing and Commissioning	DEDR0401	2018	Skill Development (Students will develop skill set with hands on training & practice on Type & Routine test of distribution transformer upto 33KV class)
Safety and Protection	DEDR0402	2018	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques & operation of protection schemes in transformer)
Transformer Repair and Maintenance	DEDR0403	2018	Skill Development (Students will develop skill set with hands on training & practice on Repair & Maintenance of distribution transformer upto 33KV class)
Renewable Energy Sources and Technology	DERE0161	2015	Skill Development (Students will learn and develop the different technologies of renewable energy Sources)
Solar Photovoltaic Technology	DERE0162	2015	Skill Development (Students will learn and develop the different technologies of Solar photovoltaic)
Solar Thermal Technology	DERE0163	2015	Skill Development (Students will learn and develop the hybrid generations that combines the solar photovoltaic along with the Thermal power generations)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Solar Systems for Buildings	DERE0464	2015	Skill Development (Students will learn and develop the roof top solar generation system)
Solar Power Plant	DERE0465	2015	Skill Development (Students will learn the principle of solar power plant)
Decentralized and Smart Power Grids	DERE0466	2015	Skill Development (Students will learn the principle of solar power plant)
Solar Photovoltaic Laboratory	DERE0267	2015	Skill development (Students will gain the knowledge with hands-on; on different smart power grids like wind, solar by using relevant software & hardware tools)
Solar Thermal Laboratory	DERE0268	2015	Skill Development (Students will develop hands-on, on different solar related live product/project)
Quality Control and Reliability Engineering	MECC0101	2018	Skill development (The students can able to apply the concept of SQC in process control for reliable component production.)
Fluid Power Control	MECC0102	2018	Employability and Skill development (To impart knowledge to students on fundamentals of hydraulic and pneumatic power and their circuits with industrial applications.)
Introduction to Hybrid and Electric Vehicles	MECC0103	2018	Employability and Skill development (Students will acquire knowledge regarding the testing and performance of electric vehicles)
Renewable Energy Systems	MECC0104	2018	Skill (To have a knowledge of energy scene in India.To acquire the skill of analyzing and designing renewable energy systems.To expose the students about energy demand and supply situation in India.)
Manufacturing Technology 1	MECC0401	2017	Skill And Employability (Students will have Knowledge and Skills to Understand Actual Manufacturing Processes used in Industry and will be Able to Correlate a Specific Process with the Part / Component being Produced. Students will be Able to Select the Most Optimum Manufacturing Process

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			for a Specific Product Design and Application.)
Manufacturing Technology 2	MECC0402	2017	Skill And Employability (Students will be Able to Do Process Planning, Develop CNC Part Programs. Students will have Knowledge and Skills to Operate CNC Machines.)
Design for Manufacturing	MECC0403	2017	Skill And Employability (Students will be able to select appropriate manufacturing technology and process to produce a product effectively with quality and optimized production cost.Students will have skills and knowledge to use softwares like CATIA, Novaflow and Solid CV, ProCAST, Flow-3D Cast, DEFORM-3D and PAM-STAMP 2G.)
Finite Element Analysis	MECC0404	2017	Skill And Employability (Students will be Able to Deploy Practical and Industrial Approach using FEA towards Solving Engineering Problems)
Digital Manufacturing	MECC0405	2017	Skill And Employability (Students will be able to use modern software like DELMIA-Quest (Dassault System) and Camtesia to conceptualise and create 3D factory layouts and optimise resource planning.Students will be able to do simulation of manufacturing processes using software tools.)
Fundamentals of Heat Engine	MECC0415	2018	Skill And Employability (Students will be able to test internal combustion engines for various performance parameters using engine test rigs.Students will be able to carry out emission tests using various types of fuels commonly used in internal combustion engines.)
Design of Thermal Energy Systems	MECC0407	2017	Skill And Employability (Students will be able to identify and select, design and implement appropriate thermal energy system corresponding to specific need.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Mechanics of Machines	MECC0410	2017	Skill And Employability (Students will have knowledge and skills to analyse, design and develop mechanisms suiting specific applications. Students will have knowledge skills to study and understand working of complex mechanisms and machines enabling them to safely operate and maintain such installations)
Design of Transmission Systems	MECC0412	2018	Skill And Employability (To Enable the Students to Design Basic Transmission Elements using prior theoretical Knowledge)
Fluid Mechanics and Heat Transfer	MECC0414	2017	Skill And Employability (Students will be able to analyze and design various Equipment used in industry using principles of Fluid Mechanics and Heat Transfer)
Introduction to Automobile Engineering	DEAE0101	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Entrepreneurship Opportunities in Automobile Trade	DEAE0102	2018	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Maintenance of Automobile	DEAE0204	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			service.The students can also successfully run their own business in this field.)
Design of Basic Automobile Components	DEAE0205	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Subsystems of Automobile	DEAE0401	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Design and Maintenance of Electric Vehicles	DEAE0402	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Jigs and Fixtures	DECM0101	2015	Employability and Skill development (Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Process Planning and Cost Estimation	DECM0102	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Cylindrical Shape Component	DECM0201	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Prismatic Shape Component	DECM0202	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
CNC Machining	DECM0603	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improvemanufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Non-Traditional Machining and 3D Printing	DECM0604	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Wood Engineering	DECM0203	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			processes and machineries. Strengthens the Industrial-Institutional partnership.)
Project	DECM0300	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Internship	DECM0800	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Joining Processes & Technology	DEWD0403	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Arc Welding, Gas Welding & Brazing	DEWD0201	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Metal Transfer & Weld Metallurgy	DEWD0102	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Design of Welded Joints (CATIA)	DEWD0101	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Welding of Stainless Steel, Aluminium, Copper, Cast Iron and Hard Surfacing	DEWD0603	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Testing of Welded Joints (DT, NDT & Microstructure)	DEWD0604	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Project	DEWD0300	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Basic Metallurgy	DEOC0134	2015	Employability and Skill development (Understand the correlation between processing, structure and properties of metals. Ensure production of metallic components for use in consumer or engineering products)
Power Plant Engineering	DEOC0131	2015	Skill development (Students will be able to work out the problems related to power plant engineering. Students will be able to understand the basics of power plant design.)
Power System Generation	DEOC0121	2015	Skill development (Students will learn the SKILL of generating electrical powers from different sources used in Power System)
Power Quality and FACTS	DEOC0123	2018	Skill development (Students will learn the SKILL of different power quality issues and flexible AC transmission systems)
Soft Computing Techniques - II	DEOC0124	2018	Skill development(Students will develop the SKILL related various techniques used in soft computing)
Basic Electrical Maintenance	DEOC0221	2015	Skill development(This course will enable students to safely undertake electrical maintenance of domestic and Industrial appliances)
Automotive Electrician	DEOC0222	2015	Skill development(Student will acquire the skills to identify and solve problems related to electrical parts (harness) of the vehicle)
Advanced Power Electronics	DEOC0421	2015	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications in Power Electronics by using relevent tools)
Electrical Drives	DEOC0422	2015	Skill development (Students will gain Functional skill set related to different DC & AC drives.)
Advance Control System	DEOC0423	2015	Skill development (Students will gain Functional skill related to control theory, Advanced process control (APC) that refers to a broad range of techniques and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			technologies implemented within industrial process control systems
Instrumentation and Measurement	DEOC0424	2018	Skill development (Students will develop the SKILL about various bridges used to measure R, L, C and measuring instruments like Galvanometer, Potentiometer, CT & PT)
Advanced Structural Analysis	ISSD1101	2016	Skill development(• Skill in developing computer program for the structural analysis of two-dimensional frames. • To obtain some experience in the use of modern structural analysis programs.)
Structural Dynamics	ISSD1102	2016	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
Theory of Elasticity & Plasticity	ISSD1103	2016	Skill development(• Ability to apply the knowledge of mathematics, science and engineering with Elasticity concept to solve problems in two Dimensional Problems in Polar Coordinates. • To provide the students with basic skill of plasticity concept applicable in structural systems)
Architectural Design	ISSD1104	2016	Skill development(Provide skill with a well-educated workforce that is ready and able to perform valuable architectural and construction engineering and managerial services immediately after graduation The ideas / concepts learned in Basic Design and other related subjects have to be carried forward into the architectural design now envisaged. The exercises may be taken up as mentioned herein.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Computer Graphics (2D & 3D Drafting)	ISSD1106	2016	Skill development(At the end of the course, the students have a skill and emplyobility to: Event driven I/O and callback programming & typical structure of an interactive, real-time computer graphics program ¨ 2&3D transformations, homogeneous co-ordinates, post-multiplication ¨ Modelling and instantiati)
Finite Element Method	ISSE1201	2016	Skill development(• Enable the students to identify, formulate and skill to engineering problems related to one, two and three Dimensional structures subjected to static loads. • To show the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to wrong analysis)
Design of Prestressed Concrete Structures	ISSE1202	2016	Skill development(Skill to control of the losses involved of pre-stressing concrete and ability to justify advantages and disadvantage.)
Concrete Technology	ISSE1203	2016	Skill development(• To study and understand various types of technology added in concrete • Have a skill to develop in design of various grades of concrete)
Research Methodology	ISRM1201	2016	Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)
3D Modeling using ANSYS and CATIA	ISSE1205	2016	Skill development(Introduction to Engineering Design Different types of Numerical Methods &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Applications, Practical Applications of FEA, Basics of finite element method (FEM),)
Prefabricated Structures or Preengineered Buildings	ISSE1206	2016	Skill development(• Grasp of the construction methods using these elements have the skill of the construction methods using these prefabricated elements)
Renovation and Retrofitting of green structures	ISSE1207	2016	Skill development(By the end of this course students will have the skill /knowledge of •various distress and damages to concrete and masonry structures •the importance of maintenance of structures, types and properties of repair materials etc)
Advanced Construction Materials	ISSE1208	2016	Skill development(• To study the polymers in civil engineering construction • To study the corrosion of concrete in various environments)
Soil Dynamics and Geotechnical Earthquake Engineering	ISSE1209	2016	Skill development(Develop skill in applying theory of vibrations to basic facets of soil behavior under dynamic loading together with the exposure of the fundamental principles of wave propagation in engineering example)
Traffic Engineering And Management	ISTE1101	2018	Skill development(• To learn traffic studies, their analysis and their interpretation. • To learn analysis of LOS. • To learn design of signal. • To learn transportation system management.)
Pavement Material Lab	ISTE1106	2018	Skill development(• To learn about characteristic of subgrade soil. • To learn about characteristic of road aggregates. • To learn about characteristic of paving grade bitumen. • To learn about characteristic of cement used in road construction.)
Traffic Survey Practice	ISTE1107	2018	Skill development(• Fieldwork using Hi-Tech surveying instruments

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			.• Clistering using field traffic data .• Preparation of questionaries for OD survey
Pavement Analysis And Design	ISTE1201	2018	Skill development(• To learn about characteristic of subgrade soil. • To learn about characteristic of road aggregates. • To learn about characteristic of paving grade bitumen. • To learn about characteristic of cement used in road construction.)
Traffic Safety	ISTE1203	2018	Skill development(• To learn Geometric Design of Cross Sectional Elements of various types of roads. • To learn Geometric Design of Horizontal Alignment of Roads • To learn Geometric Design of Vertical Alignment of Roads. • To learn transportation system management)
Survey Lab	ISTE1204	2018	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Transportation Engineering Design Practice	ISTE1205	2018	Skill development(Gain knowledge about the software used in transportation like surface creation, surface profile and cross section of roads.)
Remote Sensing And GIS for Transportation Engineering	ISTE1207	2018	Skill development(• Ability to understand the basics and characteristics of remote sensing.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			• Ability to process remotely sensed data. • Ability to draw information from remotely sensed data. • Ability to understand the basics and application of GPS in transportation engineering)
Power SystemAnalysis	ISPS 1101	2016	Skill development (Students will gain Functional skill set with hands-on; on System Modeling Flow & Control System Dynamic Stability by using relevent software & hardware tools)
Non-Linear Control Systems	ISPS 1102	2016	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
High voltage Engineering	ISPS 1103	2016	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Allen Bradley Micrologix1000, Siemens S7-300	ISPS1104	2016	Skill development (Students will gain Functional skill set with hands-on; on System Automation by using relevent software & hardware tools)
Schneider MODICON TSX-Micro, GE Versamax- Microplus	ISPS1105	2016	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using Allen Bradley Micrologix1000, Siemens S7-300 tools)
Basic Electrical (Automation based)	ISPS1106	2016	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using relevent software & hardware tools)
Basic Industrial Automation (Power Electronics Based)	ISPS1107	2016	Skill development (Students will gain Functional skill set with hands-on; on High Power Rectifire & High Capacity Inverter Units by using relevent software & hardware tools)
Digital Control Systems	ISPS1201	2016	Skill development (Students will gain Functional skill set with hands-on; on

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			Digital Control System Applied to Power System by using relevent software & hardware tools)
Advanced Power Electronics	ISPS1202	2016	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications in Power Electronics by using relevent tools)
Power SystemDynamics &Stability	ISPS1203	2016	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
SCADA-Schneider-Wonder ware In Touch	ISPS1204	2016	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using SCADA-Schneider-Wonder ware In Touch tools)
SCADA-AllenBradley-RSVView32	ISPS1205	2016	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using SCADA-AllenBradley-RSVView32 tools)
General PLC	ISPS1206	2016	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
HMI-Allen Bradley-Panel View C600	ISPS1207	2016	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
Project Seminar	ISPS2102	2016	Skill Development (Students will develop different project related to operation & maintenance of various power system)
Workshop Practice	BTME 0401	2018	Skill development (identify, and repair various parts used in different machines in different workshops. Will have awareness on advanced aspects of engineering mechanics).
Fluid Mechanics	BTCE 0401	2018	Skill development (apply the principles of fluid mechanics to design simple fluid mechanical systems in engineering.

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Engineering Drawing	BTME 0202	2018	Skill development (get preliminary ideas on developing and designing a dairy equipment).
Fundamentals of Microbiology	BTLS0401	2018	Skill development (basic idea of microbiology which will later help in higher study (M. Tech) in microbiological field.)
Milk Production Management and Dairy Development	BTAS0401	2018	Entrepreneureship and Skill (learn about the different breed, dairy farm practices, reproductive cycle, artificial insemination etc.)
Communication Skills	BTHU0401	2018	Skill development (able to speak, read and write english fluently which will help them for higher studies, interviews and other communication modes)
Computer and Application Software Packages	BTCS0401	2018	Skill development (to appear different exams, doing mails, preparation of spread sheet, data base management in dairy industry)
Biochemistry	BTLS0402	2018	Skill development (understand various metabolic pathways and their interconnections which will further help to understand the energy utilization and assimilation of different dairy products in human body)
Environmental Studies	BTBS0401	2018	Skill development (proper utilization of natural resources, recycling of organic wastes and different threats to conserve natural resources as well as various aspects of waste management)
Evolution of Management Thought	MGGM1101	2011	Application of Basic mangement principles- Skill development
Basic Communication Skills	MGGM1102	2011	Competence in oral, written, and visual communication: Employability, Use current technology Practicals - Skill development
Managerial Computing	MGIT1101	2011	MS Word, Excel, power point- Skill development
Management Information Systems	MGIT1202	2011	Utilize Management Information Systems in achieving business competitive

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			advantage - Employability, Entrepreneurship & Skill development
Communication Perspective of Management	MGGM1206	2011	Write business proposals and reports- Employability, Entrepreneurship & Skill development
Aptitude and Career Enhancement-I(Practice)	MGGM1210	2014	Quatitative aptitude and logical analysis- Employability, Entrepreneurship & Skill development
Live Project (Dissertation in Domain Area)	MGEL2401	2015	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
GIS and Participatory Planning	MGEL2403	2015	Identification of the resources needed, develop a project scope utilizing GIS technology- Skill development
Total Quality Management	MGOM2311	2011	Use statistical approach for quality control, ISO and QS certification process- Employability, Entrepreneurship & Skill development
Business Process Re-engineering & Simulation	MGOM2307	2011	Model and develop improved business processes that require IT and organizational redesign- Skill development
Enterprise Resource Planning	MGOM2308	2011	Develop Generic Model of ERP and Implementation of General ERP Methodology- Employability, Entrepreneurship & Skill development
Training and Development	MGHR2311	2011	Assess, design and implement various methods, techniques and sources of training- Employability & Skill development
Leadership Development	MGHR2313	2015	Develop critical thinking skills and lead the organization- Employability, Entrepreneurship
Rural Immersion Programme (Practice)	MGRM2305	2015	Carry out participatory planning with the community, develop strategies for intervention - Employability & Skill development
Sustainable Livelihood System (SLS)	MGRM2306	2015	Employ appropriate software to record, maintain, retrieve and analyse human

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			resources information - Employability, Entrepreneurship & Skill development
Public System Management	MGRM2307	2015	Comprehend and apply the basic principles of public administration model - Employability, Skill development
Management Information Systems for Hospital	MGHM2302	2017	Analyze existing systems and design technology solutions appropriate to the hospital- Employability & Skill development
Management of Out-Patient Department	MGHM2303	2017	Deal the issues effectively in emergency services, can plan, organize and supervise the activities of Minor Operation Theatre, Manage treatments of referral & cross referral cases- Employability & Skill development
Patient Care and Behaviour	MGHM2311	2017	Motivate patients and instrumental in shaping positive attitude towards hospital, Carry out audit on patient behaviors, Handle the role of hospital administrator effectively- Employability & Skill development
Web Traffic Generation	MBDM2201	2017	Increase traffic in any website, Popularizing websites- Employability, Entrepreneurship & Skill development
Link Building & e-WoM	MBDM2202	2017	Increase links through web, Building relationships through the web- Employability, Entrepreneurship & Skill development
Social Media Marketing	MBDM2203	2017	Develop effective social media marketing strategies for various types of industries and businesses- Employability, Entrepreneurship & Skill development
Mobile & E-Mail Marketing	MBDM2208	2017	Ability for technology adoption, various devices, changing nature of services and ecosystems - Skill development
Search Engine Optimization	MBDM2209	2017	Able to improve sales volume through search engine optimization - Skill development

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Search Engine Marketing	MBDM2210	2017	Abile to improve sales volume through Google AdWords and other elements of Search Ad - Skill development
Technology of e-Commerce	MBDM2211	2017	Able to integrate distributed database technologies within the internet architecture - Skill development
Online Reputation Management	MBDM2212	2017	Ability to give a structure of quality websites and portals - Skill development
Affiliate Marketing	MBDM2213	2017	Able to structure quality web designing for affiliate marketing - Skill development
Web Content Writing	MBDM2214	2017	Ability to develop creativity and creating quality content- Skill development
Basics of Data Warehousing and Business Intelligence	MGDA1106	2016	Able to make better business decisions by using Data warehousing business intelligence tool- Skill Development
ETL , Data modeling and Cube Design	MGDA1215	2016	Able to analyze data objects and figuring out the relationships between them- Employability and Skill development
Data Visualisation with Power BI and Tableau	MGDA1216	2016	Able to represent data visualization for business analytics- Skill development
Unstructured Data Analytics & Machine Learning	MGDA1213	2016	Make data-driven recommendations and decisions based on only the input data- Skill development
Advanced Data Modelling & Mining with R	MGDA1214	2016	Use the tool to clean, analyze, and graph data- Skill Development
Skill Ecosystem Development	MGDM0104	2018	Appraise the skill ecosyetm and its dimensions - Employability
Development Internship	MGDM0802	2017	Skills to appraise concepts at real time situations-Skill development
Development Action Research Thesis	MGDM0301	2018	To develop writing and analytical skills- Skill development
Agriculture Action Research Thesis	MGAM0301	2018	To develop writing and analytical skills- Skill development
IT Enabled Communication	MGDM 1103	2014	Use IT tools for effective communication - Skill development

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Financial Inclusion and Micro-finance	MGDM 2303	2014	To appraise the scenario of financial inclusion in the country , acquire skills to opearte in Micro Finance sector - Employability, Entrepreneurship
Agricultural Internship	MGAM0802	2014	To apply and evaluate the learned concepts, theories at real time situations- Skill development
Computer application in business	BBAR1105	2015	Identify and utilize appropriate technology for effective decision-making and improved performance- Skill Development
Tally and ERP	BBAR2205	2016	Preparation of financial statement of different types of organisations with Tally: Skill development
Summer Internship	BBAR3103	2016	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
SPSS	BBAR3203	2016	Use SPSS for analyzing data and define a variety of statistical variables-Skill Development
Consumer Behaviour	BBAM3101	2016	Apply the concepts and theories covered in the course to devise effective solutions: Skill Development
Research Project	BBAM3108	2016	Competent with identification of research problems, collection of data and analysis of data : Employability & Entrepreneurship; Uses techniques of analyzing live data for solving research problem- Skill development
Research Project	BBAH3108	2016	Knowledge and skills in preparing a project report- Employability, Entrepreneurship & Skill development
Research Project	BBAB3108	2016	Project writing skills and utilization of research methodologies in a project- Employability, Entrepreneurship
Tally.ERP 9	BBAR2109	2017	Preparation of financial statement of different types of organisations with Tally: Skill development

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Advanced Excel	BBAR2208	2017	Utilize advance features of Ms-excel in the day to day activities of the business,alsofor improved decesion making and performance- Skill development
On Job Internship-I	BBAR3111	2017	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
On Job Internship-II	BBAR3211	2017	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
Communication Research Methods	MAMC1101	2018	Analyse data with techniques of social science, media research - Skill development
Introduction to Print & Electronic Media	MAMC1102	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development
Society, Media and Communication	MAMC0501	2018	Skill development; Competence on the media business, its functioning and gemerate idea on inter relationship between media and society.
Cultural Studies	MAMC0903	2016	Skill development; Competence in the process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures
Advanced Digital Media	MAMC1103	2018	Students will be able to Competence skills in mordern media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. - Skill development
Film studies	MAMC1105	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film-Employability
Animation	MCDE0601	2016	Ability to create quality animation performance through a creative and professional portfolio using principles of animation.will help in Employability and Skill development

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Radio Jockeying	MCDE0602	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.
TV Anchoring	MCDE0603	2016	Skill development in the aggregate capacity to develop the skills of a Television Anchor.
Fashion Photography	MCDE0604	2016	Skill development: Developing compitency for professional fasion photography.
Camera Operator	MCDE0605	2018	Skills development in camera handling and planning and producing programs for television and Photography.
Video Editor	MCDE0606	2018	Skill development in television field and its functioning. Build the ability to develop and demonstrate strategic plans and planning methods in television content production.
Web Content Development	MCDE0607	2016	Skill development: Competence in Content development for web site or degital media.
Sound Engineer	MCDE0608	2018	Skill development on sound editing with defferent software.
Adobe tools and Illustrations	MCDE0609	2018	Work on Adobe Illustrator in the beginner level, and on graphics designing. Skill Development and Employability
Communication in History and History of Communication	MCFC0501	2016	Utilise the skill in communication of the stucents- Skill development and students can able to work in new communication technologies at different points of time-Employability
Introduction to Communication Theory	MCCC0101	2016	Use the Communication skill and able to differentiate between different forms and types of communication and Competence of audience research traditions-Skill development
Introduction to Print and Electronic Media	MCFC1101	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development
Media, Communication and Culture	MCFC 0902	2016	Enhance the skill of student can analyse process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures-Skill development

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Electronic Media	MCCC1102	2018	Students can develop their skills in in TV/Radio/ Digital media plateforms-Skill development, Get job in TV/Radio/ Digital media-Employability
Development Communication	MCCC0904	2016	Students will make strategy designing and campaign designing skill and able to develop contents for development purposes.-Skill development
Intercultural Communication	MCCC0905	2016	Competence on intercultural communication and culture influences the communication process across societies and the role of culture to influence nonverbal communication-Skill development
Gender and Communication	MCCC0906	2016	Students will enhance their skill and able to raise gender issues and role of media in it-Skill development
Film Studies	MCCC1103	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film-Employability
Digital Media	MCCC1105	2018	Students will be able to develop skills in new media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes.-Skill development
Final Project	MCCC0301	2016	Skill development;Analysing Media issues and analysis of media content.
Mathematical Physics	MSCP1101	2017	Skill - Tensors: Tensor analysis, Pseudo-tensors, Dual tensors. Gamma function and Beta Function, Fourier Transforms:Fourier Transforms, Properties of Fourier Transforms, Convolution Theorem. Partial differential equations (PDEs):Second order PDEs, Classification of PDEs, Laplace equation, Fourier's Heat flow equation, Wave equation. Green's Functions: One-dimensional problems, Qualitative idea of Green's functions in 2- and 3-dimentions.

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Modern Physics Lab	MSCP1105	2017	Skill - Practice course
Computational Physics	MSCP1203	2017	Skill - Learning several numerical differentiation and integral methods to solve physical problems. Problems are solved using programming.
Computational Physics Lab	MSCP1204	2017	Skill and employability - Learning simulation and solving problems using programming.
Electronics Devices Lab	MSCP1205	2017	Skill - Experiments done on electronic devices like Junction Diodes, Zener Diode, BJT, FET, OPAMP, Rectifiers circuits etc.
Microprocessor lab	MSCP2306	2017	Skill - Microprocessors Lab
Materials Lab I	MSCP2307	2017	Skill - Materials Lab I
Electronics simulation Lab	MSCP2402	2017	Skill - Electronics simulation lab.
Materials Lab II	MSCP2405	2017	Skill - Materials lab II, Employability - synthesis of materials, Analysis of dielectric properties of a material, Analysis of electrical properties of a material. Analysis of AC and DC conductivity of a material
Project/Dissertation	MSPP2401	2017	Skill - project work, writing a report, writing a research article.
Seminar I	MSPS2301	2017	Skill - Learning to develop a PPT and improving communicaiton skill.
Seminar II	MSPS2401	2017	Skill - Learning to develop a PPT and improving communicaiton skill.
Introduction to Research	MSRM5101	2017	Skill - Research Process, Data Analysis, Building Mathematical Models, Documentation and Presentation.
Polymer Chemistry	MSCC1104	2018	Employbility-Kinetics of melting, crystal morphology, free volume, distribution of molecular size, stoichiometric imbalance. X-ray diffraction study, Microscopy,Price -

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			Alfrey equation, Flory - Huggins theory, polymer fractionation, Mark - Houwink - Sakurada equation, diffusion coefficient and friction factor,Power Law for pseudo plastic liquids, effect of shearing forces, segmental friction factor, Bueche theory. Skill-Thermal analysis and physical testing,Polymer Processing-I&II,Elastic deformation, shear modulus and compliances, Maxwell model, Voigt model, dynamic viscoelasticity, molecular theory for viscoelasticity - Rouse model,Mechanical properties
Chemistry Laboratory 1	MSCC1105	2018	Skill-Inorganic Chemistry Practical-I,Organic Chemistry Practical-I
Advanced Inorganic Chemistry II	MSCC1202	2018	Employbility-Metal n -Complex,Metal Clusters,Organometallic Chemistry I &II . Skill-Symmetry and Group Theory in Chemistry-III.
Chemistry Laboratory 2	MSCC1205	2018	Skill-Organic chemistry practical-III
Water Quality Analysis	SBFE3127	2018	Skill- Water Quality Analysis
Pharmaceutical Chemistry	MSCC1001	2018	Skill-Pharmaceutical Chemistry
Clinical Practice lab	SBFE3152	2018	Skill-Clinical Practice Lab
Analytical Chemistry	MSCC1002	2018	Skill-Analysis of soil,food products,Chromatography
Advanced Inorganic Chemistry III	MSCC2301	2018	Skill-Instrumental Method of Analysis,Raman Spectroscopy,Homogeneous and Heterogeneous Catalysis,Displacement and Isomerization reaction. Hydrogenation, Hydroformylation, Wacker (Smidt) Process, Olefin Metathesis, Fischer-Tropsch synthesis, Zeigler-Natta polymerization, Water gas reaction Employbility-

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Mechanism of Substitution Reactions,Electron Transfer Reactions
Advanced Physical Chemistry III	MSCC2303	2018	Employbility-Electronic spectra of molecule,Electronic spectra of diatomic molecules,Electronic spectra of polyatomic molecules. Skill-Nuclear Magnetic Resonance Spectroscopy,Fluorescence,Data analysis
Advanced Solid State Chemistry	MSCC2304	2018	Employbility-Bonding in Solids,of solids-band theory,Mechanical Properties of Solids,Organic Solids. Skill-Diffraction Methods,Neutron Diffraction
Chemistry Laboratory 3	MSCC2305	2018	Skill-Physical Chemistry Practical
Green Chemistry Lab	MSCC2306	2018	Skill-Green Chemistry Lab
Advanced Organic Spectroscopy	MSCC2401	2018	*Skill-Ultraviolet Spectroscopy,IR Spectroscopy,IR Spectroscopy-II ,Nuclear Magnetic Resonance Spectroscopy-I&II,Mass Spectrometry,Structural problems based on combined spectroscopic techniques.*
Seminar	MSCS2401	2018	Skill-To creat a research mind in students
Chemistry Laboratory 4	MSCC2403	2018	Skill-Instrumental Methods of Analysis Lab
Biovia project	MSBV0301	2018	Skill -Students will know simulation,design of a drug molecules/materials and it's characteristic analysis by using biovia softawre
MATHEMATICAL MODELLING	MSMA 4701	2017	Skill- Mathematical modelling through ordinary differential equations of first order. Employability - Mathematical modelling through the systems of ordinary differential equations

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PARTIAL DIFFERENTIAL EQUATION-II	MSMA 4704	2017	Skill- Eigen value Problems Employability - The Cauchy Problem, The method of Separation of Variables
ADVANCED CALCULUS	MSMA 4802	2017	Skill- Derivatives of functions on Rn, Differentiation of composite functions Employability - Set functions, Transformations and Multiple integrals
TENSOR ANALYSIS	MSMA 4805	2017	Skill- Riemann Geometry Employability - Tensor Algebra, Applications of Tensor methods to surface Geometry.
OPERATION RESEARCH – II	MSMA 5104	2017	Skill- Graphical method for 2 X n and, m X 2 matrix games Employability - Second order optimality condition, Lagranges method
STATICS & DYNAMICS	DEHD0101	2017	Skill- To develop in students the ability to analyze dynamics problems in a simple and logical manner through the application of several basic principles.
INTRODUCTION TO HYDRODYNAMICS	DEHD0102	2017	Skill- To develop the knowledge and comprehension of basic principles of hydrodynamics.
MAT LAB Programming for Numerical Computation	DEHD0401	2017	Skill- To develop the computational methods to solve the Applied Science problems using MATLAB
NUMERICAL SOLUTION OF HYDRODYNAMIC PROBLEMS USING MATLAB	DEHD0201	2017	Skill- To develop the knoledge of numerical solution of Basic Hydrodynamics Problems
COMMUNICATIVE ENGLISH AND WRITING SKILL	BSMA2001	2017	skill- Effective oral and written communication
FORTRAN-95 PROGRAMME	BSMA2002	2017	skill- Learn fundamental concepts of FORTRAN-95 and able to translate scientific and engineering problems into machine understandable.

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MAT LAB	BSMA2003	2017	skill- Write systems of equations in matrix form
Plant Diversity	MSBO1102	2017	Higher studies/Skill-Pursue higher studies and enhance their skill on culture, maintenance of cyanobacteria, use of cyanobacteria as biofertilizer, algae in the environment, agriculture, biotechnology and industry
Botany Laboratory-I	MSBO1105	2017	Employability/Skill-Acquire general idea on instruments used in microbiology laboratory
Genetics and Molecular Biology	MSBO1201	2017	Higher studies/Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing.
Biostatics and Instrumentation	MSBO1203	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy and data analysis using chi square test, student t test etc.
Botany Laboratory-II	MSBO1205	2017	Skill-Gain practical knowledge on molecular biology, physio and biochemical analysis; skill on statistical analyses and water quality parameters
Natural Resource Management and Utilization	MSBO2302	2017	Skill/ Employability- Bioresource management.
Embryology and Anatomy	MSBO2303	2017	Skill-Gain practical knowledge on anatomical identifications of plant parts
Botany Laboratory-III	MSBO2305	2017	Skill-Acquire practical knowledge on economic crops; learn media preparation and sterilization methods for micro propagation
Scientific visit	MSBP2301	2017	Skill- Observe and get knowledge on various fields of research in science in different scientific organization.
Seminar	MSBS2401	2017	Skill-Build up confidence to present their research paper in Conferences/Seminars

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Bio-fertilizer	MSLS1001	2017	Skill- Isolation of Rhizobium or Aztobacter from plant root nodules& rhizosphere, Identification of soil cyanobacteria from different soil samples. Preparation of culture media. Crop development using azolla as abiofertiliser.
Tools and Techniques in Biosciences	MSLS1002	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy etc.
Phytochemistry and Pharmacogonsy	MSLS1003	2017	Skill- Practice oh phytopharma, plant based drug discovery and secondary metabolite isolation.
Apiculture	MSLS1004	2017	Skill- Study of chamber of honey box, honey bee culture..Honey extraction and analysis of population of honey bee
Medical Diagnostics	MSLS1005	2017	Skill-Perform experiment on stool ,sputum and semen ,urine, blood analysis and and problem solution.
Animal Diversity	MSZO1101	2017	Skill - Protozoan parasites in brief (Trypanosome, Plasmodium), Canal system in Sponges, Coral reef formation and significance, Water vascular system in Echinoderms, Flight adaptation in Birds General characters of Prototheria and Metatheria, Adaptive radiation in mammals.
Zoology Laboratory-I	MSZO1105	2017	Skill - 1. Study of Museum Specimen 2. Preparation & mounting of Microscopic Slides 3. Taxonomical practice of various species 4. Estimation of DNA 5. Estimation of RNA 6. Separation of proteins, lipids & nucleic acids from tissues and their quantification 7. Isolation of genomic DNA from animal tissue/blood 8. Agarose gel electrophoresis of DNA 9. SDS PAGE (Demonstration) 10. Microscopy, Microtomy and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Histological techniques. 11. Isolation of Mitochondria 12. WBC & RBC counting 13. Estimation of haemoglobin 14. Study of slides of endocrine glands 15. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Comparative Anatomy of vertebrates	MSZO1201	2017	Skill - Comparative account of respiratory organs.Comparative account of Digestive System. Evolution of heart.Evolution of aortic arches and portal systems. Blood circulation in various vertebrates groups Comparative anatomy of brain and spinal cord (CNS).Comparative account of peripheral and autonomous nervous system.Comparative account of lateral line system. Comparative account of electroreception, Flight adaptations in vertebrates' Comparative account of lateral line system
Microbiology	MSZO1202	2017	Skill - General features of Archaea, Structure, Nutrition and Reproduction of Eubacteria, Genetic recombination in bacteria (Transformation, Conjugation and Transduction), General features and pathogenecity of mycoplasma, Rickttsia and Spirochaetes.Plant virus- TMV, structure, transmission, pathogenicity and replication Animal viruses - HIV, structure, transmission, pathogenicity and replication Treatment and prevention by anti-virals and vaccine,, Microbial toxins: types, mode of actions and pathogenicity. Bacterial toxins: Endo and exotoxins, fungal toxins: toxins of Aspergillum, Penicillium, Fusarium and Alternaria Algal toxins: cyanotoxins and dinotoxins. Chemotherapeutic agents: antibiotics and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			their mode of action; bacterial drugs (Penicillin, fluoroquinolones, tetracycline and aminoglycosides)
Genetics	MSZO1203	2017	Skill - Sex chromosomes, Chromosomal sex determination: XX-XY, XX-XO and ZZ-ZW systems, Compound sex chromosome, Meiotic behaviour of chromosomes: Primary & Secondary non-disjunction, Genic balance theory of sex determination, Sex determination in humans and Drosophila with special reference to SRY and sex lethal genes, Sex determination in plants with special reference to Melandrium, Linkage groups: Complete and incomplete linkage ,Crossing over: Relationship between genetic and cytological crossing over, Relationship between crossing over and chaisma formation, molecular mechanism of crossing over, Mitotic Recombination, Recombination within gene. Structural and numerical alterations in chromosomes: Spontaneous and induced mutations, physical and chemical mutagens, chromosomal aberrations, meiotic behavior of deletion, duplication, inversion and translocation. Euploids and aneuploids-classification, origin, induction, role of polyploidy in evolution and practical significance in crop improvement.
Zoology Laboratory-II	MSZO1205	2017	Skill - 1. Study of Museum Specimen 2. Study of anatomical slides 3. Detection of genetically disorder. 4. Estimation of gram +ve &–ve bacteria 5. Method & techniques of Bacterial culture 6. Study of immunological method 7. Study of different Parasiticforms. 8. Identification of parasitic forms

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			9. Antigen-Antibody Interaction (Haemoagglutinationassay) 10. Identification of histological slides of lymphoid tissue 11. Immunization Protocol Demonstration of Thioglycolate induced peritonitis (cell infiltration and Inflammatory exudates) 12. Sessional work (Internal evaluate)
Physiology & Endocrinology	MSZO2301	2017	Skill - The heart: cardiac cycle & its regulation, pulmonary ventilation, respiratory surface & gas exchange, regulation of respiration, transport of gases, acid base balance. Excretory system: Urine formation, glomerular filtration, tubular function, renal Mechanism of concentrating & diluting urine General organization of central nervous system, Type of neuronal cells, Structure and function of neuron and glia, Chemical messengers, Hormones & their feedback systems, Mechanism of hormone action (fixed membrane-and mobile receptor mechanisms), hormonal signalling, Pineal, Thymus & gastrointestinal hormones, Anatomy, chemistry and biological action of adenohypophysial & neurohypophysial hormones, Thyroid gland: Anatomy, biosynthesis & function of thyroid hormones, Parathyroid gland: Anatomy & function of parathyroid hormone. Endocrine pancreas: Anatomy, Biosynthesis, chemistry & functions of pancreatic hormones, Adrenal gland: Anatomy, biosynthesis, functions of cortical

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			& medullary Hormones, Gonads: Anatomy and biological actions of gonadal hormones.
Animal Biotechnology	MSZO2302	2017	Skill - Animal cell and tissue culture technology: Cell culture laboratory design and equipment, Media and reagents, Different types of cell culture, application, scale up Biotechnology in improvement of livestock: Fish breeding, Androgenises and Gynogenesis in fish, Polyploidy in fish, Gene manipulation in aquaculture. Reproductive biotechnology: Cryopreservation and Cryoprotection and gamete banking, Assisted reproductive technology, In vitro fertilization and embryo transfer, ICSI, Sperm sexing, Vermi-culture and Vermicomposting for alternative sustainable agriculture. Soil fauna in soil formation & fertility, Organic farming, Fish culture in flow through system and recirculation technology., Medical Biotechnology: Disease diagnostic markers, Gene therapy, Mechanism of gene therapy (antisense, virus mediated, immunotherapy, stem cell therapy), Drug delivery and targeting, Forensic Biotechnology,
Quantitative Biology & wild life	MSZO2304	2017	Skill - Biodiversity: concept and principal of biodiversity, causes for the loss of biodiversity, Biodiversity conservation methods, Medicinal uses of forest plant. Wildlife of India, types of wildlife, Values of wildlife, positive and negative, Wildlife protection Act Conservation of wildlife in India, Endangered and threatened species,

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			Wildlife and conservation, National Parks and Sanctuaries, Project Tiger, Project Gir Lion and Crocodile breeding project, Wildlife in M.P. with references to Reptiles Birds and mammals, Biospheres reserves.
Zoology Laboratory-III	MSZO2305	2017	Skill - 1. Study of T.S,V.S,L.S of different mammalian organ 2. Detection of protein ,carbohydrate, lipid 3. Tissue culture 4. Gel Electrophoresis, Blotting 5. DATA interpreting 6. Estimation of toxic in Water Sample 7. Various tools & techniques 8. Estimation of DNA 9. Estimation of RNA 10. Separation of proteins, lipids & nucleic acids from tissues and their quantification 11. Isolation of genomic DNA from animal tissue/blood 12. Agarose gel electrophoresis of DNA 13. SDS PAGE (Demonstration) 14. Microscopy, Microtomy and Histological techniques. 15. Isolation of Mitochondria9. WBC & RBC counting 16. Estimation of haemoglobin 17. Study of slides of endocrine glands 18. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Developmental Biology	MSZO2401	2017	Skill - Primordial germ cells, Spermatogenesis, Oogenesis, Fertilization: Ultrastructure of sperm and ovum, biochemical aspects of fertilization, Cell-cell interaction and cell signalling during morphogenesis in early embryo:, Ageing: Mitochondrial control of ageing, insulin pathway control of ageing and possible relation to oxygen radicals, "Ageless" animals and environmental control of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			ageing, senescence & cell death, Application of developmental biology in medicine and animal husbandry: In vitro fertilization and embryo transfer, embryo sexing, Gene expression and human disease: Inborn errors of nuclear RNA processing, inborn errors of translation, Teratogenesis: Environmental assaults on human development, teratogenic agents like alcohol, retinoic acid etc.
Instrumentation & Biophysics	MSZO2402	2017	Skill - Principle of operation and Instrumentation of Light, Fluorescence and Electron Microscopes Ultraviolet-visible absorption spectroscopy: Principle, Instrumentation and application, Fluorescence spectrophotometry: Principle, Instrumentation and application Radioisotope techniques: Nature of radioactivity, isotopes in biochemistry, measurement of radioactivity (carbon dating, Geiger-Muller counting and liquid scintillation counting).Principles of electrochemical techniques: Electrochemical cells and reactions, potentiometry and voltametry, the pH electrode. Centrifugation techniques: Basic principles of sedimentation, Types of centrifuges, Types of rotors, Methods in preparatory ultracentrifugation (differential and density gradient centrifugation). Chromatographic techniques: Principles of chromatography (Adsorption and Partition chromatography), planar chromatography (Paper and Thin-layer chromatography), Column chromatography (Gas chromatography, Gel exclusion/permeation chromatography, Ion exchange chromatography, Affinity chromatography, HPLC). Electrophoretic techniques: General

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			principles, support media, electrophoresis of proteins (SDS-PAGE, native gels, gradient gels, isoelectric focusing gels and two dimensional gels), electrophoresis of nucleic acids (Agarose, pulse-field and sequencing gels). Blotting techniques (Southern, northern and western blotting). Biophysics: pH meter and measurement of Ph, Paper chromatography of amino acids, mixtures, identification of unknown amino acids and sugars, Gel filtration chromatography (Separation of starch from glucose), Thin layer chromatography of amino acids and sugar, Serum electrophoresis, Determination of absorption coefficient and concentration of unknown solutions by calibration curve using a coloured solution, Absorption spectrum of a coloured solution (KMnO4), Drawings using camera lucida
English	BSFL1101	2016	Skill - Communication, Communicative Grammar, Sounds of English
Mathematical Physics-1	BSPH1101	2016	Skill - Practice using programming in C.
Mechanics	BSPH1102	2016	Skill - Mechanics Lab
Thermal Physics	BSPH1201	2016	Employability - Laws of Thermodynamics, Carnot engine & efficiency. Carnot's Theorem. Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence. Applications of Second Law of thermodynamics, Entropy, Thermodynamic Potentials, Kinetic Theory of Gases, Molecular Collisions, Real Gases. Skill- Thermal Physics Lab

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Waves and optics	BSPH1202	2016	Employability - Interferometer, Diffraction grating. Resolving power of grating, Fresnel's half-Period Zones Skill - Waves and Optics Lab.
Mathematical Physics II	BSPH2301	2017	Skill - Practice using Scilab leads to computational skill.
Electricity and Magnetism	BSPH2302	2017	Employability - Magnetic Properties of Matter, Magnetization, Electromagnetic Induction, Electrical Circuits, Network Theorem. Skill - Electricity and Magnetism Lab
Analog systems and Applications	BSPH2303	2017	Employability - Semiconductor Diodes, Two-terminal Devices and their Application, Amplifiers, Applications of Op-Amp. Skill - Analog Systems and ApplicationsLab
Mathematical Physics III	BSPH2401	2017	Skill - Develop the skill of solving mathematical problems using Scilab.
Elements of Modern Physics	BSPH2402	2017	Employability - Radioactivity, Fission and Fusion, Lasers. Skill - Elements of Modern Physics Lab
Digital systems and Applications	BSPH2403	2017	Employability - CRO uses, Integrated Circuits, Digital Circuits, Data processing circuit, Microprocessor Architecture. Skill - Digital system Lab
Quantum Mechanics & Applications	BSPH3501	2017	Employability - Schrodinger equation and its solution, its application, hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Many electron atoms. Skill - Learn to solve quantum problems through computational methods
Solid State Physics	BSPH3502	2017	Employability - Magnetic properties of materials, dielectric properties of materials, superconductivity. Skill - Solid state physics lab
Electro-magnetic Theory	BSPH3601	2017	Skill - Electromagnetic lab.
Statistical Mechanics	BSPH3602	2017	Skill - Learn to solve statistical physics problems through computational methods

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Experimental Techniques	BSPH3503	2017	Employability - Experiments are done on, Thermostat, ultrasonic transducer, Calibrate Semiconductor type temperature sensor (AD590, LM35, or LM75), Create vacuum in a small chamber using a mechanical (rotary) pump and measure the chamber pressure using a pressure gauge, design and study the Sample and Hold Circuit, Design and analyze the Clippers and Clampers circuits using junction diode etc enables them to become Lab Technician. Enterprenuership - Transducers & industrial instrumentation, Digital Multimeter, Sensors Skill - Experimental Techniques Lab
Embedded systems- Introduction to Microcontroller	BSPH3504	2017	Employability - Embedded system, microprocessors, 8051 microcontroller, 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development. Enterprenuership - 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development. Skill - Embedded System: Introduction to Microcontrollers Lab.
Physics of Devices and Communication	BSPH3505	2017	Employability - Physics of Devices, Power supply and Filters, Phase detector , Processing of Devices, Digital Data Communication, communication systems. Skill - Physics of Devices and Communications Lab
Advanced Mathematical Physics-I	BSPH3506	2017	Skill - Advanced Mathematical Physics lab
Advanced Mathematical Physics-II	BSPH3507	2017	Employability - Enterprenuership - Skill -

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Applied Dynamics	BSPH3603	2017	Employability - Dynamical systems, Chaos and Fractals, Fluid Dynamic Skill - Applied Dynamics lab
Communication System	BSPH3604	2017	Employability - Communication and Navigation systems, Satellite Communication, Mobile Telephony System, mobile communication network, Enterprenuership - Mobile Telephony System, mobile communication network, Skill - Communication Electronics Lab
Astronomy and Astrophysics	BSPH3606	2017	Employability - Astronomy and Astrophysics Skill - Astronomical Scales, Astronomical techniques, Stellar spectra and classification Structure
Dissertation	BSPH3607	2017	Employability - Project work Skill - Project work
Physics Workshop Skills	BSPH2001	2017	Skill - Experiments are done to learn different measurement methods, different types of welding, drilling, cutting metal sheets, milling, drilling etc. Learn to work with several electrical circuits and instruments.
Computational Physics Skills	BSPH2002	2017	Skill - Programming using FORTRAN
Electrical circuits and Network Skills	BSPH2003	2017	Skill - Experiments done to understand and analyse circuits and networks, to design circuits and networks involving various electrical instruments.
Basic Instrumentation Skills	BSPH2004	2017	Skill - Designing and implementing systems utilizing analog / digital control devices and learn to take measurements using digital and analog instruments. Experiments are done to larn about CRO, Q meter, LCR circuit and Oscilloscope.
Applied Optics	BSPH2005	2017	Skill - Learning about different light sources, detectors, holography and photonics.

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Inorganic chemistry-I	BSCH1101	2018	Skill- Wave mechanics and Inorganic Chemistry-I Lab , enterperneurship-Atomic Structure-2,Periodicity of Elements-1&2, Employability-Chemical Bonding-1&2, Oxidation-Reduction
Physical Chemistry-I	BSCH1102	2018	Employability-Gaseous state 1 &2 ,enterperneurship-Liquid state:,gaseous state-3,Solid state,Ionic Equilibria-1&2, Skill-bravis lattices,Qualitative treatment of acid - base, Physical Chemistry Practice
Organic Chemistry-I	BSCH1201	2018	Employability-Basics of Organic Chemistry,Stereochemistry,Chemistry of Aliphatic Hydrocarbons,Carbon-Carbon pi bonds,Electrophilic aromatic substitution , skill-Cycloalkanes and Conformational Analysis,Organic Chemistry Practice
Physical Chemistry-II	BSCH1202	2018	Employability-Chemical Thermodynamics,Second Law of Thermodynamics,Third Law of thermodynamics,Systems of Variable Composition,Dilute solutions . Enterperneurship-Chemical Equilibrium,Thermochemistry. Skill-Physical Chemistry-II Practice
Inorganic chemistry-II	BSCH2301	2018	Skill-General Principles of Metallurgy-1,-Inorganic Chemistry Practice. Employbility-Acids and Bases,Chemistry of s and p Block Elements-1,Boric acid and borates, boron nitrides, borohydrides (diborane) carboranes and graphitic compounds, silanes,Chemistry of s and p Block Elements-3,preparation and properties of Clathrates, Inorganic Polymers .
Organic Chemistry-II	BSCH2302	2018	Employbility-Chemistry of Halogenated Hydrocarbons-1&2, Organometallic compounds ,Alcohols, Phenols, Ethers and Epoxides,Carbonyl Compounds 1&2,

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			Carboxylic Acids and their Derivatives. Skill-Organic Chemistry Practice
Physical Chemistry-III	BSCH2303	2018	Employbility-Phase Equilibria-1 &2, Chemical Kinetics-2,Catalysis,Surface chemistry. Skill-Nernst distribution law, Physical Chemistry Practice.
Inorganic Chemistry-III	BSCH2401	2018	Employbility-Coordination Chemistry-1&2,Transition Elements,Lanthanoids and Actinoids. Skill-separation of lanthanides, Bioinorganic Chemistry-1,2 and Inorganic Chemistry Practice
Organic Chemistry-III	BSCH2402	2018	Employbility-Nitrogen Containing Functional Groups,Heterocyclic Compounds-1&2 ,Alkaloids-1. Skill-Alkaloids-2 &3, Organic Chemistry Practice
Physical Chemistry-IV	BSCH2403	2018	Employbility-Electrical & Magnetic Properties of Atoms and Moleculesand Application . Skill-Electrochemistry :II, Physical Chemistry Practice. Enterperneurship-Electrochemistry :I
Organic Chemistry-IV	BSCH3501	2018	Employbility-Nucleic Acids,Amino Acids,Peptides,Enzymes,for transfer of electrons in biological redox systems .Skill-Lipids,Pharmaceutical Compounds, Organic Chemistry Lab
Physical Chemistry-V	BSCH3502	2018	Employbility-Molecular Spectroscopy,Raman spectroscopy,Nuclear Magnetic Resonance (NMR) spectroscopy,Photochemistry. Skill-Physical Chemistry Practice
Inorganic Chemistry-IV	BSCH3601	2018	Employbility-General methods of preparation of mono and binuclear carbonyls of 3d series,Zeise's salt,Study of the some industrial processes and their mechanism.Skill-Inorganic Chemistry Practice
Organic Chemistry-V	BSCH3602	2018	Employbility-Organic Spectroscopy,Carbohydrates,Dyes,Metallocene-based Ziegler-Natta polymerisation of

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			alkenes. Skill-Polymers Introduction and classification ,IR Spectroscopy,NMR Spectroscopy,Organic Chemistry Practice
Industrial Chemicals and Environment	BSCH3503	2018	Employbility-Industrial Gases and Inorganic Chemicals,Inorganic Chemicals,Energy & Environment,Biocatalysis. Skill-Environment and its segments, Water Pollution,Industrial effluents from the following industries and their treatment, Industrial Chemicals & Environment practice.
Inorganic Materials of Industrial Importance	BSCH3504	2018	Employbility-Glass,Ceramics,Fertilizers,Surface Coatings,Alloys,Catalysis.Skill-Batteries,Inorganic Materials of Industrial Importance practice
Research Methodology for Chemistry	BSCH3603	2018	Skill-Methods of Scientific Research and Writing Scientific Papers-II,Chemical Safety and Ethical Handling of Chemicals,Safe storage and use of hazardous chemicals,Recovery recycling and reuse of laboratory chemicals,Data Analysis-I & II.
Instrumental Methods of Chemical Analysis	BSCH3604	2018	Skill-Introduction to spectroscopic methods of analysis,Molecular spectroscopy,Separation techniques,Instrumental Methods of Chemical Analysis practice. Employbility-Molecular spectroscopy instrumentation and application,Atomic spectroscopy,Spectrophotometers principle and application,
Basic Pharmaceutical Chemistry	BSCH2001	2018	Skill-Drugs & Pharmaceuticals,practice
Analytical Clinical Biochemistry	BSCH2002	2018	Skill-Basic understanding of Carbohydrates,Blood and Urine , practice
Green Methods in Chemistry	BSCH2003	2018	Skill-Green Chemistry lab

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Basic Analytical Chemistry	BSCH2004	2018	Skill-Analysis of soil,Analysis of food products,
Calculus	BSMA1101	2017	Skill- Lab work to be performed on a Computer Employability- Asymptotes,Curvature,Tracing of Curves
Linear Algebra	BSMA1102	2017	Skill –To gain the knowledge on MATLAB and uses in algebra. Employability- Solve systems of linear equations using various methods
Ordinary Differential Equations	BSMA1202	2017	Skill –To understand solving Free Undamped Motion of a Spring System using Python and other skills Employability- Be competent in solving linear/non-linear 1st & higher order ODEs using analytical methods to obtain their exact solutions.
Numerical Analysis	BSMA2401	2017	Skill – Numerical Solution of different linear and non-linear equations using software. Employability - Perform error analysis to select an appropriate numerical model and to estimate errors in numerical solution of a given problem.
Complex Analysis	BSMA3501	2017	Skill –Learn the Plotting of complex functions using Matlab Employability - Illustrate the applications of the calculus of residues in the evaluation of real integrals.
Discrete Mathematical Structure	BSMA3602	2017	Skill –To work with different types of Sets, Lattices and Boolean Algebra using Python Employability - To learn a particular set of mathematical facts and to apply their applications in many subjects of Computer Science and Engineering such as Cryptography, Theory of Computation & Data Networking.
Linear Programming	BSMA3601	2017	Skill - To demonstration of the utilization of Linear Programming Problems in industry and business.

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Analysis-I	BSMA1201	2017	Skill- In much of analysis, the emphasis is not on finding explicit solutions to specific problems Employability- Produce rigorous proofs of results that arise in the context of real analysis
Analysis-II	BSMA2301	2017	Skill - To describe various theorems about Riemann sums and Riemann integrals and emphasize the proofs' development. Employability - Apply change of variables in double integrals and triple integrals
Modern Algebra	BSMA2302	2017	Skill - To introduce students to the language and precision of modern algebra Employability - Work effectively with others to discuss homework problems put on the board.
Partial Differential Equations and System of Ordinary Differential Equations	BSMA2303	2017	Skill - Introduce students to how to solve linear Partial Differential Equations with different methods. Employability - Identify and solve Laplace, Diffusion and Wave equations.
Advanced Analysis	BSMA2402	2017	Skill - Construct rigorous mathematical proofs of basic results in real analysis; Employability - Define the limit point, interior point, neighbourhood etc.
Programming in C	BSMA2403	2017	Skill - To understand advanced concepts of C such as Arrays, Strings, functions pointers and structures in detail. Employability - Write programs that perform operations using derived data types.
Probability and Statistics	BSMA3502	2017	Skill- To apply probability and statistics in engineering and science like disease modeling, climate Prediction and computer networks etc using MATLAB Employability - Compute probabilities based on practical situations using the Binomial, Poisson and Normal distributions.

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Tools and Techniques in Bioscience	BSLS2005	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy etc.
Vermi composting	BSLS2006	2017	Skill-Preparation of Nursery bed of earthworm, preparation of Slurry and earthworm culture and utilisation.
Food processing	BSLS2007	2017	Skill- Analysis of nutritional value, isolation and pufication of essention oil and pigments.
Mushroom cultivation	BSLS2008	2017	Skill- Nutritional and medicinal value of edible mushrooms. preparation of spawn,Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves Factors affecting the mushroom bed preparation Low cost technology.
Plant tissue culture	BSLS2009	2017	Skill- Isolation of Explants; Establishment and Maintenance of Callus and and media preparation and culture.
Nursery and gardening	BSLS2010	2017	Skill- Vegetative propagation: air-layering, cuttingand selection of cutting, Gardening: definition, objectives and scope - different types of gardening - landscape and home gardening
Medicinal Botany	DEHB0401	2017	Skill- Perform practicals on medicinal plants identification, isolation of phytochemicals.
Traditional Botany and Phytochemistry	DEHB0402	2017	Skill- Students can easily identify and classify plants, prepared and seposited herbarium, they also practiced digital documentation of herbarium.
Advance Pharmacognosy	DEHB0403	2017	Skill- Practice oh phytopharma, plant based drug discovery and secondary metabolite isolation.
Standardization and Quality Control of ASU Drugs	DEHB0404	2017	Skill- Varify the quality and nutritional values of plant based nutrients and herbal medicine.

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Fundamentals of Industrial Microbiology	DEFM0401	2017	Skill- Isolation and pure culture of bacterial, use of microbes in industry.Study enzyme immobilization by sodium alginate method. Microbial activity study on (qualitative) analysis of Enzymes
Basic Microbial Techniques	DEFM0402	2017	Skill- Handling of microscope ,identification of bacteria and culture
Food Microbiology	DEFM0403	2017	Skill-Alkaline phosphatase test to check the efficiency of pasteurization of milk. Isolation of any food borne
Quality Assurance in Food Preservation Methods	DEFM0404	2017	Skill- drying, refrigeration, and fermentation. Modern methods include canning, pasteurization, freezing, irradiation, and the addition of chemicals.
Herbal Technology	BSLS2003	2017	Skill - Collection of wild herbs and their herbarium preparation Entrepreneurship - Extraction of an alkaloid
Fundamentals of Agronomy	ASAG1101	2018	Understanding the tools of agronomy and their application in crop production: skill dev.
Fundamentals of Genetics	ASPG1101	2018	Application of genetic principles in plant breeding:employbility& skill dev.
NSS/NCC/Physical Education & Yoga Practices	ASPE1101	2018	Understanding and application of different yoga asanas and pranayama techniques for physical and mental well-being :Skill & Employability
Irrigation water management	ASAG1206	2018	Understsanding the practices of water management and its application in irrigation management : skill dev.& employbility
Production Technology for Vegetables and Spices	ASHO1203	2018	Understanding the different methods i.e. seed treatement and vegetative propogation for the production of vegetable crops: enterpreneurship & skill
Crop Production Technology – I (Cereals,	ASAG2103	2018	Developing skills i.e. field management, cultural practices, disease and pest

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millets and pulses) Kharif crops			management for field crop production :skill & employbility
Fundamentals of Plant Breeding	ASPG2103	2018	Understand the basic methods of plant beeding i.e. emasculation and crossing : Skill & Employability
Production technology of fruits and plantation crops	ASHO2102	2018	Understanding the different methods i.e. grafting, budding and layering for production of fruit and plantation crops: enterpreneurship & skill
Communication skills and personality development	ASEE2104	2018	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Crop Production Technology –II (Oil seeds, fiber, sugar, tobacco, and fodder Crops) Rabi crops	ASAG2204	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Production Technology for Ornamental Crops, MAP and Landscaping	ASHO2204	2018	To gain expertise in production of ornamental crops and landscaping : ,employbility & skill development
Manures, Fertilizers and Soil Fertility Management	ASAC2202	2018	Understanding the manures and fertilizer and its application:skill and employbility.
Food safety and Standards	ASFE2201	2018	Understanding the different food safety principles i.e. pasturization, canning etc: Skill
Principles and practices of weed management	MAAG 1102*	2017	Skill development: Identification of different weeds and their control which in turn would further provide a scope to students in chemical industries
Principles and practices of water management	MAAG 1103*	2017	Skill development: The students can learn about judicious water management using different efficient technologies which would further lay emphasis on job opportunities as well as they can make themselves self sufficient by serving as entrepreneurs to serve the farming community

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Agronomy of major cereals and pulses	MAAG 1204*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Agronomy of oilseed, fibre and sugar crops	MAAG 1205*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Cropping systems and sustainable agriculture	MAAG 1206*	2017	Skill development: The students acquire knowledge about different cropping systems under various climatic situations and they can make themselves self employed as sucessful entrepreneurs
Dry land farming and watershed management	MAAG2107 *	2017	Skill development: On the basis of climatic situations, students will learn raising of different climate resilient crops
Soil fertility and fertilizer use	MASA1101	2017	Skill development: Students gain knowledge on the application of fertilizers and soil fertility status
Management of problem soils and waters	MASA1202	2017	Skill development: students study different methods for the reclamation of problematic soils as well as their management
Statistical methods for applied sciences	MAST 2102	2017	Skill: To exploit various statistical tools as well as techniques to compile raw data for representing the results
Library and information services	MALI1101	2017	Skill development: To gain knowledge on the utilization of library resources for the rsearch finding of experiments.
Technical writing and communication Skills	MACS1101	2017	Skill development: learn the style and skill of writing technical papers
Intellectual property and its management in agriculture	MAIP 1201	2017	Employability and Skill development: students get an overall idea of IPR and their applications towards the protection of property rights
Basic concepts in laboratory techniques	MALT1201	2017	Skill: students do learn the usage of different laboratory equipments along with the standard operating procedures for handling them

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Agricultural research, research ethics and rural development programmes	MAAR2101	2017	Employability and Skill development: Acquire knowledge for research ethics and government policies.
Production technology of cool season vegetable crops	MAVS 1101*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.
Production technology of warm season vegetable crops	MAVS 1102*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.
Seed production technology of vegetable crops	MAVS 2106*	2017	Entrepreneurship, skill and research: Development of quality seeds and planting materials
Fundamentals of processing of vegetables	MAVS 2108*	2017	Entrepreneurship and skill: To utilize the knowledge in various processing units
Post harvest technology for fruit crops	MAFS1205	2017	Entrepreneurship and skill
Principles and practices of water management	MAAG1103	2017	Skill and research: To learn the judicious utilization of water during various developmental stages of plants
Principles of genetics	MAGP 1101*	2017	Practical skills and concepts leading to research to generate high yielding varieties.
Principles of cytogenetic	MAGP 1102*	2017	Practical skills and concepts leading to entrepreneurship and research to generate high yielding and disease resistant varieties.
Principles of plant breeding	MAGP 1103*	2017	Technical skills leading to research
Principles of quantitative genetics	MAGP 1204*	2017	Technical Skills leading to research in quantitative genetics

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Biotechnology for crop improvement	MAGP 1206*	2017	Research and skill: To raise new crop varieties using the tools of molecular biology and genetic engineering
Techniques in molecular biology I	MAMB1205	2017	Skill: Students learn the techniques of molecular biology and further carry out research and also serve as entrepreneurs
Development communication and information management	MAEX1102*	2017	Skill and research: students can learn the skills and involve in research activities
e-Extension	MAEX 1207*	2017	Skill: Students can learn the usage of various tools related to ICT activities and further carry out research
Market led extension management	MAEX 1208*	2017	Entrepreneurship: students can learn the marketing and entrepreneurial skills
Human Resource Development	MAEX 2109*	2017	Skill: Students can learn the skills of studying human behaviour leading the management of human resources
Agricultural Marketing & Price Analysis	MAAE 1201	2017	Entrepreneurship: students can learn the marketing skills and serve as entrepreneurs
Statistical methods for social sciences	MAST 1203	2017	Skill: Students can learn the usage of different stastical tools that in turn would provide them a scope for employment
Non-Parametrics	MAST 2104	2017	Skill: Students can learn the usage of different non parametrics such as descriptive statistics and statistical inferences which would help them for carrying out research activities
Participatory methods for technology development and transfer	MAEX1104	2017	Skill and employability: students can learn the basic concepts of participatory techniques and thereby help in technology transfer from lab to land
Entrepreneurship Development and Management in Extension	MAEX2110	2017	Entrepreneurship: Students do learn the entrepreneural skills which ultimately provides them with a scope to serve as entrepreneurs

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Taxonomy of Shellfish	FSRM1102	2017	Gain knowledge about the morphometric and meristric character of shellfish for identification. Skill development
Fish Food Organisms	FSAQ2109	2017	Learn and practice the nutritional requirements of fish/shellfish larvae and knowledge on mass culture and enrichment of live food organisms. Employability and Skill development
Freezing Technology	FSPT2103	2017	Understanding the different types of low temperature preservation, handling, storage of different type of fish and fishery products to minimize the spoilage along with post harvest loss. Employability and Skill development
Genetics and Breeding	FSAQ2111	2017	Gain knowledge on genetic basis of inheritance and breeding plans for commercially important fishes. Employability, Entreperneurship and Skill development
Fish Immunology	FSHM2106	2017	Study the types of immunity, antigen-antibody interactions and learn the Serological methods in disease diagnosis. Employability and Skill development
Fisheries Economics	FSEE2102	2017	Learning the interface between economics and effective management decisions for fisheries business firm. Employability and Skill development
Coastal Aquaculture and Mariculture	FSAQ2204	2017	To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters. Employability and skill development
Fish Nutrition and Feed Technology	FSAQ2208	2017	Practical knowledge of feed formulation and different feed processing techniques and prepare feed based on the nutritional requirements of fish/shell fish. Employability and skill development
Fish Packaging Technology	FSPT2205	2017	Learn the different types of packaging, importance of packaging in fish processing,

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			functions, objectives and requirements. Skill development
Fish and Shellfish Pathology	FSHM2201	2017	Study fish and shellfish pathogens, their control measures and treatments. Employability and Skill development.
Fishing Craft Technology	FSFE2203	2017	Study the operation of various types of traditional and mechanised fishing craft, design and modification. Skill development
Fisheries Extension Education	FSEE2207	2017	Acquire skills required to practice various fisheries extension approaches, the transfer of modern and scientific findings of lab to the farmers land.
Shellfish Hatchery Management	FSAQ2206	2017	Practical skills of seed production and hatchery management of commercially important crustaceans and molluscs and can setup his/her own hatchery. Employability, Entrepreneurship and Skill development.
Communication Skills and Personality Development	FSEE2208	2017	Students will improve interpersonal skills, active listening and responding skills, communication into everyday practice, teamwork and group discussions skills. Employability and Skill development.
Introduction to Forensics, Psychology, Law and Statistics	MSFS1101	2017	Skill : Student will gain knowledge of Laws, Assessment of Deception and Statistical analysis.
Instrumental Techniques	MSFS1102	2017	Skill : Student learn working principle and instrumentation of instruments such as UV, IR, TLC etc.
Crime Scene Management and Forensic Physics	MSFS1103	2017	Skill & Employability : Skill to reconstruct crime scene. Student process the simulated crime scene. Student gains knowledge about examination of various evidences such as soil, glass, paint, foot print and lip prints.
Finger prints and Questioned Documents	MSFS1104	2017	Skill, Employability & Entrepreneurship, : Student learn about latent fingerprints and lift them for comparison & identification purpose.Gains knowledge about various

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Aspects of AFIS. Student also detects Signature, hand writing & document forgery, examines counterfiet currency, passport and seal impressions. Gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope.
Instrumental Techniques Laboratory	MSFS1105	2017	Skill & Employablity: Student perform experiments on UV absorption of drugs/dyes, TLC, IR spectroscopy of paints/drugs/dyes/organic compunds
Crime Scene Management and Forensic Physics Laboratory	MSFS1106	2017	Skill & Employablity : Student perform density gradient analysis of soil samples, physical matching of broken glass bangles and different objects, reconstruction of mock crime scene
Finger prints and Questioned Documents Laboratory	MSFS1107	2017	Skill & Employablity: Student examines and identify sinature and handwriting forgeries, alterations in documents, examination of interscetiong strokes, comparison of fingerprints and development of latent fingerprints
Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry	MSFS1201	2017	Skill : Student learn about nature, types, collection & packaging of evidences like NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.
Forensic Biology and Forensic Medicine	MSFS1202	2017	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student learn about examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling	MSFS1203	2017	Skill & Employability : Students learn about different ways to detect the presence of blood, semen, saliva and other body fluids , Performs DNA extraction, gains knowledge

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			about basic methodologies used in forensic DNA analysis
Forensic Toxicology and Pharmacology	MSFS1204	2017	Skill & Employability, : Student learn about techniques used to isolate and Extract poisons\ Drugs from samples and determination of various poisons. Also gains knowledge about interpretation of toxicological findings and preparation of reports.
Forensic Ballistics and Computer Forensics	MSFS1205	2017	Skill & Employability : Student gains knowledge about various aspects of ballistics, characteristics of ammunitions and Compurter Foreniscs.
Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry Laboratory	MSFS1206	2017	Skill : Student learn and perform examination of NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.
Forensic Biology and Forensic Medicine Laboratory	MSFS1207	2017	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student performs examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling Laboratory	MSFS1208	2017	Skill & Employability : Students perform experiments to detect the presence of blood, semen, saliva and other body fluids , Performs DNA extraction,
Forensic Toxicology and Pharmacology Laboratory	MSFS1209	2017	Skill & Employability, : Student isolate and Extract poisons\ Drugs from samples and detrmines the presence of various poisons. Also gains knowledge about interpretation of toxicological finding and preparation of reports.
Forensic Ballistics and Computer Forensics Laboratory	MSFS1210	2017	Skill & Employability : Student also perform instrumental analaysis of GSR & examines bullets and cartridge cases to determine the source of origin.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Concepts of Toxicology	MSFS2102	2017	Skill & Employability, : Students gains basic knowledge about disposition and translocation of toxicants, analytical toxicology, toxic agents such as pesticides, metals etc and their effects & applications of toxicology.
Modern and Applied Analytical Forensic Chemistry	MSFS2103	2017	Skill & Employability : Student learns about basic concepts of forensic nuclear chemistry, gains knowledge about drug chemistry, petroleum chemistry and fire chemistry. learns about analysis of lipids and fats of different oils and analysis of dairy products
Pharmacology and Pharmaceutical Drug Analysis Laboratory	MSFS2104	2017	Skill & Employability : Students do qualitative and quantative analysis of Phramaceutical drug by various chemical and instrumental techniques.
Concepts of Toxicology Laboratory	MSFS2105	2017	Skill & Employability, : Students do analysis of various poison such as metallic poison, pesticides, plant poisons etc. and gains knowledge about interpretation of toxicological finding and preparation of reports.
Modern and Applied Analytical Forensic Chemistry Laboratory	MSFS2106	2017	Skill & Employability : Student performs analysis of Various Cases in Forensic Chemistry, Validation of new methods & Accreditation in FSL's, Analysis of NDPS, Explosives, Fire, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres & Exmination of Forensic Chemicals.
Assignment	MSFS2107	2017	Skill : Student study various cases where forensic science played significant role in delivery of justice and write reports.
Seminar	MSFS2108	2017	Skill : Student takes up cases and topics relevant to their specialization subjects and delivers the same.

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Advances in Physical Techniques Laboratory	MSFS2124	2017	Skill & Employablity : Students perform examination of evidences by EDXRF, measures RI of physical evidences.
Concepts of Conventional and Modern Ballistics Laboratory	MSFS2125	2017	Skill & Employablity : Students perform examination of barrel wash, analysis of GSR
Audio Recognition and Video Analysis Laboratory	MSFS2126	2017	Skill & employability : Students record, edit & process audi files using goldwave software, speech acquisition and analysis of speech samples using CSL-4500 software, Video analysis and detection of tampered video files using videofocus
General Microbiology	MSCM1101	2016	Functions of cell organelles in microorganisms; Growth of microorganisms: Skill dev and Employbility
Analytical Techniques	MSCM1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Basic Microbiology Lab	MSCM1105	2016	Techniques for staining microorganisms, isolating and culturing microorganisms: Skill and Employbility and Enterpreunership
Business Communication	FCHU0203	2016	Enhancement of basic language skills, i.e., listening, speaking, reading and writing: Skill dev.
Systemic Bacteriology	MSCM1201	2016	Understanding the Morphological identification, pathogenesis, laboratory diagnosis and epidemiology of clinically significant bacteria: Skill dev and Employbility
Medical Parasitology & Mycology	MSCM1203	2016	Clinical features of important parasites, protozoans, fungi: Skill dev. & Employbility
Applied Microbiology	MSCM1204	2016	Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Bacteriology, Parasitology & Mycology Lab	MSCM1205	2016	Pathological investigations of urine, stool and other biological specimen; Culture for

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			Pathogenic Fungi : Skill dev. & Employbility & Enterpreunership
Immunology & Virology	MSCM2301	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Diagnostic Bacteriology	MSCM2302	2017	Diagnosis of bacteria from infective regions of the body: Skill dev and Employbility
Biochemistry	MSCM2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSCM2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSCM2305	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Communicative Practice Laboratory- II	FCHU0204	2017	Effectiveness in participation in group discussion and job interviews: Skill dev. And Employbility
Immunology, Histopathology & Biochemistry Lab	MSCM2306	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility. Performing histopathological analysis and their interpretation: Skill dev and Employbility
Project	MSCM2401	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	MSCM2402	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Medical Instrumentation and Technique	MSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Hematology Lab	MSMT1105	2016	Performing various hematological tests: Skill and Employbility and Enterpreunership

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Clinical pathology	MSMT1203	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership
Blood Banking	MSMT1205	2016	Blood collection and transfusion techniques and possible errors associated with it: Skill dev. & Enterpreunership
Clinical pathology & Microbiology Lab	MSMT1204	2016	Collection of blood, stool, body fluids and study their chemical and morphological examination: Skill dev. & Enterpreunership culturing and identification of pathogenic microorganims: Skill dev. & Employbility & Enterpreunership
Immunology, Bacterial Serology & Parasitology	MSMT2301	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Clinical Hematology	MSMT2302	2017	Quality assurance required in hematology; Examination of bone marrow: Skill dev and Enterpreunership
Biochemistry	MSMT2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSMT2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSMT2305	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Immunology, Biochemistry & Histopathology Lab	MSMT2306	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility. Assay on blood serum for biochemical test: Skill dev and Employbility. Performing histopathological analysis and their interpretation: Skill dev and Enterpreunership.
Project	MSMT2401	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Internship	MSMT2402	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Basic Haematology	BSCM1103	2017	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Instrumentation & Techniques	BSCM1104	2017	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
General Microbiology	BSCM1201	2017	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology & Diagnosis	BSCM1203	2017	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical Pathology, Biochemisrty & Microbiology Practical	BSCM1204	2017	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership; Microscopic analysis of specimen collected: Skill dev. & Enterpreunership; principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Immunology	BSCM2301	2017	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Systemic Bacteriology	BSCM2302	2017	Understanding of morphology, pathogenesis, lab diagnosis on gram positive & negative bacteria: Skill dev. & Employbility
Molecular Biology	BSCM2303	2017	Basic techniques applicable in Molecular Biology: Skill dev and Employbility
Systemic Virology & Mycology	BSCM2304	2017	Understanding the epidemiology, pathogenesis of viruses and fungi: Skill dev and Employbility

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Communicative Practice Laboratory- II	FCHU0202	2017	Effectiveness in participation in group discussion and job interviews: Skill dev. And Employbility
Bacteriology, Virology &Mycology Practical	BMCM2306	2017	Demonstration of serological technique in diagnostic virology, bacteriology; Isolation & identification of fungi & bacteria: Skill dev
Industrial Microbiology	BSCM2403	2017	Understanding the significance of microbes in fermentation process & industrial effluents: Skill dev and Employbility and Enterepreneurship
Biochemistry	BSCM2404	2017	Learning the principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Basic Computer & Information technique	BSCM2405	2017	Concept for Input & output device, Processor & memory, Word, excel, power point: Skill dev and Employbility
Industrial, Public Health Microbiology & Biochemistry Lab.	BSCM2406	2017	Industrial visit to a fermentation factory; Isolation & identification of microorganisms from samples:Analysis of urine and serum sample for biochemical parameters: Skill dev and Enterepreneurship, Employbility
Basic Hematology	BSMT1103	2016	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation & Techniques	BSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Microbiology	BSMT1201	2016	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology	BSMT1203	2016	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical pathology Lab & Microbiology Lab	BSMT1204	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership, Microscopic analysis of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			specimen collected: Skill dev. & Enterpreunership
Immunology	BSMT2301	2017	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Applied Hematology	BSMT2302	2017	Concept of Haemopoietic disorders, laboratory diagnosis of leukemia, hemolytic anemia, haemophilia, ITP: Skill dev. & Employbility & Enterpreunership
Basic Histology	BSMT2304	2017	Concept of Histotechnology, histopathology: Skill dev. & Employbility & Enterpreunership
Immunology & Histology Lab	BSMT2305	2017	Performing Serological reactions: Skill and Employbility
Parasitology	BSMT2401	2017	Understanding the life cycle and lab diagnosis of various clinically significant parasite: Skill dev. and Employbility
Advance Biochemistry	BSMT2402	2017	Learning the principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Advanced Hematology	BSMT2403	2017	Understanding the lab diagnosis for Leukamoid reactions, DIC: Skill dev and Employbility and Enterepreneurship
Biochemistry & Advanced Microbiology Lab	BSMT2406	2017	Analysis of urine and serum sample for biochemical parameters: Skill dev and Enterepreneurship; Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Transfusion Medicine	BSMT3501	2017	Blood product analysis and transfusion procedure: Skill dev and Employbility
Project	BSMT3601	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility

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Internship	BSMT3602	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation and Technique	BSRT1105	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Medical Imaging Lab - 1	BSRT1204	2016	Care and maintenance of x-ray equipment: Skill dev & Enterpreunership
Special Radiographic Technique and Procedures	BSRT2303	2017	Understanding of special procedures and importance of contrast media: Skill dev. and Employbility
Basics Equipment's in Radiodiagnosis	BSRT2304	2017	Understanding of gamma rays and its use in radiography, magnetron and klestron: Skill dev and Enterpreunership
Medical Imaging Lab - 2	BSRT2305	2017	Performing radiographic positioning, application of contrast media, Darkroom procedures: Skill dev and Enterpreunership
Radiotherapy and Brachy Therapy Techniques In Malignant And Non Malignant Diseases	BSRT2401	2017	Concept on treatment of cancer, dose limits for individuals: Skill dev and Employbility
Interventional Radiology & Drugs Used in Radiology	BSRT2403	2017	Concept on use of anaesthesia in diagnostic radiology: Skill dev and Employbility
Hospital posting Medical Imaging Lab - III	BSRT2406	2017	Exposure to different hospitals, training of x-ray, CT and MRI: Skill dev. & Employbility & Enterpreunership
Basics of X-Ray and Digital X-Ray Imaging	BSRT3501	2017	Properties of x-ray, x-ray machines and application of portable xray: Skill dev and Employbility
Computerized Tomography (CT scanning) Method and Procedure	BSRT3502	2017	Diagnosis of muscle and bone disorders, detecting conditions such as cancer, heart disease, lung nodules: Skill dev and Employbility

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Basics of Magnetic Resonance Imaging	BSRT3503	2017	Understanding of MRI scans of different organs: Skill dev and Employbility
Medical Imaging Lab - IV	BSRT3506	2017	Access to CT, MRI and their indications: Skill dev. & Employbility & Enterpreunership
Project	BSRT3601	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	BSRT3602	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
BIOCHEMISTRY LAB	BSOL1102	2015	Gaining adequecy in the concept of metabolism of various macromolecules in humab body and the diagnosis of diseses associted with their malfunction: Skill dev. & Employbility
GENERAL ANATOMY & PHYSIOLOGY LAB	BSOL1103	2015	Learning about basic structure and connections between the various parts of the body and their integrative function: Skill dev & Employbility
COMMUNICATIVE ENGLISH-I	FCHU0201	2015	Enhancement of basic language skills, i.e., listening, speaking, reading and writing: Skill dev.
OPTICS LABORATORY-II	BSOL1201	2015	Predicting the distribution of light under various conditions: Skill and Employbility
ANATOMY& PHYSIOLOGY LAB (CLINIC-I)	BSOL1202	2015	Learning about basic structures in eye and their integrative function: Skill dev & Employbility
OPYOMETRIC OPTICS I	BSOP2303	2015	Ability to measure the power of lens, lens centration using conventional techniques, identify different forms of lenses: Skill dev. and Enterpreunership
CLINICAL EXAMINATION OF VISUAL SYSTEM	BSOL2301	2015	Performing various clinical tests, their interpretation and finding: Skill dev. and Entrepreneurship and Employbility
CLINICAL OPTOMETRY-I	BSOL2302	2015	Measurement of lens power, lens centration using conventional techniques, transposition of various types of lenses:

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			Skill dev. and Entrepreneurship and Employbility
OPTOMETRIC OPTICS II	BSOP2403	2015	Developing the art and science of dispensing spectacle lens and frames based on the glass prescription: Skill dev. and Entrepreneurship and Employbility
BASIC AND OCULAR PHARMACOLOGY	BSOP2404	2015	Developing conceptual knowledge on the mechanism, indications, contraindications, drug dosage and adverse effects of Ocular Drugs: Skill dev. And Employbility
CLINICAL OPTOMETRY II	BSOL2401	2015	To gain practical knowledge regarding Ocular Diseases, Visual Optics, Optometric Optics: Skill dev. and Entrepreneurship and Employbility
BINOCULAR VISION & SQUINT	BSOP3501	2015	Binocular muscle coordination; Integration of motor and sensory system into binocular vision; Differentiate different types of strabismic anomalies; non strabismic anomalies related to accommodation & convergence: Skill & Employbility
LOW VISION AID	BSOP3503	2015	Training for Low Vision subjects with Low vision devices: Skill and Employbility
CONTACT LENS LABORATORY	BSOL3502	2015	Applying the concepts of contact lenses: Skill dev. & Employbility
OCULAR DISEASES LABORATORY II	BSOL3503	2015	Performing the basic workup for a patient in a hospital and clinic set up: Skill dev. and Entrepreneurship and Employbility
STATISTICS & OCCUPATIONAL OPTOMETRY	BSOP3601	2015	Interpretation and ability to prescribe suitable corrective lenses and eye protective wear: Skill dev. and Entrepreneurship and Employbility
PEDIATRIC & GERIATRIC OPTOMETRY	BSOP3602	2015	Ability to identify, investigate the age-related changes in the eyes: Skill dev. & Employbility
OPTOMETRIC INSTRUMENTS LABORATORY-II	BSOL3602	2015	Gaining practical skill in handling the advanced instruments in an Optometry Lab: Skill dev. and Entrepreneurship and Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
PROJECT	BSOP4701	2015	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
ORGANIZATIONAL BEHAVIOR	BSFE2401	2015	Understanding of Organizational behavior and conceptualization of foundations of organization structure: Skill dev.
Human Anatomy and Physiology I– Theory	BPHT1101	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Analysis I – Theory	BPHT1102	2017	Skill-Employability-Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Pharmaceutics I – Theory	BPHT1103	2017	Skill- Employability- Entrepreneurship - Understand the impact of pharmaceutical solutions in a global, economic, environmental, and societal context
Pharmaceutical Inorganic Chemistry – Theory	BPHT1104	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Communication skills – Theory *	BPHT1105	2017	Skill- Students can improve their coomunication Skill
Human Anatomy and Physiology – Practical	BPHL1101	2017	Skill-allows Students to verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Analysis I – Practical	BPHL1102	2017	Skill- Employability- Students can assay ,preparaed and standarized various Heavy metals and Chemicals
Pharmaceutics I – Practical	BPHL1103	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Pharmaceutical Inorganic Chemistry – Practical	BPHL1104	2017	Skill- Students can perform purity test on drugs or chemicals
Communication skills – Practical*	BPHL1105	2017	Skill- Students can improve their coomunication Skill

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Remedial Biology – Practical*	BPHL1106	2017	Skill- Students can learn about structure and functional system of plant and animal kingdom
Human Anatomy and Physiology II – Theory	BPHT1201	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Organic Chemistry I – Theory	BPHT1202	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Pathophysiology – Theory	BPHT1204	2017	Skill-Employability-student get to know about various communicable diseases and pathophysiology along with all thetechniques for screening test .
Computer Applications in Pharmacy – Theory *	BPHT1205	2017	Skill-Employability-Buiding compitancy in programme coding, various softwares, simulation techniques, statistical application etc.
Human Anatomy and Physiology II –Practical	BPHL1201	2017	Skill- allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Organic Chemistry I– Practical	BPHL1202	2017	Skill-Students can do qualitative analysis and synthesis of Organic Compound
Biochemistry – Practical	BPHL1203	2017	Skill- Students can demostrate different Biochemical Test
Computer Applications in Pharmacy – Practical*	BPHL1204	2017	Skill-Allows students to details with Database, Database Management system, computer application in clinical studies and use of databases
Pharmaceutical Organic Chemistry II – Theory	BPHT2101	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Physical Pharmaceutics I – Theory	BPHT2102	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmaceutical Microbiology – Theory	BPHT2103	2017	Skill- Employability- Carried out sterility testing, microbiological standardization of Pharmaceuticals and perform cell culture technology and its applications in pharmaceutical industries
Pharmaceutical Engineering – Theory	BPHT2104	2017	Skill -Employability- Enterprenurship- students can able to unterstand and perform unit operations, material handling techniques, screening test and plant lay out design for optimum use of resources used in Pharmaceutical industries
Pharmaceutical Organic Chemistry II – Practical	BPHL2101	2017	Skill-Stuents can do qualitative analysis and synthesis of Organic Compound
Physical Pharmaceutics I – Practical	BPHL2102	2017	Skill- Allows student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmaceutical Microbiology – Practical	BPHL2103	2017	Skill- Allows students to study of all categories of microorganisims especially for the production of alchol antibiotics, vaccines, vitamins enzymes etc.
Pharmaceutical Engineering –Practical	BPHL2104	2017	Skill- Students can get fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry
Pharmaceutical Organic Chemistry III– Theory	BPHT2201	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Physical Pharmaceutics II – Theory	BPHT2203	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmacology I – Theory	BPHT2204	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry I– Theory	BPHT2205	2017	Skill - Students can do identification and evaluation, phytochemicals present in them and their medicinal properties
Medicinal Chemistry I – Practical	BPHL2201	2017	Skill - Students can get fundamental knowledge on the structure, chemistry and synthesis of each class of drug
Physical Pharmaceutics II – Practical	BPHL2202	2017	Skill-student get to know better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmacology I – Practical	BPHL2203	2017	Skill -Student can Observe the effect of drugs on animals by simulated experiments
Pharmacognosy and Phytochemistry I – Practical	BPHL2204	2017	Skill-Extraction and isolation of plant product ,determination of chemical parameter of plant product with molecular modeling and geometrical optimization
PROGRAMMING IN 'C'	CCCS1202	2016	Skill - Practice using programming in C.
PROGRAMMING IN C++	BCAC2401	2016	Skill - Practice using programming in C++
INTERNET AND WEB TECHNOLOGY	BCAC3501	2016	Skill - Design and development of web programming.
PROGRAMMING IN JAVA	BCAC3502	2016	Skill - Programming using JAVA

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OFFICE AUTOMATION	CCCS0409	2016	Skill- Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards.
RDBMS	BCAC2302	2016	Skill - Database and file management
Apparel Production & Marketing	CUTM3029	2017	Employability/Skill - Practice and Project
Line Stitching Supervising	CUTM3030	2017	Employability/Skill - Practice and Project
Apparel Production	CUTM3031	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Light Motor Vehicle Driving	CUTM3032	2017	Employability/Skill - Practice and Project
Fork Lift Operation	CUTM3033	2017	Employability/Skill - Practice and Project
Heavy Vehicle Technology	CUTM3034	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Two Wheeler Service Technology	CUTM3035	2017	Employability/Skill - Practice and Project
Four Wheeler Service Technology	CUTM3036	2017	Employability/Skill - Practice and Project
E-Vehicle Assembly and Service Technology	CUTM3037	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Robotics	CUTM3038	2017	Employability/Skill - Practice and Project
Poultry Farming	CUTM3039	2017	Employability/ Entrepreneurship/Skill
CNC Programming (CAM)	CUTM3040	2017	Employability/Skill - Practice and Project
Design Supervising Wooden and Modular Furniture	CUTM3041	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Composite Manufacturing	CUTM3042	2018	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
3D Modelling and Printing	CUTM3043	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Precast Concrete Manufacturing	CUTM3045	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Fabrication	CUTM3046	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Hi-Tech Surveying	CUTM3047	2018	Employability/Skill - Practice and Project
Internet of Things	CUTM3048	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Mechatronics System Design	CUTM3049	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nanotechnology	CUTM3051	2018	Employability/Skill - Practice and Project
Drone Piloting	CUTM3052	2018	Employability/Skill - Practice and Project
Camera Operation	CUTM3053	2018	Employability/Skill - Practice and Project
Editor	CUTM3054	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Desktop Publishing	CUTM3055	2018	Employability/Skill - Practice and Project
Introduction to Blender and Unity tools	CUTM3056	2018	Employability/Skill - Practice and Project
2019-20			
Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Differential Equations	FCBS 0102	2016	Skill Development(Students will know about the modelling of different enggineering application)
Linear Algebra & Vector	FCBS 0103	2016	Skill Development(Students will know about modelling of problems related to system of equations in enggneering application)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Integral Transform	FCBS 0104	2016	Skill Development(Students will know to find the solution using laplace and fourier transform)
Complex Analysis	FCBS 0105	2016	Skill Development(Students will know to find the solution usingcomplex integral)
Discrete Mathematics	FCBS 0106	2016	Skill Development(Students will know about graphs, sets and logic)
Probability & Statistics	FCBS0108	2017	Employability (Students will know about probability distribution) Skill (Students will know about mean, media, mode)
Numerical Methods	FCBS0109	2017	Skill Development(Students will know about solution of differential equation using different numerical techniques)
Electricity and Magnetism	FCBS0404	2016	Skill development (Students will develop the skill of identifying circuit elements and operating different electrical circuits)
Applied Analytical Chemistry	FCBS0401	2016	Employbility-Water Analysis,Soil Analysis,Chemistry of fuels. Skill- All practices
Industrial Chemistry	FCBS0402	2016	Employbility-: Preparation of soap, dyes and oil analysis ,Analysis of cement Skill-All Practices
Applied Engineering Materials	FCBS0403	2016	Employbility-Nano Materials,Polymers,Composites. Skill- All Practices
Foundations of English Communication	FCHU1201	2016	Skill Development(Students will develop basic interpersonal communication skill (BICS))
Communicative Practice Laboratory -1	FCHU1202	2016	Skill Development(Students will enhance their communication skills in english both academic and proffesional context)
Business Communication	FCHU1203	2016	Skill Development(Students will enhance their communication skills in english in bussiness context)
Communicative Practice Laboratory-II	FCHU1204	2016	Skill Development(Students will enhance their communication skills in english both academic and proffesional context)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Corporate Readiness Laboratory	FCHU1205	2016	Skill Development(Students will develop professional communication skill)
IT Enabled Communication	FCHU1206	2016	Skill Development(Students will enhance their communicative competency through the use of technology)
Career Communication	FCHU1207	2016	Skill Development(Students will enhance their communicative competency in professional career)
Personality Development	FCHU1208	2016	Skill Development(Students will learn basic ettiquette in professional sphere)
Seminar and Technical Writing	FCHU1209	2016	Skill Development(Students will learn the convention followed in academic and technical writting)
Professional Etiquette	FCHU1210	2016	Skill Development(Students will learn basic ettiquette in professional sphere)
Creative Writing	FCHU1211	2016	Skill Development(Students will enhance their competency level using innovative method for creative writting)
English for Competition (GRE/GMAT/TOEFL/IELTS)	FCHU1212	2016	Skill Development(Students will enhance their competency level to compete with students of global standard)
Life Skills Development (LSD) - IV	FCHU0216	2019	Skill Development(Students will develop life skill including time management skill, personality and others)
Economics	FCMG0101	2016	Skill Development(to provide students with a basic understanding of the economic principles, methodologies and analytical tools that can be used in business decision making problems) Employability & Entrepreneurship (Student shall understand and apply the impact of economic policies on managerial decision-making by providing an understanding of fiscal policy, and national and global economic issues affecting business.)
Accounting & Finance	FCMG0102	2016	Skill Development-Students will be able to create, balance and deliver a budget and use budget information for planning and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			decision purposes; Employability & Entrepreneurship (Students to Undertake various costing techniques and information for planning and decision-making)
Management Processes and OB	FCMG0103	2016	Skill Development-Students shall be able to analyze and compare different models used to explain individual behaviour; Employability & Entrepreneurship (Students shall be able toresolve conflict, motivate the employees, handle stress and communicate effectively and manage diversified workforce in workplace)
Production and Operation Management	FCMG0104	2016	Skill Development (Acquire a working understanding of the roles/functions of production management in the context of business enterprise.) Employability & Entrepreneurship (Student can use specialized knowledge in Operations Management to solve business processes)
Marketing Management	FCMG0105	2016	Skill Development (Students will learn the application of various marketing tools for solving business problems). Employability and Entrepreneurship (students will acquire and develop the marketing skills to be a successful marketing person)
Introduction to Research	FCMG0108	2016	Skill Development (Students will be able to understand the process of doing a research). Employability and Entrepreneurship (Students will be able to write a research report.)
Indian Society and Culture	FCMG0113	2016	Skill Development (Students will be familiarized with the science and technology policies that would benefit modern India). Employability and Entrepreneurship (Students would develop an idea about the socio-cultural environment in which they would be working as scientists, researchers and enterpreneurs.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Disaster Management	FCMG1201	2016	Skill Development (students would begin to understand the relationship between vulnerability, disasters, disaster prevention, risk reduction and the basic understanding of the research methodology for risk reduction measures.). Employability and Entrepreneurship (Students would develop rudimentary ability to respond to their surroundings with potential disaster response in areas where they live, with due sensitivity)
Engineering Mechanics	ENFC0101	2018	Skill development (To provide the student with a thorough understanding of concept, drawing and free body diagrams.)
Material Sciences	ENFC0102	2017	Employability and Skill development (Students will able to identify materials for engineering use.Students will able to select best materials for a specific design and production.)
Thermodynamics	ENFC0103	2018	Skill development (Students will be able to prepare energy balance sheet will be able to understand various processes of thermodynamic cycles Will be familiar with the steam table which will further help them in advanced thermodynamics for understanding power cycles)
Geometric Modelling Lab	ENFC0202	2018	Skill development(Students will be able to Demonstrate use of CAD in Civil Construction, basic knowledge of operating software & commands, and benefit of civil developments in the construction industry. Do 2d &3d drafting /design with AUTO CAD software.)
3D Modeling	ENFC0204	2018	Skill Development (learning software which helps to draw complicated drawings and also helps in producing detail drawings in proper scale. Learning software which helps to better visualize complicated forms

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and also helps in producing photo realistic images of those 3D forms)
Electrical Workshop Practice	ENFC0205	2018	Skill development(Students will Enhance their skill of operating electrical instruments, hand tools and power tools)
Engineering Metrology and Measurements	ENFC0401	2017	Employability and Skill development (To Make Students Familiar with the Measuring Systems, and the Standard of Measurements. Learns about Basic Measurement Devices.Selecting Suitable Measuring Instruments for Basic and Typical Applications in the Industries.)
Basic Fluid Mechanics	ENFC0402	2017	Skill development(• After completion of the course, the students will able to evaluate finite difference/volume schemes on model problems of computational fluid dynamics. • Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems)
Basic Surveying	ENFC0403	2017	Skill development(Doing centering, leveling & measuring coordinate points of area and calculation, transfer to data from Total station to software spectrum link Doing field work using of simple machine parts such as Total –Station, Auto- level)
Basic Electrical Engineering	ENFC0404	2017	Skill Development (Students will get the skill to design devices and systems using electrical components such as resistors, capacitors, transistors, etc
Electrical Machines	ENFC0405	2018	Skill Development (Students will get the skill to analyse about the principle of operation & performance of rotating electrical machine like DC Motor, DC Generator, and Transformer

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to automation	ENFC0406	2018	Skill development(Students will be able to use a number of PLC programming languages to develop control solutions.)
Programming in C	ENFC0409	2018	Skill And Employability(Case study to be given to students on uses of C program for development of various real time applications like online examination system, online quiz competetion etc.)
Programming for Problem Solving – Java	ENFC0412	2017	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Data Base Management System	ENFC0414	2018	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL-Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored Functions – Triggers Case study in industrial standards of Database Management)
Problem Solving & Programming	ENFC0418	2018	Skill And Employability(To enhance the problem analysis capability and problem solving techniques and solves various real life problems using raptor and scratch tools)
Data Structures and C Programming	ENFC0419	2018	Skill And Employability(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Understand and apply the greedy approach for various problems)
Operating System	ENFC0422	2018	Skill And Employability(This course enables students to understand the basic concepts of operating system with different types of OS, services and system calls, get knowledge of process management, Inter process communication and various CPU scheduling algorithms. It also helps to understand the concept of memory management -paging and segmentation and learn about various I/O systems and mass storage structures.)
Big Data Analytics	ENFC0423	2018	Skill And Employability(This course helps in gaining the ability to choose the right solution for a commercial task involving big data, including databases, architectures and cloud services. Also focuses on understanding of the analysis of big data including methods to visualise and automatically learn from vast quantities of data. Develop the programming skills to build solutions using big data technologies such as Map Reduce, scripting for No-SQL, Apache Mahout, Hive and the ability to write parallel algorithms for multi-processor execution.)
Block Chain and Smart Contracts	ENFC0424	2018	Skill And Employability(Hands on in design and program smart contracts and decentralized applications)
AI Tools, Techniques and applications	ENFC0603	2018	Skill And Employability(Introduce state-of-art AI tools and techniques to solve various problems faced by Engineers in design and analysis)
Cloud Computing and its applications using Linux OS	ENFC0602	2018	Skill (Hands on in accessing cloud Storage systems and Cloud security and develop cloud application)
Problem Solving using Python	ENFC0901	2018	Skill And Employability(Eenhance the problem analysis capability and problem

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			solving techniques and solves various real life problems using raptor and scratch tools)
Object Oriented Programming through Java	ENFC0902	2018	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Web Technologies	ENFC0903	2018	Skill And Employability(Develop a static, interactive and well-formed webpage using JavaScript, CSS3 and HTML5)
Software Engineering using Agile	ENFC0904	2018	Skill (Students get to apply software engineering principles and techniques learnt to a real-life project topic of their choice in a contemporary domain and design-implement novel solution by working together as a team.
Internet of Things	ENFC1407	2018	Skill (Hands on training for understanding of the communication protocols in IoT communications.)
Build your own Computer	ENFC1402	2018	Skill (Hands on training to build computing devices.Troubleshoot various faults in a computer system and network
Cloud Computing Application	ENFC1403	2018	Skill (Hands on in accessing cloud Storage systems and Cloud security and develop cloud application)
Hydraulics & Hydraulic Machines	CECC0103	2018	Skill development(Effectively use performance calculations Understand the accelerated flight performance Understand takeoff and landing performance Effectively use and understand stability for Aircraft. Able to understand the process of aerodynamic designing)
Estimation & Quantity Surveying	CECC0201	2017	Skill development(Students will be able to Estimating, brick calculations & cost for

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			different materials, foundation & footing calculations. Gain knowledge about how to schedule & estimate different construction works both manually and using software.)
Pre-Fabricated Structures	CECC0202	2018	Skill Development(• After completion of the courses the students will gain knowledge of the processes of planning, production, storage, transportation and site installation of various prefabricated units pertaining to a civil engineering construction project • Students will develop innovative ideas about prefabricated structures)
Concrete Technology	CECC0412	2017	Skill(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)
Soil Mechanics	CECC0401	2018	Employability(• Students will gain knowledge on soil mechanics and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve in soil mechanics)
Transportation Engineering	CECC0403	2018	Employability(• Students will gain knowledge on planning, material selection for construction, Economics and finance and designing of elements on highway. • Acquire the skill of designing the

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			geometric elements of highway using AUTOCAD CIVIL 3D software.)
Water supply & Waste water Management	CECC0415	2018	Employability(• Students will gain knowledge and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve in hydrology)
Hydrology &Water Resources Engineering	CECC0416	2018	Employability(• Students will gain knowledge on and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve)
Quality Control and Risk Management in Construction	CECC0414	2018	Entrepreneurship(• Students will gain knowledge on and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve)
Computer Aided Design of Steel Structure	CECC0407	2017	Skill development(Perform free hand sketching of basic geometrical constructions and multiple views of objects. Concept of projection, Types of section, PEB structure & Steel structure work. able to know the process of making sketches, types of projections, designing of beam, columns and shear walls.)
Computer Aided Design of Concrete Structure	CECC0408	2017	Skill development(Perform free hand sketching of basic geometrical constructions and multiple views of objects. Concept of projection, Types of section, PEB structure & Steel structure work. able to know the process of making sketches, types of projections, designing of beam, columns and shear walls.)
Strength of Material	CECC0411	2018	Employability(Students will acquire knowledge and skill to analyze the effect of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			force and motion on rigid bodies to solve engineering problems through application of basic laws of mechanics.)
Site Supervision & Measurement Methods	DECP0401	2018	Employability(• Students will gain knowledge on and the concepts involve in it • Students will develop skill on laboratory experiments, empirical methods and software aids involve)
Internship	DEET0800	2015	Employability (Skill development course)
3D Modelling and VR experience of Building	DEPD0202	2018	Skill(• To understand the Generation of 2D (plan, section and elevation) and 3D modelling. • Able to carve out detailed specification and dimensioning of the following using AutoCAD, Revit Architecture and CATIA)
Geospatial Technology and its Application	DESP0901	2018	Employability(• Students will gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections. • To develop software skills in programs used for map production in the modern cartographic workflow.)
Lidar Remote Sensing and its Applications	DESP0201	2018	Employability(• Students will gain knowledge about LIDAR and its application. • Students will be more skilled in CATIA Civil module)
Smart City Planning	DESP0202	2018	Skill development(• Students will gain knowledge about to design and plan a twin city model. • Students will get more knowledge on designing of building, road, drainage etc. through Autodesk Infrawork and 3D EXPERENCE Platform)
Introduction to Gamming & Simulation	CSCC0901	2018	Skill And Employability(End to End Game Development Pipeline)

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Introduction to Cyber Security	CSCC0902	2018	Skill And Employability(Students have done activities like network analysis, intrusion detection in the network and file integrity using different open source tool.)
AI & ML using Python	CSCC0903	2018	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Object Oriented Analysis and Design	CSCC0601	2018	Skill And Employability(Studetns are able to analyze and model software specifications.)
Computer Organization and Architecture	CSCC0410	2018	Skill And Employability(Students had Implemented various VPC,VPN and optimization of network cost and also Understand and building the skills of sub-netting and routing mechanisms)
Design Analysis and Algorithms	CSCC0412	2018	Skill(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems.)
Data Warehousing and Data Mining	CSCC0414	2018	Skill (Student will able to design data warehouse with dimensional modeling and apply OLAP operations.)
Building of Cloud Infrastructure	DECT0901	2015	Skill And Employability(Analyze and Understand the functioning of different components involved in Amazon web services and also acquire cloud technology skill for cloud partitioner certification which helps students in getting jobs in different MNCs)
Deployment Architecture -I	DECT0902	2015	Skill And Employability(Evaluate cloud application requirements and make architectural recommendations for implementation, deployment and provisioning applications on AWS)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Deployment Architecture - II	DECT0903	2015	Skill And Employability(Ability to evaluate cloud application requirements and make architectural recommendations for implementation, deployment and provisioning applications on AWS)
Advanced Networking	DECT0904	2015	Skill And Employability(Students had Implemented various VPC,VPN and optimization of network cost and also Understand and building the skills of sub-netting and routing mechanisms)
Oracle Database Administration and SQL	DEST0401	2015	Skill And Employability(Provides an exhaustive coverage of SQL Admin to understand the architecture and processes of the Oracle database)
Problem Solving through Coding	DEST0201	2015	Skill And Employability(Obtain skills to solve problems involving text, numbers and graphics, producing a top-level plan with refinements.)
Linux and Lamp Administration	DEST0402	2015	Skill And Employability(Obtain skills in Linux server administration. Content includes LINUX and Web server installation, system startup/shutdown, hardware configuration, disk and file system structure, package management, TCP/IP networking, system management and security, X-Windows usage and configuration, user management)
Testing and Test Automation	DEST0403	2015	Skill And Employability(students had alpplied various modern software testing processes in relation to software development and project management)
Web Services using Java	DEST0404	2015	Skill And Employability(Developed knowledge-based force to serve the IT industry with the latest technologies.)
Python for Data Science and Machine Learning	DEML0201	2015	Skill And Employability(Implement ML algorithms that generates insight to high volume data and helps to make better

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Supervised and Unsupervised Machine Learning	DEML0401	2015	Skill And Employability(Implement sevaral ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Advanced Neural Network (RNN & CNN)	DEML0402	2015	Skill And Employability (Design and train a CNN, RNN language models and also able to apply deep learning principles using tools such as TensorFlow, Keras)
ML Techniques in Image Processing	DEML0202	2015	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Deep Learning Techniques and Neural Network	DEML0403	2015	Skill And Employability(Design and train a CNN, RNN language models.Be able to apply deep learning principles using tools such as TensorFlow, Keras)
Introduction to IT Networking & Security	DEIS0121	2015	Skill And Employability(To understand, design and implement appropriate security technologies and policies to protect computers and digital information)
Advanced Networking	DEIS0421	2015	Skill And Employability(Understand and explain Data Communications System and its components and Identify the different types of network topologies and protocols. Enumerate the layers of the OSI model and TCP/IP and explain the functions of each layer,identify the different types of network devices and their functions within a network)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
White Hat Hacking Techniques and Tools	DEIS0422	2015	Skill And Employability(Information technologies skill like vulnerabilities, defense-in-depth, penetration testing, the methodology for pen testing/ethical hacking, vulnerability management, incident management, and creating and implementing a security policy will be understood)
Information Technology Infrastructure Library	DEIS0122	2015	Skill And Employability(Obtain the skill about IT Service Management best practices, generic concepts, key principles, gain a comprehensive understanding of the purpose and scope of service strategy, service design, service transition, service operations, and Continual Service Improvement)
Network Security Audit of an Organisation	DEIS0221	2015	Skill And Employability(To perform an IT Netwok secuiry audit of an organization and prepare a detailed report identifying different weakness of the architecture)
CCNA	DEIS0222	2015	Skill And Employability(hands on training to manage Network for an Organization)
Electromagnetic Field Theory	ECCC0101	2019	Skill Development This subject is a base subject for wireless communication, Antenna Engineering and other advanced communication based subject.
Analog Electronic Circuits	ECCC0401	2018	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
Digital Electronic Circuits	ECCC0402	2018	Skill Development and Employability (Its an important subject in the curriculum. Its also equivalently important for facing interviews in indistry.)
VLSI Design	ECCC0407	2017	Employability (Design combinational and sequential circuit using CMOS logic Enhancement of complex digital VLSI logic

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			design skill of students which will help them to complete any project work undertaken in higher semesters. Perform back-end physical design)
Transmission & Distribution	ELCC0101	2018	Skill development (Students will develop the SKILL related to various electrical power transmission and distribution schemes available in India.)
Distributed Generation & Micro Grid	ELCC0103	2017	Skill development(Students will be able to enhance their power system generation skill under microgrid)
Electrical Circuit Drawing (Using Auto CAD)	ELCC0202	2018	Skill development(Students will know the use of AutoCAD Software and will develop skill of designing generalized electrical Machine blueprint)
Network Theory	ELCC0401	2018	Skill development (Students will develop the designing skill of various electrical network topology)
Electronic Measurement & Instrumentation	EECC0409	2018	Skill development (Students will develop the SKILL about various bridges used to measure R, L, C and measuring instruments like Galvanometer, Potentiometer, CT & PT)
Linear Integrated Circuits & Application	ELCC0403	2018	Employability(Students will be able to design, filter,amplifier circuit and also skilled to solve problem related to linear IC)
Control System	ELCC0406	2018	Skill development (Students will develop the SKILL related to time domain and frequency domain analysis, root locus, bode plot, nyquist plot etc.)
General PLC	DEIA0101	2018	Skill development(Students will develop skill of designing Automatic Control System using PLC)
Basic Electrical (Automation based) and Panel Designing	DEIA0201	2018	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using relevent software & hardware tools)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Supervisory Control and Data Acquisition (SCADA)	DEIA0401	2018	Skill development (Students will gain Functional skill set with hands-on; on Dynamics of Industrial Automation by using SCADA-Schneider-Wonder ware In Touch tools)
Micro Range Programmable Logic Controller	DEIA0402	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for micro range applications)
Small Range Programmable Logic Controller	DEIA0403	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for small range applications)
Medium Range Programmable Logic Controller	DEIA0404	2018	Skill development (Students will gain Functional skill about the Programmable logic controller used for medium range applications)
Human Machine Interface (HMI)	DEIA0202	2018	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
Variable Frequency Drive	DEIA0203	2018	Skill development (Students will gain Functional skill to operate the Drive by changing system Frequency)
Modern Transmission and Distribution System	DEOM0101	2018	Skill Development (Students will learn about the Transmission and Distribution system used in Modern days)
Operation and Testing of Power and Distribution Transformer	DEOM0401	2018	Skill Development (Students will learn about the operation and testing procedures used in Power & Distribution Transformer)
System Protection and Auxiliaries	DEOM0402	2018	Skill Development (Students will develop different protection scheme with hardware & software integration)
Construction of HT and LT lines and Cables	DEOM0102	2018	Skill Development (Students will develop skill set with hands on training & practice on Routine test of LT & HT Line Cable upto 33KV class)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Safety Practice and First Aid	DEOM0201	2018	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques)
Electrical System Layout and Drawing	DEOM0202	2018	Skill Development (Students will develop different electrical system layout with software application)
Design of Transformer Core and Winding	DEDR0101	2018	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification)
Manufacturing of Transformer HT and LT Winding	DEDR0201	2018	Skill Development (Students will Manufacture three phase Distribution Transformer windings as per BIS specification, during project work)
Manufacturing of Transformer Tank and Accessories	DEDR0202	2018	Skill Development (Students will Manufacture three phase Distribution Transformer Tank and accessories as per BIS specification, during project work)
Testing and Commissioning	DEDR0401	2018	Skill Development (Students will develop skill set with hands on training & practice on Type & Routine test of distribution transformer upto 33KV class)
Safety and Protection	DEDR0402	2018	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques & operation of protection schemes in transformer)
Transformer Repair and Maintenance	DEDR0403	2018	Skill Development (Students will develop skill set with hands on training & practice on Repair & Maintenance of distribution transformer upto 33KV class)
Renewable Energy Sources and Technology	DERE0161	2015	Skill Development (Students will learn and develop the different technologies of renewable energy Sources)
Solar Photovoltaic Technology	DERE0162	2015	Skill Development (Students will learn and develop the different technologies of Solar photovoltaic)
Solar Thermal Technology	DERE0163	2015	Skill Development (Students will learn and develop the hybrid generations that

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			combines the solar photovoltaic along with the Thermal power generations)
Solar Systems for Buildings	DERE0464	2015	Skill Development (Students will learn and develop the roof top solar generation system)
Solar Power Plant	DERE0465	2015	Skill Development (Students will learn the principle of solar power plant)
Decentralized and Smart Power Grids	DERE0466	2015	Skill Development (Students will learn the principle of solar power plant)
Solar Photovoltaic Laboratory	DERE0267	2015	Skill development (Students will gain the knowledge with hands-on; on different smart power grids like wind, solar by using relevant software & hardware tools)
Solar Thermal Laboratory	DERE0268	2015	Skill Development (Students will develop hands-on, on different solar related live product/project)
Quality Control and Reliability Engineering	MECC0101	2018	Skill development (The students can able to apply the concept of SQC in process control for reliable component production.)
Fluid Power Control	MECC0102	2018	Employability and Skill development (To impart knowledge to students on fundamentals of hydraulic and pneumatic power and their circuits with industrial applications.)
Introduction to Hybrid and Electric Vehicles	MECC0103	2018	Employability and Skill development (Students will acquire knowledge regarding the testing and performance of electric vehicles)
Renewable Energy Systems	MECC0104	2018	Skill (To have a knowledge of energy scene in India.To acquire the skill of analyzing and designing renewable energy systems.To expose the students about energy demand and supply situation in India.)
Manufacturing Technology 1	MECC0401	2017	Skill And Employability (Students will have Knowledge and Skills to Understand Actual Manufacturing Processes used in Industry and will be Able to Correlate a Specific Process with the Part / Component being

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Produced. Students will be Able to Select the Most Optimum Manufacturing Process for a Specific Product Design and Application.)
Manufacturing Technology 2	MECC0402	2017	Skill And Employability (Students will be Able to Do Process Planning, Develop CNC Part Programs. Students will have Knowledge and Skills to Operate CNC Machines.)
Design for Manufacturing	MECC0403	2017	Skill And Employability (Students will be able to select appropriate manufacturing technology and process to produce a product effectively with quality and optimized production cost.Students will have skills and knowledge to use softwares like CATIA, Novaflow and Solid CV, ProCAST, Flow-3D Cast, DEFORM-3D and PAM-STAMP 2G.)
Finite Element Analysis	MECC0404	2017	Skill And Employability (Students will be Able to Deploy Practical and Industrial Approach using FEA towards Solving Engineering Problems)
Digital Manufacturing	MECC0405	2017	Skill And Employability (Students will be able to use modern software like DELMIA-Quest (Dassault System) and Camtesia to conceptualise and create 3D factory layouts and optimise resource planning.Students will be able to do simulation of manufacturing processes using software tools.)
Fundamentals of Heat Engine	MECC0415	2018	Skill And Employability (Students will be able to test internal combustion engines for various performance parameters using engine test rigs.Students will be able to carry out emission tests using various types of fuels commonly used in internal combustion engines.)
Design of Thermal Energy Systems	MECC0407	2017	Skill And Employability (Students will be able to identify and select, design and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			implement appropriate thermal energy system corresponding to specific need.)
Mechanics of Machines	MECC0410	2017	Skill And Employability (Students will have knowledge and skills to analyse, design and develop mechanisms suiting specific applications. Students will have knowledge skills to study and understand working of complex mechanisms and machines enabling them to safely operate and maintain such installations)
Design of Transmission Systems	MECC0412	2018	Skill And Employability (To Enable the Students to Design Basic Transmission Elements using prior theoretical Knowledge)
Fluid Mechanics and Heat Transfer	MECC0414	2017	Skill And Employability (Students will be able to analyze and design various Equipment used in industry using principles of Fluid Mechanics and Heat Transfer)
Introduction to Automobile Engineering	DEAE0101	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Entrepreneurship Opportunities in Automobile Trade	DEAE0102	2018	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Maintenance of Automobile	DEAE0204	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Design of Basic Automobile Components	DEAE0205	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Subsystems of Automobile	DEAE0401	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Design and Maintenance of Electric Vehicles	DEAE0402	2018	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Jigs and Fixtures	DECM0101	2015	Employability and Skill development (Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			processes and machineries. Strengthens the Industrial-Institutional partnership.)
Process Planning and Cost Estimation	DECM0102	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Cylindrical Shape Component	DECM0201	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Conventional Machining for Prismatic Shape Component	DECM0202	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			processes and machineries. Strengthens the Industrial-Institutional partnership.)
CNC Machining	DECM0603	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improvemanufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Non-Traditional Machining and 3D Printing	DECM0604	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Wood Engineering	DECM0203	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Project	DECM0300	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Internship	DECM0800	2015	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Joining Processes & Technology	DEWD0403	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Arc Welding, Gas Welding & Brazing	DEWD0201	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Metal Transfer & Weld Metallurgy	DEWD0102	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Design of Welded Joints (CATIA)	DEWD0101	2015	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Welding of Stainless Steel, Aluminium, Copper, Cast Iron and Hard Surfacing	DEWD0603	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Testing of Welded Joints (DT, NDT & Microstructure)	DEWD0604	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)
Project	DEWD0300	2018	Employability and Skill development(This gives oppertunities for self employed by opening a small-scale welding shop to a medium scale industry.skill certification will make the candidate recognised in national and international levels in the industry as qualified welding inspector.)

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Basic Metallurgy	DEOC0134	2015	Employability and Skill development (Understand the correlation between processing, structure and properties of metals. Ensure production of metallic components for use in consumer or engineering products)
Power Plant Engineering	DEOC0131	2015	Skill development (Students will be able to work out the problems related to power plant engineering. Students will be able to understand the basics of power plant design.)
Power System Generation	DEOC0121	2015	Skill development (Students will learn the SKILL of generating electrical powers from different sources used in Power System)
Power Quality and FACTS	DEOC0123	2018	Skill development (Students will learn the SKILL of different power quality issues and flexible AC transmission systems)
Soft Computing Techniques - II	DEOC0124	2018	Skill development(Students will develop the SKILL related various techniques used in soft computing)
Basic Electrical Maintenance	DEOC0221	2015	Skill development(This course will enable students to safely undertake electrical maintenance of domestic and Industrial appliances)
Automotive Electrician	DEOC0222	2015	Skill development(Student will acquire the skills to identify and solve problems related to electrical parts (harness) of the vehicle)
Advanced Power Electronics	DEOC0421	2015	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications in Power Electronics by using relevent tools)
Electrical Drives	DEOC0422	2015	Skill development (Students will gain Functional skill set related to different DC & AC drives.)
Advance Control System	DEOC0423	2015	Skill development (Students will gain Functional skill related to control theory, Advanced process control (APC) that refers to a broad range of techniques and

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			technologies implemented within industrial process control systems
Instrumentation and Measurement	DEOC0424	2018	Skill development (Students will develop the SKILL about various bridges used to measure R, L, C and measuring instruments like Galvanometer, Potentiometer, CT & PT)
Advanced Structural Analysis	MTSE1101	2019	Skill development(• Skill in developing computer program for the structural analysis of two-dimensional frames. • To obtain some experience in the use of modern structural analysis programs.)
Structural Dynamics	MTSE1102	2019	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
Theory of Elasticity & Plasticity	MTSE1103	2019	Skill development(• Ability to apply the knowledge of mathematics, science and engineering with Elasticity concept to solve problems in two Dimensional Problems in Polar Coordinates. • To provide the students with basic skill of plasticity concept applicable in structural systems)
Architectural Design	MTSE1104	2019	Skill development(Provide skill with a well-educated workforce that is ready and able to perform valuable architectural and construction engineering and managerial services immediately after graduation The ideas / concepts learned in Basic Design and other related subjects have to be carried forward into the architectural design now envisaged. The exercises may be taken up as mentioned herein.)

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Bridge Engineering	MTSE1105	2019	Skill development(At the end of the course, the students have a skill to: • Design the slab culvert, Box culvert • Design the T beam bridge and substructures • Design the Bridge bearings • Design the steel bridge for railway)
Computer Graphics	MTSE1106	2019	Skill development(At the end of the course, the students have a skill and emplyobility to: Event driven I/O and callback programming & typical structure of an interactive, real-time computer graphics program ¨ 2&3D transformations, homogeneous co-ordinates, post-multiplication ¨ Modelling and instantiati)
Finite Element Method	MTSE1201	2019	"Skill development(• Enable the students to identify, formulate and skill to engineering problems related to one, two and three Dimensional structures subjected to static loads. • To show the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to wrong analysis)"
Concrete Technology	MTSE1202	2019	Skill development(• To study and understand various types of technology added in concrete • Have a skill to develop in design of various grades of concrete)
Research Methodology & IPR	MTRM1201	2019	Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Structural Engineering Lab	MTSE1203	2019	"Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)"
3D Modeling using ANSYS and CATIA	ISSE1205	2019	Skill development(Introduction to Engineering Design Different types of Numerical Methods & Applications, Practical Applications of FEA, Basics of finite element method (FEM),)
Design of Prefabricated Structures	MTSE0101	2019	Skill development(• Grasp of the construction methods using these elements have the skill of the construction methods using these prefabricated elements)
Renovation and Retrofitting of green structures	MTSE0102	2019	Skill development(By the end of this course students will have the skill /knowledge of • various distress and damages to concrete and masonry structures • the importance of maintenance of structures, types and properties of repair materials etc)
Advanced Construction Materials	MTSE0103	2019	Skill development(• To study the polymers in civil engineering construction • To study the corrosion of concrete in various environments)
Soil Dynamics and Geotechnical Earthquake Engineering	MTSE0104	2019	Skill development(Develop skill in applying theory of vibrations to basic facets of soil behavior under dynamic loading together with the exposure of the fundamental principles of wave propagation in engineering example)
Industry Internship and Project - I	MTIP2101	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Strong Work Ethic toward work, Positive Attitude towards work, develop effective Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Industry Internship and Project - II	MTIP2201	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen Strong Work Ethic toward work, Positive Attitude towards work, develop effective Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Traffic Engineering And Management	ISTE1101	2019	Skill development(• To learn traffic studies, their analysis and their interpretation. • To learn analysis of LOS. • To learn design of signal. • To learn transportation system management.)
Pavement Material Lab	ISTE1106	2019	Skill development(• To learn about characteristic of subgrade soil. • To learn about characteristic of road aggregates. • To learn about characteristic of paving grade bitumen. • To learn about characteristic of cement used in road construction.)
Traffic Survey Practice	ISTE1107	2019	Skill development(• Fieldwork using Hi-Tech surveying instruments .• Clistering using field traffic data .• Preparation of questionaries for OD survey
Pavement Analysis And Design	ISTE1201	2019	Skill development(• To learn about various factors affecting pavement design. • To learn about stress analysis of the

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			pavement. • To learn about various methods of flexible pavement design. • To learn about various methods of rigid pavement design.)
Traffic Safety	ISTE1203	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Survey Lab	ISTE1204	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Transportation Engineering Design Practice	ISTE1205	2019	Skill development(Gain knowledge about the software used in transportation like surface creation, surface profile and cross section of roads.)
Remote Sensing And GIS for Transportation Engineering	ISTE1207	2019	Skill development(• Ability to understand the basics and characteristics of remote sensing. • Ability to process remotely sensed data. • Ability to draw information from remotely sensed data.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			• Ability to understand the basics and application of GPS in transportation engineering)
Computer Applications toPower System Analysis	MTPS1101	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Non-Linear Control Systems	MTPS1102	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Micro Controller Application with PLC	MTPS1103	2019	Skill development (Students will gain Functional skill set with hands-on; on Micro Controller & Application of Micro Controllers in System Dynamic by using relevent software & hardware tools)
SCADA- Compatible with all PLC	MTPS1104	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Advanced Electrical in Automation	MTPS1105	2019	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications Such as Load Changing Automation in Power Networks by using relevent tools)
Sensors and VFDInterface to PLC and SCADA	MTPS1106	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Digital Control System Applied to Power System	MTPS1201	2019	Skill development (Students will gain Functional skill set with hands-on; on Digital Control System Applied to Power System by using relevent software & hardware tools)
Power System Dynamics & Stability	MTPS1202	2019	Skill development (Students will gain Functional skill set with hands-on; on Load

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Flow & Power System Dynamic Stability by using relevent software & hardware tools)
SCADA-Compatible with fixed brand of PLC	MTPS1203	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Distributed Control System	MTPS1204	2019	Skill development (Students will gain Functional skill set with hands-on; onDistributed Control System by using relevent software & hardware tools)
Power System Monitoring by HMI	MTPS1205	2019	Skill development (Students will gain Functional skill set with hands-on; on Power System Monitoring by HMI by using relevent software & hardware tools)
High voltage Engineering	MTPS0101	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Optimization Techniques in Power System	MTPS0102	2019	Skill development (Students will gain Functional knowledge with hands-on; on digital applications in power system techniques)
Digital Power System Applications	MTPS0103	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Power Quality Analysis	MTPS0104	2019	Skill development (Students will gain Functional knowledge of power quality)
Non-Conventional Renewable Energy	MTPS0105	2019	Skill development (Students will gain Functional knowledge with hands-on; on different RE electriccity generation process)
Renewable Energy System Integration with Grid	MTPS0106	2019	Skill development (Students will gain Functional knowledge with hands-on; on RE system integration with grid application in transformer workshop)

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Concepts of Smart Grid Technology	MTPS0107	2019	Skill development (Students will gain Functional knowledge with hands-on; onsmart grid system operation)
Distribution System Engineering	MTPS0108	2019	Skill development (Students will gain Functional knowledge on power distribution system)
Power System Security	MTPS0109	2019	Skill development (Students will gain Functional knowledge with hands-on; on system security in power system)
Digital Signal Processing Applicationsin Power System Protection	MTPS0110	2019	Skill development (Students will gain Functional knowledge with hands-on; of DSP power system protection)
Basic Engineering Chemistry	BTPH1101	2019	Skill Development (Demonstrate knowledge of fundementals of chemistry and application in context of biomolecules)
Basic Electrical Engineering	FCEL0101	2019	Skill Development (Demonstrate knowledge of basics of electerical engineering and introduction to industrial electercial equipments)
Basic Electrical Engineering Laboratory	FCEL0202	2019	Skill Development (Enhencing students skill on electerical equipments such as motor, transformers etc)
Basic Concepts of Ayurveda, Human Anatomy & Physiology	CCAY0101	2019	Skill (Students will learn about different organ systems of Human body and get introduction to ayurvedic system of medicine)
Basic Engineering Chemistry Laboratory	BTPH1201	2019	Skill Development (Demonstrate knowledge of fundementals of chemistry and application in context of biomolecules)
Workshop Practice	BTME0401	2019	Employability and skill development (Analyze the different applications of different shops.)
Mathematics Bridge Course	BTPH1102	2019	Skill Development (Solve simple mathematical problems wrt vector algebra, trignometry etc. for application in their field of engineering.)
Basic Electronics Engineering	FCEC0101	2019	Skill Development and Employability (Application of OPAMP in various purposes)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Basic Electronics Laboratory	FCEC0201	2019	Skill Development and Employability (Application of OPAMP in various purposes)
Engineering Physics	FCPH0102	2019	Skill Development (Delivered content on magnetism and its effect on electericity which is essential for maintinance and making motors, industrial equipments etc.)
Physics Laboratory	FCPH0202	2019	Skill Development (Hands on experience with LCR circuits, motors, phase calculations which is essential for maintinance and making motors, industrial equipments etc.)
IOT Enabled Systems	FCIT0101	2019	Skill (Create a basic skills for understanding of the communication protocols in IoT communications.)
Engineering Drawing	FCME0202	2019	Employability and skill development(Draw orthographic projection of solids like cylinders, cones, prisms and pyramids including sections.)
Automation and Mechatronics	DEME0401	2019	Skill Development and Employability (the importance of maintenance of structures, types and properties of repair materials etc)
Heat & Mass Transfer	BTME0405	2018	Skill development (understand the principles of heat conduction and convection, analyze the mathematical and practical aspects of heat exchangers)
Basic Electrical Engineering	BTEE0401	2018	Employability and skill development (Formulate and solve complex AC, DC circuits, know the requirement of transformers,explain electric power economics and energy management)
Refrigeration & Air-conditioning	BTME0406	2018	Employability and skill development (effect of different components on the refrigerating machines, different refrigerants and refrigeration equipments, able to designing of air-conditioning system and estimation of air-conditioning load)

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Microbiology of Dairy Products	BTDT0408	2018	Skill development and Employability (Students can go for higher studies (m.Tach and PhD) or can get job in quality control lab in dairy industry as a dairy microbiologist)
Human Nutrition	BTBS0402	2018	Skill development (Get the basic idea of milk and milk product nutrition, digestion, toxicants etc.)
Starter Cultures and Fermented Milk Products	BTDT0409	2018	Skill development and higher studies (Being the starter culture market has shown consistent growth over the years, students can move to higher studies and prefer dairy starter culture research as well as get appointed to related jobs in dairy industries).
Quality and Safety Monitoring in Dairy Industry	BTDT0410	2018	Employability and skill development (Being a research cum industrial based course, a student can opt for different types of jobs such as Quality Control Executive, Quality Analyst, Quality Assurance Supervisor as well as enhance their career in Quality Management in dairy plants).
Chemistry of Dairy Products	BTDT0412	2018	Skill development and employability (The course is mainly based upon laboratory chemical analysis and creating specifications for milk and milk products which will help the students to do higher studies in chemistry).
Evolution of Management Thought	MGGM1101	2011	Application of Basic mangement principles-Skill development
Basic Communication Skills	MGGM1102	2011	Competence in oral, written, and visual communication: Employability, Use current technology Practicals - Skill development
Data analysis through Microsoft Excel	MGDA1109	2019	Data Analysis using software- Skill development
Management Information Systems	MGIT1202	2011	Utilize Management Information Systems in achieving business competitive advantage - Employability, Entrepreneurship & Skill development

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Communication Perspective of Management	MGGM1206	2011	Write business proposals and reports- Employability, Entrepreneurship & Skill development
Management & Market Research	MGGM1207	2011	Understand how marketing research fits into the broader strategic planning process, with reference to existing theories, concepts and models from within the program: Employability & Entrepreneurship Plan and undertake qualitative or quantitative Market Research and demonstrate the ability to appropriately analyze data to resolve marketing issues: Skill Development
Aptitude and Career Enhancement-I (Practice)	MGGM1210	2014	Quatitative aptitude and logical analysis- Employability, Entrepreneurship & Skill development
Summer Internship Programme	MGGM1211	2011	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
Live Project	MGEL2401	2015	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
GIS and Participatory Planning	MGEL2403	2015	Identification of the resources needed, develop a project scope utilizing GIS technology- Skill development
Training and Development	MGHR2311	2011	Assess, design and implement various methods, techniques and sources of training- Employability & Skill development
Leadership Development	MGHR2313	2015	Develop critical thinking skills and lead the organization- Employability, Entrepreneurship
Rural Immersion Programme	MGRM2305	2015	Carry out participatory planning with the community, develop strategies for intervention - Employability & Skill development

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Sustainable Livelihood System	MGRM2306	2015	Introduce and train people on alternative livelihood options- Employability, Entrepreneurship & Skill development
Public System Management	MGRM2307	2015	Comprehend and apply the basic principles of public administration model - Employability, Skill development
Management Information Systems for Hospital	MGHM2302	2017	Analyze existing systems and design technology solutions appropriate to the hospital- Employability & Skill development
Management of Out-Patient Department	MGHM2303	2017	Deal the issues effectively in emergency services, can plan, organize and supervise the activities of Minor Operation Theatre, Manage treatments of referral & cross referral cases- Employability & Skill development
Patient Care and Behaviour	MGHM2311	2017	Motivate patients and instrumental in shaping positive attitude towards hospital, Carry out audit on patient behaviors, Handle the role of hospital administrator effectively- Employability & Skill development
Web Traffic Generation	MBDM2201	2017	Increase traffic in any website, Popularizing websites- Employability, Entrepreneurship & Skill development
Link Building & e-WoM	MBDM2202	2017	Increase links through web, Building relationships through the web- Employability, Entrepreneurship & Skill development
Mobile & E-Mail Marketing	MBDM2208	2017	Ability for technology adoption, various devices, changing nature of services and ecosystems - Skill development
Search Engine Optimization	MBDM2209	2017	Able to improve sales volume through search engine optimization - Skill development
Search Engine Marketing	MBDM2210	2017	Abile to improve sales volume through Google AdWords and other elements of Search Ad - Skill development

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Technology of e-Commerce	MBDM2211	2017	Able to integrate distributed database technologies within the internet architecture - Skill development
Online Reputation Management	MBDM2212	2017	Ability to give a structure of quality websites and portals - Skill development
Affiliate Marketing	MBDM2213	2017	Able to structure quality web designing for affiliate marketing - Skill development
Web Content Writing	MBDM2214	2017	Ability to develop creativity and creating quality content- Skill development
Total Quality Management	MGOM2311	2011	Use statistical approach for quality control, ISO and QS certification process- Employability, Entrepreneurship & Skill development
Business Process Re-engineering & Simulation	MGOM2307	2011	Model and develop improved business processes that require IT and organizational redesign- Skill development
Enterprise Resource Planning	MGOM2308	2011	Develop Generic Model of ERP and Implementation of General ERP Methodology- Employability, Entrepreneurship & Skill development
Data analysis through Microsoft Excel	MGDA1109	2019	Data Analysis using software- Skill development
Data base & Data warehouse	MGDA1110	2019	Able to make better business decisions by using Data warehousing business intelligence tool- Skill Development
Data Visualisation with Power BI and Tableau	MGDA1216	2019	Able to represent data visualization for business analytics- Skill development
Python	MGDA1217	2019	Can use Python for data analysis and visualization.- Skill Development
R Programming	MGDA1218	2019	Use R programming for statistical computing and graphics to clean, analyze, and graph data. - Skill Development
Artificial Intelligence, Machine learning & Unstructured Data analytics	MGDA1221	2019	Make data-driven recommendations and decisions based on only the input data- Skill Development

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Skill Ecosystem Development	MGDM0104	2018	Appraise the skill ecosyetm and its dimensions - Employability
Development Internship	MGDM0802	2017	Skills to appraise concepts at real time situations-Skill development
Development Action Research Thesis	MGDM0301	2018	To develop writing and analytical skills-Skill development
Agriculture Action Research Thesis	MGAM0301	2018	To develop writing and analytical skills-Skill development
IT Enabled Communication	MGDM 1103	2014	Use IT tools for effective communication - Skill development
Financial Inclusion and Micro-finance	MGDM 2303	2014	To appraise the scenario of financial inclusion in the country , acquire skills to opearte in Micro Finance sector - Employability, Entrepreneurship
Agricultural Internship	MGAM0802	2014	To apply and evaluate the learned concepts, theories at real time situations-Skill development
Computer application in Business	BBAR1105	2016	Identify and utilize appropriate technology for effective decision-making and improved performance- Skill Development
MS EXCEL	BBAR1205	2016	Use Microsoft Excel for data analysis-Skill Development
Tally and ERP	BBAR2205	2016	Preparation of financial statement of different types of organisations with Tally: Skill development
Summer Internship	BBAR3103	2015	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
SPSS	BBAR3203	2016	Use SPSS for analyzing data and define a variety of statistical variables-Skill Development
Consumer Behaviour	BBAM3101	2016	Apply the concepts and theories covered in the course to devise effective solutions: Skill Development
Research Project	BBAH3108	2016	Knowledge and skills in preparing a project report- Employability, Entrepreneurship

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Research Project	BBAB3108	2016	Project writing skills and utilization of research methodologies in a project-Employability, Entrepreneurship
Tally.ERP 9	BBAR2109	2017	Preparation of financial statement of different types of organisations with Tally: Skill development
Advanced Excel	BBAR2208	2017	Utilize advance features of Ms-excel in the day to day activities of the business,alsofor improved decesion making and performance- Skill development
On Job Internship-I	BBAR3111	2017	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
On Job Internship-II	BBAR3211	2017	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
Communication Research Methods	MAMC1101	2018	Analyse data with techniques of social science, media research - Skill development
Introduction to Print & Electronic Media	MAMC1102	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development and Employability
Society, Media and Communication	MAMC0501	2018	Skill development and Entrepreneurship; Competence on the media business, its functioning and gemerate idea on inter relationship between media and society.
Cultural Studies	MAMC0903	2016	Skill development; Competence in the process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures
Advanced Digital Media	MAMC1103	2018	Students will be able to Competence skills in mordern media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. - Skill development and Employability

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Film studies	MAMC1105	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film-Employability
Animation	MCDE0601	2016	Ability to create quality animation performance through a creative and professional portfolio using principles of animation. Will help in Employability and Skill development
Radio Jockeying	MCDE0602	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.
TV Anchoring	MCDE0603	2016	Skill development in the aggregate capacity to develop the skills of a Television Anchor.
Fashion Photography	MCDE0604	2016	Skill development: Developing competency for professional fashion photography.
Camera Operator	MCDE0605	2018	Skills development and Employability in camera handling and planning and producing programs for television and Photography.
Video Editor	MCDE0606	2018	Skill development in television field and its functioning. Build the ability to develop and demonstrate strategic plans and planning methods in television content production.
Web Content Development	MCDE0607	2016	Skill development and Entrepreneurship: Competence in Content development for web site or degital media.
Sound Engineer	MCDE0608	2018	Skill development on sound editing with defferent software.
Adobe tools and Illustrations	MCDE0609	2018	Work on Adobe Illustrator in the beginner level, and on graphics designing. Skill Development and Employability
Communication in History and History of Communication	MCFC0501	2016	Utilise the skill in communication of the stucents- Skill development and students can able to work in new communication technologies at different points of time-Employability/
Introduction to Communication Theory	MCCC0101	2016	Use the Communication skill and able to differentiate between different forms and types of communication and Competence

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			of audience research traditions.-Skill development
Introduction to Print and Electronic Media	MCFC1101	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development
Media, Communication and Culture	MCFC 0902	2016	Enhance the skill of student can analyse process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures-Skill development
Electronic Media	MCCC1102	2018	Students can develop their skills in in TV/Radio/ Digital media plateforms.
Development Communication	MCCC0904	2016	Students will make strategy designing and campaign designing skill and able to develop contents for development purposes.-Skill development
Intercultural Communication	MCCC0905	2016	Competence on intercultural communication and culture influences the communication process across societies and the role of culture to influence nonverbal communication-Skill development
Gender and Communication	MCCC0906	2016	Students will enhance their skill and able to raie gender issues and role of media in it-Skill development
Film Studies	MCCC1103	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film as an art. -Skill development, Employability
PR and Advertising	MCCC1104	2018	After studying this paper student will be able to employ Public Relations and Advertising industry and its functioning-Employability and Skill Development
Digital Media	MCCC1105	2018	Students will be able to develop skills in new media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. Employability and Entrepreneurship

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Final Project	MCCC0301	2016	Skill development;Analysing Media issues and analysis of media content.
Mathematical Physics	MSCP1101	2017	Skill - Tensors: Tensor analysis, Pseudo-tensors, Dual tensors. Gamma function and Beta Function, Fourier Transforms:Fourier Transforms, Properties of Fourier Transforms, Convolution Theorem. Partial differential equations (PDEs):Second order PDEs, Classification of PDEs, Laplace equation, Fourier's Heat flow equation, Wave equation. Green's Functions: One-dimensional problems, Qualitative idea of Green's functions in 2- and 3-dimentions.
Modern Physics Lab	MSCP1105	2017	Skill - Practice course
Computational Physics	MSCP1203	2017	Skill - Learning several numerical differentiation and integral methods to solve physical problems. Problems are solved using programming.
Computational Physics Lab	MSCP1204	2017	Skill and employability - Learning simulation and solving problems using programming.
Electronics Devices Lab	MSCP1205	2017	Skill - Experiments done on electronic devices like Junction Diodes, Zener Diode, BJT, FET, OPAMP, Rectifiers circuits etc.
Microprocessor lab	MSCP2306	2017	Skill - Microprocessors Lab
Materials Lab I	MSCP2307	2017	Skill - Materials Lab I
Electronics simulation Lab	MSCP2402	2017	Skill - Electronics simulation lab.
Materials Lab II	MSCP2405	2017	Skill - Materials lab II, Employability - synthesis of materials, Analysis of dielectric properties of a material, Analysis of electrical properties of a material. Analysis of AC and DC conductivity of a material

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Project/Dissertation	MSPP2401	2017	Skill - project work, writing a report, writing a research article.
Seminar I	MSPS2301	2017	Skill - Learning to develop a PPT and improving communicaiton skill.
Seminar II	MSPS2401	2017	Skill - Learning to develop a PPT and improving communicaiton skill.
Introduction to Research	MSRM5101	2017	Skill - Research Process, Data Analysis, Building Mathematical Models, Documentation and Presentation.
Polymer Chemistry	MSCC1104	2019	Employbility-Kinetics of melting, crystal morphology, free volume, distribution of molecular size, stoichiometric imbalance. X-ray diffraction study, Microscopy,Price - Alfrey equation, Flory - Huggins theory, polymer fractionation, Mark - Houwink - Sakurada equation, diffusion coefficient and friction factor,Power Law for pseudo plastic liquids, effect of shearing forces, segmental friction factor, Bueche theory. Skill-Thermal analysis and physical testing,Polymer Processing-I&II,Elastic deformation, shear modulus and compliances, Maxwell model, Voigt model, dynamic viscoelasticity, molecular theory for viscoelasticity - Rouse model,Mechanical properties
Chemistry Laboratory 1	MSCC1105	2019	Skill-Inorganic Chemistry Practical-I,Organic Chemistry Practical-I
Advanced Inorganic Chemistry II	MSCC1202	2019	Employbility-Metal n -Complex,Metal Clusters,Organometallic Chemistry I &II . Skill-Symmetry and Group Theory in Chemistry-III.
Chemistry Laboratory 2	MSCC1205	2019	Skill-Organic chemistry practical-III
Water Quality Analysis	SBFE3127	2019	Skill- Water Quality Analysis

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Pharmaceutical Chemistry	MSCC1001	2019	Skill-Pharmaceutical Chemistry
Clinical Practice lab	SBFE3152	2019	Skill-Clinical Practice Lab
Analytical Chemistry	MSCC1002	2019	Skill-Analysis of soil,food products,Chromatography
Advanced Inorganic Chemistry III	MSCC2301	2019	Skill-Instrumental Method of Analysis,Raman Spectroscopy,Homogeneous and Heterogeneous Catalysis,Displacement and Isomerization reaction. Hydrogenation, Hydroformylation, Wacker (Smidt) Process, Olefin Metathesis, Fischer-Tropsch synthesis, Zeigler-Natta polymerization, Water gas reaction Employbility-Mechanism of Substitution Reactions,Electron Transfer Reactions
Advanced Physical Chemistry III	MSCC2303	2019	Employbility-Electronic spectra of molecule,Electronic spectra of diatomic molecules,Electronic spectra of polyatomic molecules. Skill-Nuclear Magnetic Resonance Spectroscopy,Fluorescence,Data analysis
Advanced Solid State Chemistry	MSCC2304	2019	Employbility-Bonding in Solids,of solids-band theory,Mechanical Properties of Solids,Organic Solids. Skill-Diffraction Methods,Neutron Diffraction
Chemistry Laboratory 3	MSCC2305	2019	Skill-Physical Chemistry Practical
Green Chemistry Lab	MSCC2306	2019	Skill-Green Chemistry Lab
Advanced Organic Spectroscopy	MSCC2401	2019	*Skill-Ultraviolet Spectroscopy,IR Spectroscopy,IR Spectroscopy-II ,Nuclear Magnetic Resonance Spectroscopy-I&II,Mass Spectrometry,Structural problems based on combined spectroscopic techniques.*

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Seminar	MSCS2401	2019	Skill-To creat a research mind in students
Chemistry Laboratory 4	MSCC2403	2019	Skill-Instrumental Methods of Analysis Lab
Biovia project	MSBV0301	2019	Skill -Students will know simulation,design of a drug molecules/materials and it's characteristic analysis by using biovia softawre
MATHEMATICAL MODELLING	MSMA 4701	2017	Skill- Mathematical modelling through ordinary differential equations of first order. Employability - Mathematical modelling through the systems of ordinary differential equations
PARTIAL DIFFERENTIAL EQUATION-II	MSMA 4704	2017	Skill- Eigen value Problems Employability - The Cauchy Problem, The method of Separation of Variables
ADVANCED CALCULUS	MSMA 4802	2017	Skill- Derivatives of functions on Rn, Differentiation of composite functions Employability - Set functions, Transformations and Multiple integrals
TENSOR ANALYSIS	MSMA 4805	2017	Skill- Riemann Geometry Employability - Tensor Algebra, Applications of Tensor methods to surface Geometry.
OPERATION RESEARCH – II	MSMA 5104	2017	Skill- Graphical method for 2 X n and, m X 2 matrix games Employability - Second order optimality condition, Lagranges method
STATICS & DYNAMICS	DEHD0101	2017	Skill- To develop in students the ability to analyze dynamics problems in a simple and logical manner through the application of several basic principles.
INTRODUCTION TO HYDRODYNAMICS	DEHD0102	2017	Skill- To develop the knowledge and comprehension of basic principles of hydrodynamics.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
MAT LAB Programming for Numerical Computation	DEHD0401	2017	Skill- To develop the computational methods to solve the Applied Science problems using MATLAB
NUMERICAL SOLUTION OF HYDRODYNAMIC PROBLEMS USING MATLAB	DEHD0201	2017	Skill- To develop the knoledge of numerical solution of Basic Hydrodynamics Problems
COMMUNICATIVE ENGLISH AND WRITING SKILL	BSMA2001	2017	skill- Effective oral and written communication
FORTRAN-95 PROGRAMME	BSMA2002	2017	skill- Learn fundamental concepts of FORTRAN-95 and able to translate scientific and engineering problems into machine understandable.
MAT LAB	BSMA2003	2017	skill- Write systems of equations in matrix form
Plant Diversity	MSBO1102	2017	Higher studies/Skill-Pursue higher studies and enhance their skill on culture, maintenance of cyanobacteria, use of cyanobacteria as biofertilizer, algae in the environment, agriculture, biotechnology and industry
Botany Laboratory-I	MSBO1105	2017	Employability/Skill-Acquire general idea on instruments used in microbiology laboratory
Genetics and Molecular Biology	MSBO1201	2017	Higher studies/Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing.
Biostatics and Instrumentation	MSBO1203	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy and data analysis using chi square test, student t test etc.
Botany Laboratory-II	MSBO1205	2017	Skill-Gain practical knowledge on molecular biology, physio and biochemical analysis; skill on statistical analyses and water quality parameters

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Natural Resource Management and Utilization	MSBO2302	2017	Skill/ Employability- Bioresource management.
Embryology and Anatomy	MSBO2303	2017	Skill-Gain practical knowledge on anatomical identifications of plant parts
Botany Laboratory-III	MSBO2305	2017	Skill-Acquire practical knowledge on economic crops; learn media preparation and sterilization methods for micro propagation
Scientific visit	MSBP2301	2017	Skill- Observe and get knowledge on various fields of research in science in different scientific organization.
Seminar	MSBS2401	2017	Skill-Build up confidence to present their research paper in Conferences/Seminars
Bio-fertilizer	MSLS1001	2017	Skill- Isolation of Rhizobium or Aztobacter from plant root nodules& rhizosphere, Identification of soil cyanobacteria from different soil samples. Preparation of culture media. Crop development using azolla as abiofertiliser.
Tools and Techniques in Biosciences	MSLS1002	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy etc.
Phytochemistry and Pharmacogonsy	MSLS1003	2017	Skill- Practice oh phytopharma, plant based drug discovery and secondary metabolite isolation.
Apiculture	MSLS1004	2017	Skill- Study of chamber of honey box, honey bee culture..Honey extraction and analysis of population of honey bee
Medical Diagnostics	MSLS1005	2017	Skill-Perform experiment on stool ,sputum and semen ,urine, blood analysis and and problem solution.
Animal Diversity	MSZO1101	2019	Skill - Protozoan parasites in brief (Trypanosome, Plasmodium), Canal system in Sponges, Coral reef formation and significance, Water vascular system in Echinoderms, Flight adaptation in Birds General

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			characters of Prototheria and Metatheria, Adaptive radiation in mammals.
Zoology Laboratory-I	MSZO1105	2019	Skill - 1. Study of Museum Specimen 2. Preparation & mounting of Microscopic Slides 3. Taxonomical practice of various species 4. Estimation of DNA 5. Estimation of RNA 6. Separation of proteins, lipids & nucleic acids from tissues and their quantification 7. Isolation of genomic DNA from animal tissue/blood 8. Agarose gel electrophoresis of DNA 9. SDS PAGE (Demonstration) 10. Microscopy, Microtomy and Histological techniques. 11. Isolation of Mitochondria 12. WBC & RBC counting 13. Estimation of haemoglobin 14. Study of slides of endocrine glands 15. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Comparative Anatomy of vertebrates	MSZO1201	2019	Skill - Comparative account of respiratory organs.Comparative account of Digestive System. Evolution of heart.Evolution of aortic arches and portal systems. Blood circulation in various vertebrates groups Comparative anatomy of brain and spinal cord (CNS).Comparative account of peripheral and autonomous nervous system.Comparative account of lateral line system. Comparative account of electroreception, Flight adaptations in vertebrates' Comparative account of lateral line system
Microbiology	MSZO1202	2019	Skill - General features of Archaea, Structure, Nutrition and Reproduction of Eubacteria, Genetic recombination in bacteria (Transformation, Conjugation and

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			Transduction), General features and pathogenecity of mycoplasma, Rickttsia and Spirochaetes.Plant virus- TMV, structure, transmission, pathogenicity and replication Animal viruses - HIV, structure, transmission, pathogenicity and replication Treatment and prevention by anti-virals and vaccine,, Microbial toxins: types, mode of actions and pathogenicity. Bacterial toxins: Endo and exotoxins, fungal toxins: toxins of Aspergillum, Penicillium, Fusarium and Alternaria Algal toxins: cyanotoxins and dinotoxins. Chemotherapeutic agents: antibiotics and their mode of action; bacterial drugs (Penicillin, fluoroquinolones, tetracycline and aminoglycosides)
Genetics	MSZO1203	2019	Skill - Sex chromosomes, Chromosomal sex determination: XX-XY, XX-XO and ZZ-ZW systems, Compound sex chromosome, Meiotic behaviour of chromosomes: Primary & Secondary non-disjunction, Genic balance theory of sex determination, Sex determination in humans and Drosophila with special reference to SRY and sex lethal genes, Sex determination in plants with special reference to Melandrium, Linkage groups: Complete and incomplete linkage ,Crossing over: Relationship between genetic and cytological crossing over, Relationship between crossing over and chaisma formation, molecular mechanism of crossing over, Mitotic Recombination, Recombination within gene. Structural and numerical alterations in chromosomes: Spontaneous and induced mutations, physical and chemical mutagens,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			chromosomal aberrations, meiotic behavior of deletion, duplication, inversion and translocation. Euploids and aneuploids- classification, origin, induction, role of polyploidy in evolution and practical significance in crop improvement.
Zoology Laboratory-II	MSZO1205	2019	Skill - 1. Study of Museum Specimen 2. Study of anatomical slides 3. Detection of genetically disorder. 4. Estimation of gram +ve &–ve bacteria 5. Method & techniques of Bacterial culture 6. Study of immunological method 7. Study of different Parasiticforms. 8. Identification of parasitic forms 9. Antigen-Antibody Interaction (Haemoagglutinationassay) 10. Identification of histological slides of lymphoid tissue 11. Immunization Protocol Demonstration of Thioglycolate induced peritonitis (cell infiltration and Inflammatory exudates) 12. Sessional work (Internal evaluate)
Physiology & Endocrinology	MSZO2301	2019	Skill - The heart: cardiac cycle & its regulation, pulmonary ventilation, respiratory surface & gas exchange, regulation of respiration, transport of gases, acid base balance. Excretory system: Urine formation, glomerular filtration, tubular function, renal Mechanism of concentrating & diluting urine General organization of central nervous system, Type of neuronal cells, Structure and function of neuron and glia, Chemical messengers, Hormones & their feedback systems, Mechanism of hormone action (fixed membrane-and mobile receptor mechanisms), hormonal signalling, Pineal, Thymus &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			gastrointestinal hormones, Anatomy, chemistry and biological action of adenohypophysial

& neurohypophysial hormones, Thyroid gland: Anatomy, biosynthesis & function of thyroid hormones, Parathyroid gland: Anatomy & function of parathyroid hormone.

Endocrine pancreas: Anatomy, Biosynthesis, chemistry & functions of pancreatic hormones, Adrenal gland:

Anatomy, biosynthesis, functions of cortical & medullary Hormones, Gonads: Anatomy and biological actions of gonadal hormones. |
| Animal Biotechnology | MSZO2302 | 2019 | Skill - Animal cell and tissue culture technology: Cell culture laboratory design and equipment, Media and reagents,

Different types of cell culture, application, scale up Biotechnology in improvement of livestock: Fish breeding,

Androgenises and Gynogenesis in fish, Polyploidy in fish, Gene manipulation in aquaculture.

Reproductive biotechnology: Cryopreservation and Cryoprotection and gamete banking, Assisted reproductive technology, In vitro fertilization and embryo transfer, ICSI, Sperm sexing, Vermi-culture and Vermicomposting for alternative sustainable agriculture. Soil fauna in soil formation & fertility, Organic farming, Fish culture in flow through |

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			system and recirculation technology., Medical Biotechnology: Disease diagnostic markers, Gene therapy, Mechanism of gene therapy (antisense, virus mediated, immunotherapy, stem cell therapy), Drug delivery and targeting, Forensic Biotechnology,
Quantitative Biology & wild life	MSZO2304	2019	Skill - Biodiversity: concept and principal of biodiversity, causes for the loss of biodiversity, Biodiversity conservation methods, Medicinal uses of forest plant. Wildlife of India, types of wildlife, Values of wildlife, positive and negative, Wildlife protection Act Conservation of wildlife in India, Endangered and threatened species, Wildlife and conservation, National Parks and Sanctuaries, Project Tiger, Project Gir Lion and Crocodile breeding project, Wildlife in M.P. with references to Reptiles Birds and mammals, Biospheres reserves.
Zoology Laboratory-III	MSZO2305	2019	Skill - 1. Study of T.S,V.S,L.S of different mammalian organ 2. Detection of protein ,carbohydrate, lipid 3. Tissue culture 4. Gel Electrophoresis, Blotting 5. DATA interpreting 6. Estimation of toxic in Water Sample 7. Various tools & techniques 8. Estimation of DNA 9. Estimation of RNA 10. Separation of proteins, lipids & nucleic acids from tissues and their quantification 11. Isolation of genomic DNA from animal tissue/blood 12. Agarose gel electrophoresis of DNA 13. SDS PAGE (Demonstration) 14. Microscopy, Microtomy and Histological techniques. 15. Isolation of Mitochondria9. WBC & RBC

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			counting 16. Estimation of haemoglobin 17. Study of slides of endocrine glands 18. Chromatographic separation of biomolecules (Amino acids /sugars/lipid)
Developmental Biology	MSZO2401	2019	Skill - Primordial germ cells, Spermatogenesis, Oogenesis, Fertilization: Ultrastructure of sperm and ovum, biochemical aspects of fertilization, Cell-cell interaction and cell signalling during morphogenesis in early embryo:, Ageing: Mitochondrial control of ageing, insulin pathway control of ageing and possible relation to oxygen radicals, "Ageless" animals and environmental control of ageing, senescence & cell death, Application of developmental biology in medicine and animal husbandry: In vitro fertilization and embryo transfer, embryo sexing, Gene expression and human disease: Inborn errors of nuclear RNA processing, inborn errors of translation, Teratogenesis: Environmental assaults on human development, teratogenic agents like alcohol, retinoic acid etc.
Instrumentation & Biophysics	MSZO2402	2019	Skill - Principle of operation and Instrumentation of Light, Fluorescence and Electron Microscopes Ultraviolet-visible absorption spectroscopy: Principle, Instrumentation and application, Fluorescence spectrophotometry: Principle, Instrumentation and application Radioisotope techniques: Nature of radioactivity, isotopes in biochemistry, measurement of radioactivity (carbon dating, Geiger-Muller counting and liquid scintillation counting).Principles of electrochemical techniques: Electrochemical cells and reactions,

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			potentiometry and voltametry, the pH electrode. Centrifugation techniques: Basic principles of sedimentation, Types of centrifuges, Types of rotors, Methods in preparatory ultracentrifugation (differential and density gradient centrifugation). Chromatographic techniques: Principles of chromatography (Adsorption and Partition chromatography), planar chromatography (Paper and Thin-layer chromatography), Column chromatography (Gas chromatography, Gel exclusion/permeation chromatography, Ion exchange chromatography, Affinity chromatography, HPLC). Electrophoretic techniques: General principles, support media, electrophoresis of proteins (SDS-PAGE, native gels, gradient gels, isoelectric focusing gels and two dimensional gels), electrophoresis of nucleic acids (Agarose, pulse-field and sequencing gels). Blotting techniques (Southern, northern and western blotting). Biophysics: pH meter and measurement of Ph, Paper chromatography of amino acids, mixtures, identification of unknown amino acids and sugars, Gel filtration chromatography (Separation of starch from glucose), Thin layer chromatography of amino acids and sugar, Serum electrophoresis, Determination of absorption coefficient and concentration of unknown solutions by calibration curve using a coloured solution, Absorption spectrum of a coloured solution (KMnO4), Drawings using camera lucida
English	BSFL1101	2016	Skill - Communication, Communicative Grammar, Sounds of English

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Mathematical Physics-1	BSPH1101	2016	Skill - Practice using programming in C.
Mechanics	BSPH1102	2016	Skill - Mechanics Lab
Thermal Physics	BSPH1201	2016	Employability - Laws of Thermodynamics, Carnot engine & efficiency. Carnot's Theorem. Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence. Applications of Second Law of thermodynamics, Entropy, Thermodynamic Potentials, Kinetic Theory of Gases, Molecular Collisions, Real Gases. Skill- Thermal Physics Lab
Waves and optics	BSPH1202	2016	Employability - Interferometer, Diffraction grating. Resolving power of grating, Fresnel's half-Period Zones Skill - Waves and Optics Lab.
Mathematical Physics II	BSPH2301	2017	Skill - Practice using Scilab leads to computational skill.
Electricity and Magnetism	BSPH2302	2017	Employability - Magnetic Properties of Matter, Magnetization, Electromagnetic Induction, Electrical Circuits, Network Theorem. Skill - Electricity and Magnetism Lab
Analog systems and Applications	BSPH2303	2017	Employability - Semiconductor Diodes, Two-terminal Devices and their Application, Amplifiers, Applications of Op-Amp. Skill - Analog Systems and ApplicationsLab
Mathematical Physics III	BSPH2401	2017	Skill - Develop the skill of solving mathematical problems using Scilab.
Elements of Modern Physics	BSPH2402	2017	Employability - Radioactivity, Fission and Fusion, Lasers. Skill - Elements of Modern Physics Lab
Digital systems and Applications	BSPH2403	2017	Employability - CRO uses, Integrated Circuits, Digital Circuits, Data processing circuit, Microprocessor Architecture. Skill - Digital system Lab

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Quantum Mechanics & Applications	BSPH3501	2017	Employability - Schrodinger equation and its solution, its application, hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Many electron atoms. Skill - Learn to solve quantum problems through computational methods
Solid State Physics	BSPH3502	2017	Employability - Magnetic properties of materials, dielectric properties of materials, superconductivity. Skill - Solid state physics lab
Electro-magnetic Theory	BSPH3601	2017	Skill - Electromagnetic lab.
Statistical Mechanics	BSPH3602	2017	Skill - Learn to solve statistical physics problems through computational methods
Experimental Techniques	BSPH3503	2017	Employability - Experiments are done on, Thermostat, ultrasonic transducer, Calibrate Semiconductor type temperature sensor (AD590, LM35, or LM75), Create vacuum in a small chamber using a mechanical (rotary) pump and measure the chamber pressure using a pressure gauge, design and study the Sample and Hold Circuit, Design and analyze the Clippers and Clampers circuits using junction diode etc enables them to become Lab Technician. Enterprenuership - Transducers & industrial instrumentation, Digital Multimeter, Sensors Skill - Experimental Techniques Lab
Embedded systems-Introduction to Microcontroller	BSPH3504	2017	Employability - Embedded system, microprocessors, 8051 microcontroller, 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development. Enterprenuership - 8051 I/O port programming, Interfacing 8051 microcontroller to peripherals, Embedded system design and development.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Skill - Embedded System: Introduction to Microcontrollers Lab.
Physics of Devices and Communication	BSPH3505	2017	Employability - Physics of Devices, Power supply and Filters, Phase detector , Processing of Devices, Digital Data Communication, communication systems. Skill - Physics of Devices and Communications Lab
Advanced Mathematical Physics-I	BSPH3506	2017	Skill - Advanced Mathematical Physics lab
Advanced Mathematical Physics-II	BSPH3507	2017	Employability - Enterprenuership - Skill -
Applied Dynamics	BSPH3603	2017	Employability - Dynamical systems, Chaos and Fractals, Fluid Dynamic Skill - Applied Dynamics lab
Communication System	BSPH3604	2017	Employability - Communication and Navigation systems, Satellite Communication, Mobile Telephony System, mobile communication network, Enterprenuership - Mobile Telephony System, mobile communication network, Skill - Communication Electronics Lab
Astronomy and Astrophysics	BSPH3606	2017	Employability - Astronomy and Astrophysics Skill - Astronomical Scales, Astronomical techniques, Stellar spectra and classification Structure
Dissertation	BSPH3607	2017	Employability - Project work Skill - Project work
Physics Workshop Skills	BSPH2001	2017	Skill - Experiments are done to learn different measurement methods, different types of welding, drilling, cutting metal sheets, milling, drilling etc. Learn to work with several electrical circuits and instruments.
Computational Physics Skills	BSPH2002	2017	Skill - Programming using FORTRAN

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Electrical circuits and Network Skills	BSPH2003	2017	Skill - Experiments done to understand and analyse circuits and networks, to design circuits and networks involving various electrical instruments.
Basic Instrumentation Skills	BSPH2004	2017	Skill - Designing and implementing systems utilizing analog / digital control devices and learn to take measurements using digital and analog instruments. Experiments are done to larn about CRO, Q meter, LCR circuit and Oscilloscope.
Applied Optics	BSPH2005	2017	Skill - Learning about different light sources, detectors, holography and photonics.
Inorganic chemistry-I	BSCH1101	2019	Skill- Wave mechanics and Inorganic Chemistry-I Lab , enterperneurship-Atomic Structure-2,Periodicity of Elements-1&2, Employability-Chemical Bonding-1&2, Oxidation-Reduction
Physical Chemistry-I	BSCH1102	2019	Employability-Gaseous state 1 &2 ,enterperneurship-Liquid state:,gaseous state-3,Solid state,Ionic Equilibria-1&2, Skill-bravis lattices,Qualitative treatment of acid - base, Physical Chemistry Practice
Organic Chemistry-I	BSCH1201	2019	Employability-Basics of Organic Chemistry,Stereochemistry,Chemistry of Aliphatic Hydrocarbons,Carbon-Carbon pi bonds,Electrophilic aromatic substitution , skill-Cycloalkanes and Conformational Analysis,Organic Chemistry Practice
Physical Chemistry-II	BSCH1202	2019	Employability-Chemical Thermodynamics,Second Law of Thermodynamics,Third Law of thermodynamics,Systems of Variable Composition,Dilute solutions . Enterperneurship-Chemical Equilibrium,Thermochemistry. Skill-Physical Chemistry-II Practice
Inorganic chemistry-II	BSCH2301	2019	Skill-General Principles of Metallurgy-1,-Inorganic Chemistry Practice.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Employbility-Acids and Bases,Chemistry of s and p Block Elements-1,Boric acid and borates, boron nitrides, borohydrides (diborane) carboranes and graphitic compounds, silanes,Chemistry of s and p Block Elements-3,preparation and properties of Clathrates, Inorganic Polymers .
Organic Chemistry-II	BSCH2302	2019	Employbility-Chemistry of Halogenated Hydrocarbons-1&2, Organometallic compounds ,Alcohols, Phenols, Ethers and Epoxides,Carbonyl Compounds 1&2, Carboxylic Acids and their Derivatives. Skill-Organic Chemistry Practice
Physical Chemistry-III	BSCH2303	2019	Employbility-Phase Equilibria-1 &2, Chemical Kinetics-2,Catalysis,Surface chemistry. Skill-Nernst distribution law, Physical Chemistry Practice.
Inorganic Chemistry-III	BSCH2401	2019	Employbility-Coordination Chemistry-1&2,Transition Elements,Lanthanoids and Actinoids. Skill-separation of lanthanides, Bioinorganic Chemistry-1,2 and Inorganic Chemistry Practice
Organic Chemistry-III	BSCH2402	2019	Employbility-Nitrogen Containing Functional Groups,Heterocyclic Compounds-1&2 ,Alkaloids-1. Skill-Alkaloids-2 &3, Organic Chemistry Practice
Physical Chemistry-IV	BSCH2403	2019	Employbility-Electrical & Magnetic Properties of Atoms and Moleculesand Application . Skill-Electrochemistry :II, Physical Chemistry Practice. Enterperneurship-Electrochemistry :I
Organic Chemistry-IV	BSCH3501	2019	Employbility-Nucleic Acids,Amino Acids,Peptides,Enzymes,for transfer of electrons in biological redox systems .Skill-Lipids,Pharmaceutical Compounds, Organic Chemistry Lab
Physical Chemistry-V	BSCH3502	2019	Employbility-Molecular Spectroscopy,Raman spectroscopy,Nuclear

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Magnetic Resonance (NMR) spectroscopy,Photochemistry. Skill-Physical Chemistry Practice
Inorganic Chemistry-IV	BSCH3601	2019	Employbility-General methods of preparation of mono and binuclear carbonyls of 3d series,Zeise's salt,Study of the some industrial processes and their mechanism.Skill-Inorganic Chemistry Practice
Organic Chemistry-V	BSCH3602	2019	Employbility-Organic Spectroscopy,Carbohydrates,Dyes,Metallocene-based Ziegler-Natta polymerisation of alkenes. Skill-Polymers Introduction and classification ,IR Spectroscopy,NMR Spectroscopy,Organic Chemistry Practice
Industrial Chemicals and Environment	BSCH3503	2019	Employbility-Industrial Gases and Inorganic Chemicals,Inorganic Chemicals,Energy & Environment,Biocatalysis. Skill-Environment and its segments, Water Pollution,Industrial effluents from the following industries and their treatment, Industrial Chemicals & Environment practice.
Inorganic Materials of Industrial Importance	BSCH3504	2019	Employbility-Glass,Ceramics,Fertilizers,Surface Coatings,Alloys,Catalysis.Skill-Batteries,Inorganic Materials of Industrial Importance practice
Research Methodology for Chemistry	BSCH3603	2019	Skill-Methods of Scientific Research and Writing Scientific Papers-II,Chemical Safety and Ethical Handling of Chemicals,Safe storage and use of hazardous chemicals,Recovery recycling and reuse of laboratory chemicals,Data Analysis-I & II.
Instrumental Methods of Chemical Analysis	BSCH3604	2019	Skill-Introduction to spectroscopic methods of analysis,Molecular spectroscopy,Separation techniques,Instrumental Methods of Chemical Analysis practice. Employbility-

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Molecular spectroscopy instrumentation and application,Atomic spectroscopy,Spectrophotometers principle and application,
Basic Pharmaceutical Chemistry	BSCH2001	2019	Skill-Drugs & Pharmaceuticals,practice
Analytical Clinical Biochemistry	BSCH2002	2019	Skill-Basic understanding of Carbohydrates,Blood and Urine , practice
Green Methods in Chemistry	BSCH2003	2019	Skill-Green Chemistry lab
Basic Analytical Chemistry	BSCH2004	2019	Skill-Analysis of soil,Analysis of food products,
Calculus	BSMA1101	2016	Skill- Lab work to be performed on a Computer Employability-Asymptotes,Curvature,Tracing of Curves
Linear Algebra	BSMA1102	2016	Skill –To gain the knowledge on MATLAB and uses in algebra. Employability- Solve systems of linear equations using various methods
Ordinary Differential Equations	BSMA1202	2016	Skill –To understand solving Free Undamped Motion of a Spring System using Python and other skills Employability- Be competent in solving linear/non-linear 1st & higher order ODEs using analytical methods to obtain their exact solutions.
Numerical Analysis	BSMA2401	2017	Skill – Numerical Solution of different linear and non-linear equations using software. Employability - Perform error analysis to select an appropriate numerical model and to estimate errors in numerical solution of a given problem.
Complex Analysis	BSMA3501	2017	Skill –Learn the Plotting of complex functions using Matlab Employability - Illustrate the applications of the calculus of residues in the evaluation of real integrals.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Discrete Mathematical Structure	BSMA3602	2017	Skill –To work with different types of Sets, Lattices and Boolean Algebra using Python Employability - To learn a particular set of mathematical facts and to apply their applications in many subjects of Computer Science and Engineering such as Cryptography, Theory of Computation & Data Networking.
Linear Programming	BSMA3601	2017	Skill - To demonstration of the utilization of Linear Programming Problems in industry and business.
Analysis-I	BSMA1201	2017	Skill- In much of analysis, the emphasis is not on finding explicit solutions to specific problems Employability- Produce rigorous proofs of results that arise in the context of real analysis
Analysis-II	BSMA2301	2017	Skill - To describe various theorems about Riemann sums and Riemann integrals and emphasize the proofs' development. Employability - Apply change of variables in double integrals and triple integrals
Modern Algebra	BSMA2302	2017	Skill - To introduce students to the language and precision of modern algebra Employability - Work effectively with others to discuss homework problems put on the board.
Partial Differential Equations and System of Ordinary Differential Equations	BSMA2303	2017	Skill - Introduce students to how to solve linear Partial Differential Equations with different methods. Employability - Identify and solve Laplace, Diffusion and Wave equations.
Advanced Analysis	BSMA2402	2017	Skill - Construct rigorous mathematical proofs of basic results in real analysis; Employability - Define the limit point, interior point, neighbourhood etc.
Programming in C	BSMA2403	2017	Skill - To understand advanced concepts of C such as Arrays, Strings, functions pointers and structures in detail.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Employability - Write programs that perform operations using derived data types.
Probability and Statistics	BSMA3502	2017	Skill- To apply probability and statistics in engineering and science like disease modeling, climate Prediction and computer networks etc using MATLAB Employability - Compute probabilities based on practical situations using the Binomial, Poisson and Normal distributions.
Tools and Techniques in Bioscience	BSLS2005	2017	Skill-Hand on practice on different tool like PAGE, XRF, chromatography, spectroscopy etc.
Vermi composting	BSLS2006	2017	Skill-Preparation of Nursery bed of earthworm, preparation of Slurry and earthworm culture and utilisation.
Food processing	BSLS2007	2017	Skill- Analysis of nutritional value, isolation and pufication of essention oil and pigments.
Mushroom cultivation	BSLS2008	2017	Skill- Nutritional and medicinal value of edible mushrooms, preparation of spawn,Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves, factors affecting the mushroom bed preparation and low cost technology.
Plant tissue culture	BSLS2009	2017	Skill- Isolation of Explants Establishment and Maintenance of Callus and and media preparation and culture.
Nursery and gardening	BSLS2010	2017	Skill- Vegetative propagation: air-layering, cuttingand selection of cutting, Gardening: definition, objectives and scope - different types of gardening - landscape and home gardening
Medicinal Botany	DEHB0401	2017	Skill- Perform practicals on medicinal plants identification, isolation of phytochemicals.
Traditional Botany and Phytochemistry	DEHB0402	2017	Skill- Students can easily identify and classify plants, prepared and seposited

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			herbarium, they also practiced digital documentation of herbarium.
Advance Pharmacognosy	DEHB0403	2017	Skill- Practice oh phytopharma, plant based drug discovery and secondary metabolite isolation.
Standardization and Quality Control of ASU Drugs	DEHB0404	2017	Skill- Varify the quality and nutritional values of plant based nutrients and herbal medicine.
Fundamentals of Industrial Microbiology	DEFM0401	2017	Skill- Isolation and pure culture of bacterial, use of microbes in industry.Study enzyme immobilization by sodium alginate method. Microbial activity study on (qualitative) analysis of Enzymes: Amylase
Basic Microbial Techniques	DEFM0402	2017	Skill- Handling of microscope ,identification of bacteria and culture
Food Microbiology	DEFM0403	2017	Skill-Alkaline phosphatase test to check the efficiency of pasteurization of milk. Isolation of any food borne
Quality Assurance in Food Preservation Methods	DEFM0404	2017	Skill- drying, refrigeration, and fermentation. Modern methods include canning, pasteurization, freezing, irradiation, and the addition of chemicals.
Fundamentals of Agronomy	ASAG1101	2018	Understanding the tools of agronomy and their application in crop production: skill dev.
Fundamentals of Genetics	ASPG1101	2018	Application of genetic principles in plant breeding:employbility& skill dev.
Irrigation water management	ASAG1206	2018	Understsanding the practices of water management and its application in irrigation management : skill dev.& employbility
Fundamentals of Plant Breeding	ASPG2103	2018	Understand the basic methods of plant beeding i.e. emasculation and crossing : Skill & Employability
Production technology of fruits and plantation crops	ASHO2102	2018	Understanding the different methods i.e. grafting, budding and layering for production of fruit and plantation crops: enterpreneurship & skill

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Communication skills and personality development	ASEE2104	2018	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Crop Production Technology –II (Oil seeds, fiber, sugar, tobacco, and fodder Crops) Rabi crops	ASAG2204	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Production Technology for Ornamental Crops, MAP and Landscaping	ASHO2204	2018	To gain expertise in production of ornamental crops and landscaping : ,employbility & skill development
Manures, Fertilizers and Soil Fertility Management	ASAC2202	2018	Understanding the manures and fertilizer and its application:skill and employbility.
Entrepreneurship Development and Business Communication	ASEE3103	2018	Development of enterpreneurial mindset and entrepreneurial skills for building a start-ups: skill dev
Problematic Soils and their Management	ASAC3103	2018	Understanding fertility and pH levels of soil to manage problematic soils :skill dev and employability
Crop Improvement-I (Cereals,millets,pulses and oil seeds etc)(Kharif crops)	ASPG3104	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Geoinformatics and Nano-technology for Precision Farming	ASAG3110	2018	To gain knowledge in nano materials and geoinformatics applicaions i.e. moonsoon tracking system, drainage networks for precision farming:Employbility, skill and enterprenureship
Farming System & Organic farming for Sustainable Agriculture	ASAG3207	2018	To gain expertise in organic farming practice: employbility, skill development and Enterpreneurship
Post-harvest Management and Value Addition of Fruits and Vegetables	ASHO3205	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Pests of horticultural crops and their	ASEN3204	2018	Identification and management of crop & storedgrain pests :employability & skill dev

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
management and Beneficial Insects			
Crop Improvement-II (fibre, sugar, starches, narcotics, Vegetables, fruits, and flowers)	ASPG3205	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Principles of Integrated Pest and Disease Management (50% Entomology and 50% Pathology)	ASPP3204	2018	Identification of insects pests of different crops and its integrated pest management-Entrepreneurship& skill dev,employability
Protected cultivation and post harvest technologies	ASAE3204	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Intellectual Property Rights	ASIP3201	2018	Understanding the process to file patent and register for copyrights:skill and employbility.
Food safety and Standards	ASFE2201	2018	Understanding the different food safety principles i.e. pasturization, canning etc: Skill
Principles and practices of weed management	MAAG 1102*	2017	Skill development: Identification of different weeds and their control which in turn would further provide a scope to students in chemical industries
Principles and practices of water management	MAAG 1103*	2017	Skill development: The students can learn about judicious water management using different efficient technologies which would further lay emphasis on job opportunities as well as they can make themselves self sufficient by serving as entrepreneurs to serve the farming community
Agronomy of major cereals and pulses	MAAG 1204*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Agronomy of oilseed, fibre and sugar crops	MAAG 1205*	2017	Skill development: Students gain an insight into the different package and practices for

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			raising different agronomic crops under varied agroclimatic conditions.
Cropping systems and sustainable agriculture	MAAG 1206*	2017	Skill development: The students acquire knowledge about different cropping systems under various climatic situations and they can make themselves self employed as sucessful entrepreneurs
Dry land farming and watershed management	MAAG2107 *	2017	Skill development: On the basis of climatic situations, students will learn raising of different climate resilient crops
Soil fertility and fertilizer use	MASA1101	2017	Skill development: Students gain knowledge on the application of fertilizers and soil fertility status
Management of problem soils and waters	MASA1202	2017	Skill development: students study different methods for the reclamation of problematic soils as well as their management
Statistical methods for applied sciences	MAST 2102	2017	Skill: To exploit various statistical tools as well as techniques to compile raw data for representing the results
Library and information services	MALI1101	2017	Skill development: To gain knowledge on the utilization of library resources for the rsearch finding of experiments.
Technical writing and communication Skills	MACS1101	2017	Skill development: learn the style and skill of writing technical papers
Intellectual property and its management in agriculture	MAIP 1201	2017	Employability and Skill development: students get an overall idea of IPR and their applications towards the protection of property rights
Basic concepts in laboratory techniques	MALT1201	2017	Skill: students do learn the usage of different laboratory equipments along with the standard operating procedures for handling them
Agricultural research, research ethics and rural development programmes	MAAR2101	2017	Employability and Skill development: Acquire knowledge for research ethics and government policies.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Production technology of cool season vegetable crops	MAVS 1101*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.
Seed production technology of vegetable crops	MAVS 2106*	2017	Entrepreneurship, skill and research: Development of quality seeds and planting materials
Fundamentals of processing of vegetables	MAVS 2108*	2017	Entrepreneurship and skill: To utilize the knowledge in various processing units
Post harvest technology for fruit crops	MAFS1205	2017	Entrepreneurship and skill
Principles and practices of water management	MAAG1103	2017	Skill and research: To learn the judicious utilization of water during various developmental stages of plants
Principles of genetics	MAGP 1101*	2017	Practical skills and concepts leading to research to generate high yielding varieties.
Principles of cytogenetic	MAGP 1102*	2017	Practical skills and concepts leading to entrepreneurship and research to generate high yielding and disease resistant varieties.
Principles of plant breeding	MAGP 1103*	2017	Technical skills leading to research
Principles of quantitative genetics	MAGP 1204*	2017	Technical Skills leading to research in quantitative genetics
Biotechnology for crop improvement	MAGP 1206*	2017	Research and skill: To raise new crop varieties using the tools of molecular biology and genetic engineering
Techniques in molecular biology I	MAMB1205	2017	Skill: Students learn the techniques of molecular biology and further carry out research and also serve as entrepreneurs
Development communication and information management	MAEX1102*	2017	Skill and research: students can learn the skills and involve in research activities

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e-Extension	MAEX 1207*	2017	Skill: Students can learn the usage of various tools related to ICT activities and further carry out research
Market led extension management	MAEX 1208*	2017	Entrepreneurship: students can learn the marketing and entrepreneurial skills
Human Resource Development	MAEX 2109*	2017	Skill: Students can learn the skills of studying human behaviour leading the management of human resources
Agricultural Marketing & Price Analysis	MAAE 1201	2017	Entrepreneurship: students can learn the marketing skills and serve as entrepreneurs
Statistical methods for social sciences	MAST 1203	2017	Skill: Students can learn the usage of different stastical tools that in turn would provide them a scope for employment
Non-Parametrics	MAST 2104	2017	Skill: Students can learn the usage of different non parametrics such as descriptive statistics and statistical inferences which would help them for carrying out research activities
Participatory methods for technology development and transfer	MAEX1104	2017	Skill and employability: students can learn the basic concepts of participatory techniques and thereby help in technology transfer from lab to land
Entrepreneurship Development and Management in Extension	MAEX2110	2017	Entrepreneurship: Students do learn the entrepreneural skills which ultimately provides them with a scope to serve as entrepreneurs
Taxonomy of Shellfish	FSRM1102	2019	Gain knowledge about the morphometric and meristric character of shellfish for identification. Skill development
Fish Food Organisms	FSAQ2109	2019	Learn and practice the nutritional requirements of fish/shellfish larvae and knowledge on mass culture and enrichment of live food organisms. Employability and Skill development
Freezing Technology	FSPT2103	2019	Understanding the different types of low temperature preservation, handling, storage of different type of fish and fishery products to minimize the spoilage along

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			with post harvest loss. Employability and Skill development
Genetics and Breeding	FSAQ2111	2019	Gain knowledge on genetic basis of inheritance and breeding plans for commercially important fishes. Employability, Entreperneurship and Skill development
Fish Immunology	FSHM2106	2019	Study the types of immunity, antigen-antibody interactions and learn the Serological methods in disease diagnosis. Employability and Skill development
Fisheries Economics	FSEE2102	2019	Learning the interface between economics and effective management decisions for fisheries business firm. Employability and Skill development
Coastal Aquaculture and Mariculture	FSAQ2204	2019	To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters. Employability and skill development
Fish Nutrition and Feed Technology	FSAQ2208	2019	Practical knowledge of feed formulation and different feed processing techniques and prepare feed based on the nutritional requirements of fish/shell fish. Employability and skill development
Fish Packaging Technology	FSPT2205	2019	Learn the different types of packaging, importance of packaging in fish processing, functions, objectives and requirements. Skill development
Fish and Shellfish Pathology	FSHM2201	2019	Study fish and shellfish pathogens, their control measures and treatments. Employability and Skill development.
Fishing Craft Technology	FSFE2203	2019	Study the operation of various types of traditional and mechanised fishing craft, design and modification. Skill development
Fisheries Extension Education	FSEE2207	2019	Acquire skills required to practice various fisheries extension approaches, the transfer of modern and scientific findings of lab to the farmers land.

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Shellfish Hatchery Management	FSAQ2206	2019	Practical skills of seed production and hatchery management of commercially important crustaceans and molluscs and can setup his/her own hatchery. Employability, Entrepreneurship and Skill development.
Communication Skills and Personality Development	FSEE2208	2019	Students will improve interpersonal skills, active listening and responding skills, communication into everyday practice, teamwork and group discussions skills. Employability and Skill development.
Introduction to Forensics, Psychology, Law and Statistics	MSFS1101	2017	Skill : Student will gain knowledge of Laws, Assessment of Deception and Statistical analysis.
Instrumental Techniques	MSFS1102	2017	Skill : Student learn working principle and instrumentation of instruments such as UV, IR, TLC etc.
Crime Scene Management and Forensic Physics	MSFS1103	2017	Skill & Employability : Skill to reconstruct crime scene. Student process the simulated crime scene. Student gains knowledge about examination of various evidences such as soil, glass, paint, foot print and lip prints.
Finger prints and Questioned Documents	MSFS1104	2017	Skill, Employability & Entrepreneurship, : Student learn about latent fingerprints and lift them for comparison & identification purpose.Gains knowledge about various Aspects of AFIS. Student also detects Signature, hand writing & document forgery, examines counterfiet currency, passport and seal impressions. Gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope.
Instrumental Techniques Laboratory	MSFS1105	2017	Skill & Employablity: Student perform experiments on UV absorption of drugs/dyes, TLC, IR spectroscopy of paints/drugs/dyes/organic compunds
Crime Scene Management and	MSFS1106	2017	Skill & Employablity : Student perform density gradient analysis of soil samples,

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Forensic Physics Laboratory			physical matching of broken glass bangles and different objects, reconstruction of mock crime scene
Finger prints and Questioned Documents Laboratory	MSFS1107	2017	Skill & Employablity: Student examines and identify sinature and handwriting forgeries, alterations in documents, examination of interscetiong strokes, comparison of fingerprints and development of latent fingerprints
Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry	MSFS1201	2017	Skill : Student learn about nature, types, collection & packaging of evidences like NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.
Forensic Biology and Forensic Medicine	MSFS1202	2017	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student learn about examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling	MSFS1203	2017	Skill & Employability : Students learn about different ways to detect the presence of blood, semen, saliva and other body fluids , Performs DNA extraction, gains knowledge about basic methodologies used in forensic DNA analysis
Forensic Toxicology and Pharmacology	MSFS1204	2017	Skill & Employability, : Student learn about techniques used to isolate and Extract poisons\ Drugs from samples and determination of various poisons. Also gains knowledge about interpretation of toxicological findings and preparation of reports.
Forensic Ballistics and Computer Forensics	MSFS1205	2017	Skill & Employability : Student gains knowledge about various aspects of ballistics, characteristics of ammunitions and Compurter Foreniscs.

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Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry Laboratory	MSFS1206	2017	Skill : Student learn and perform examination of NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.
Forensic Biology and Forensic Medicine Laboratory	MSFS1207	2017	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student performs examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling Laboratory	MSFS1208	2017	Skill & Employability : Students perform experiments to detect the presence of blood, semen, saliva and other body fluids , Performs DNA extraction,
Forensic Toxicology and Pharmacology Laboratory	MSFS1209	2017	Skill & Employability, : Student isolate and Extract poisons\ Drugs from samples and detrmines the presence of various poisons. Also gains knowledge about interpretation of toxicological finding and preparation of reports.
Forensic Ballistics and Computer Forensics Laboratory	MSFS1210	2017	Skill & Employability : Student also perform instrumental analaysis of GSR & examines bullets and cartridge cases to determine the source of origin.
Concepts of Toxicology	MSFS2102	2017	Skill & Employability, : Students gains basic knowledge about disposition and translocation of toxicants, analytical toxicology, toxic agents such as pesticides, metals etc and their effects & applications of toxicology.
Modern and Applied Analytical Forensic Chemistry	MSFS2103	2017	Skill & Employability : Student learns about basic concepts of forensic nuclear chemistry, gains knowledge about drug chemistry, petroleum chemistry and fire chemistry. learns about analysis of lipids and fats of different oils and analysis of dairy products

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Pharmacology and Pharmaceutical Drug Analysis Laboratory	MSFS2104	2017	Skill & Employability : Students do qualitative and quantative analysis of Phramaceutical drug by various chemical and instrumental techniques.
Concepts of Toxicology Laboratory	MSFS2105	2017	Skill & Employability, : Students do analysis of various poison such as metallic poison, pesticides, plant poisons etc. and gains knowledge about interpretation of toxicological finding and preparation of reports.
Modern and Applied Analytical Forensic Chemistry Laboratory	MSFS2106	2017	Skill & Employability : Student performs analysis of Various Cases in Forensic Chemistry, Validation of new methods & Accreditation in FSL's, Analysis of NDPS, Explosives, Fire, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres & Exmination of Forensic Chemicals.
Assignment	MSFS2107	2017	Skill : Student study various cases where forensic science played significant role in delivery of justice and write reports.
Seminar	MSFS2108	2017	Skill : Student takes up cases and topics relevant to their specialization subjects and delivers the same.
Molecular Biology and Genetics	MSFS2111	2017	Skill & Employability : Student gains knowldege about immunology, metabolism of DNA, RNA and protein, phylogenetic tools, population genetics and bioinformatics, methodologies of DNA analysis, molecular autopsy
Biotechnology in Pharmaceutical Sciences	MSFS2112	2017	Skill & Employability, : Student studies about recombimant DNA Technology, Quality Assurance and Quality control, Studying Bioinformatics, intelectual property rights.
Environmental Biotechnology	MSFS2113	2017	Skill & Employability, : Student learns about pollutants in samples & estimation of BOD. Student gains knowledge about measurement of pollutants with the help of

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			biosensor and biomarker, Measurement of Biomagnification, Waste water management and Treatment.
Molecular Biology and Genetics Laboratory	MSFS2114	2017	Skill & Employability : Student performs extraction of protein from various biological samples, SDS-PAGE for protein analysis, quantification of DNA, Extraction of DNA from different sources. Analysis of protein structure using RASMOL.
Biotechnology in Pharmaceutical Sciences Laboratory	MSFS2115	2017	Skill & Employability, : Student performs isolation of bacteria by different methods, restricted digestion of DNA, Agarose gel e;lectrophoresis, western blotting
Environmental Biotechnology Laboratory	MSFS2116	2017	Skill & Employability, : Student performs practicals to detect pollutants in samples & estimation of BOD., Physical characterisation of waste
Advances in Physical Techniques Laboratory	MSFS2124	2017	Skill & Employablity : Students perform examination of evidences by EDXRF, measures RI of physical evidences.
Concepts of Conventional and Modern Ballistics Laboratory	MSFS2125	2017	Skill & Employablity : Students perform examination of barrel wash, analysis of GSR
Audio Recognition and Video Analysis Laboratory	MSFS2126	2017	Skill & employability : Students record, edit & process audi files using goldwave software, speech acquisition and analysis of speech samples using CSL-4500 software, Video analysis and detection of tampered video files using videofocus
Questioned Document and Forensic Accounting	MSFS2132	2017	Skill, Employability, Entrepreneurship, : Student gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope. Examination of aging of paper, Basics of Forensic Accounting.
Forensic Photography and Biometric Traits	MSFS2133	2017	Skill & Employbility : Student will gain knowledge about Basics of crime scene photography and laboratory photography. Student also gains knowledge about

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			techniques of Biometric recognition (hand fingerprint, facial iris and retina.
Modern Trends in Fingerprint Sciences Laboratory	MSFS2134	2017	Skill, Employability & Entrepreneurship : Student performs Development of latent fingerprints. analysis of palatoprints, comparison of males and females fingerprints, cheiloscopy.
Questioned Document and Forensic Accounting Laboratory	MSFS2135	2017	Skill, Employability, Entrepreneurship, :Student performs examination of ink, determining age of document, examination of currency notes, passport, stamp rubberstamp impressions
Forensic Photography and Biometric Traits Laboratory	MSFS2136	2017	Skill & Employbility : Students take photographs of simiulated crime scene and enhances the images using photo shop.
Computer Networks	MSCS1103	2019	Skill Development , Employability-Learning about computer network & network security
Cyber Crime & Investigations	MSCS1104	2019	Skill Development,Employability-Learning about Analytical Skills,Comprehension of Cybersecurity Fundamentals and good practices for digital evidence and digital forensics: Skill Development
Number theory & Cryptography	MSCS1201	2019	Skill Devlopment,Employability-implement and analyse algorithms for integer factorization and primality testing: Skill Devlopment
Advanced Information Security	MSCS1202	2019	Skill Development, Employability-Focus on the CIA models, tools, and techniques for enforcement of security
Cyber Forensics	MSCS1203	2019	Skill Development, Employability-Focus on analysis and assessment of risk assesment process & control : Skill Development, Employability
System and Network Security	MSCS1204	2019	Skill Development, Employability-Gaining practical experience in installation, monitoring, and troubleshooting of current LAN systems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Basics of forensic sciences	BSFS0401	2019	Skill : Student gains knowledge about fundamentals of forensic science, organizational setup of different FSLs in India, functioning of national and international investigative agencies, code of conduct, ethical issues, professional standards, qualification of forensic scientists, report writing.
Crime and society	BSFS0402	2019	Skill : Student studies basic cocepts of criminology, criminal profiling, types of crime, victimology, penology, psychological disorders and criminality, CJS, case studies
Criminal law	BSFS0403	2019	Skill : Student studies criminal procedure code, IPC, IEA, constitutions of india, acts pretaining to socio- economic and environmental crimes
Forensic Psychology	BSFS0404	2019	Skill : Student gains knowledge about fundamental concepts of forensic psychology and forensic psychiatry , the legal aspects of forensic psychology, significance of criminal profiling, the importance of psychological assessment in gauging criminal behaviour, tools and techniques for detection of deception (polygraph, narco analysis, brain mapping)
General Microbiology	MSCM1101	2016	Functions of cell organelles in microorganisms; Growth of microorganisms: Skill dev and Employbility
Analytical Techniques	MSCM1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Basic Microbiology Lab	MSCM1105	2016	Techniques for staining microorganisms, isolating and culturing microorganisms: Skill and Employbility and Enterpreunership
Systemic Bacteriology	MSCM1201	2016	Understanding the Morphological identification, pathogenesis, laboratory diagnosis and epidemiology of clinically

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			significant bacteria: Skill dev and Employbility
Medical Parasitology & Mycology	MSCM1203	2016	Clinical features of important parasites, protozoans, fungi: Skill dev. & Employbility
Applied Microbiology	MSCM1204	2016	Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Parasitology & Mycology Lab	MSCM1207	2017	Pathological investigations of urine, stool and other biological specimen; Culture for Pathogenic Fungi : Skill dev. & Employbility & Enterpreunership
Immunology & Virology	MSCM2301	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Diagnostic Bacteriology	MSCM2302	2017	Diagnosis of bacteria from infective regions of the body: Skill dev and Employbility
Biochemistry	MSCM2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSCM2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSCM2307	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Immunology Lab	MSCM2308	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility
Histopathology Lab	MSCM2309	2017	Performing histopathological analysis and their interpretation: Skill dev and Employbility
Biochemistry Lab	MSCM2310	2017	Assay on blood serum for biochemical test: Skill dev and Employbility
Mini Project	MSCM2311	2017	Conducting experimental/ research work by engaging in a project: Skill dev and Employbility
Project	MSCM2403	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Internship	MSCM2404	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Medical Instrumentation and Technique	MSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Hematology Lab	MSMT1105	2016	Performing various hematological tests: Skill and Employbility and Enterpreunership
Clinical pathology	MSMT1203	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership
Blood Banking	MSMT1205	2016	Blood collection and transfusion techniques and possible errors associated with it: Skill dev. & Enterpreunership
Clinical pathology Lab	MSMT1206	2016	Collection of blood, stool, body fluids and study their chemical and morphological examination: Skill dev. & Enterpreunership
Microbiology Lab	MSMT1207	2017	culturing and identification of pathogenic microorganims: Skill dev. & Employbility & Enterpreunership
Immunology & Parasitology	MSMT2306	2017	Clinically relevant serological analysis; Clinically significant virus: Skill dev. & Employbility
Clinical Hematology	MSMT2302	2017	Quality assurance required in hematology; Examination of bone marrow: Skill dev and Enterpreunership
Biochemistry	MSMT2303	2017	Concepts of Carbohydrates, proteins, lipids and their metabolism: Skill dev and Employbility
Histology	MSMT2304	2017	Concept of about Histotechnology; fixation in histopathology lab: Skill dev and Employbility
Research Methodology	MSMT2307	2017	Concept of Research design, data collection, sampling, report writing: Skill Dev
Immunology Lab	MSMT2308	2017	Performing immunological/ serological tests and their interpretation: Skill dev and Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Histopathology Lab	MSMT2310	2017	Performing histopathological analysis and their interpretation: Skill dev and Enterpreunership
Mini Project	MSMT2311	2017	Conducting experimental/ research work by engaging in a project: Skill dev and Employbility
Basic Hematology	BSCM1103	2017	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation & Techniques	BSCM1104	2017	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
General Microbiology	BSCM1201	2017	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology & Diagnosis	BSCM1203	2017	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical pathology Lab	BSCM1205	2017	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership
Microbiology Lab	BSCM1206	2017	Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Immunology	BSCM2301	2017	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Systemic Bacteriology	BSCM2302	2017	Understanding of morphology, pathogenesis, lab diagnosis on gram positive & negative bacteria: Skill dev. & Employbility
Molecular Biology	BSCM2303	2017	Basic techniques applicable in Molecular Biology: Skill dev and Employbility
Systemic Virology & Mycology	BSCM2304	2017	Understanding the epidemiology, pathogenesis of viruses and fungi: Skill dev and Employbility
Virology & Mycology Lab	BSCM2307	2017	Demonstration of serological technique in diagnostic virology; Isolation & identification of fungi: Skill dev

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Industrial Microbiology	BSCM2408	2017	Understanding the significance of microbes in fermentation process & industrial effluents: Skill dev and Employbility and Enterepreneurship
Analytical Biochemistry	BSCM2404	2017	Learning the principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Basic Computer & Information Science	BSCM2409	2017	Concept for Input & output device, Processor & memory, Word, excel, power point: Skill dev and Employbility
Industrial Microbiology Lab	BSCM2410	2017	Industrial visit to a fermentation factory: Skill and Employbility
Public Health Microbiology Lab	BSCM2411	2017	Isolation & identification of microorganisms from samples: Skill dev and Employbility
Diagnostic Bacteriology	BSCM3509	2017	Study of Lab diagnosis for Enteric infection, RTI, Oral & stomach infection: Skill & Employbility
Diagnostic Virology	BSCM3503	2017	Study of lab diagnosis of viral infection: Skill dev and Employbility
Diagnostic Mycology	BSCM3504	2017	Study of lab diagnosis of medically important fungi: Skill dev and Employbility
Diagnostic Parasitology	BSCM3505	2017	Study of lab diagnosis of Intestinal, vaginal, Tissue and blood parasite: Skill dev and Employbility
Medical Law and Ethics	BSOP3504	2017	Understanding the significance of co-existence and professional ethics: Skill dev
Research Methodology	BSCM3510	2017	Study of Scientific writing, Selection of problem, criteria for selecting a research title, research hypothesis: Skill dev
Diagnosis Bacteriology Lab	BSCM3511	2017	Performing the laboratory diagnosis for specimens collected from human tissues: Skill dev & Employbility
Mini Project	BSCM3512	2017	Conducting experimental/ research work by engaging in a project: Skill dev and Employbility

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Project	BSCM3603	2017	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	BSCM3604	2017	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Basic Hematology	BSMT1103	2016	Carry out hematological investigations: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation & Techniques	BSMT1104	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Microbiology	BSMT1201	2016	Understanding the details of microbial cell organelles: Skill dev and Employbility
Clinical pathology	BSMT1203	2016	Pathological investiations of urine, stool and other biological specimen: Skill dev. & Enterpreunership
Clinical pathology Lab	BSMT1205	2016	Performing pathological investigations on human specimen: Skill dev. & Enterpreunership
Microbiology Lab	BSMT1206	2017	Microscopic analysis of specimen collected: Skill dev. & Enterpreunership
Immunology	BSMT2301	2017	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Applied Hematology	BSMT2302	2017	Concept of Haemopoietic disorders, laboratory diagnosis of leukemia, hemolytic anemia, haemophilia, ITP: Skill dev. & Employbility & Enterpreunership
Basic Histology	BSMT2304	2017	Concept of Histotechnology, histopathology: Skill dev. & Employbility & Enterpreunership
Molecular Biology	BSMT2306	2017	Basic techniques applicable in Molecular Biology: Skill dev and Employbility
Immunology Lab	BSMT2307	2017	Performing Serological reactions: Skill and Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Histology Lab	BSMT2308	2017	Performing experiment on Histotechnology: Skill dev and Employbility
Parasitology	BSMT2401	2017	Understanding the life cycle and lab diagnosis of various clinically significant parasite: Skill dev. and Employbility
Advanced Hematology	BSMT2403	2017	Understanding the lab diagnosis for Leukamoid reactions, DIC: Skill dev and Employbility and Enterepreneurship
Analytical Biochemistry	BSMT2407	2017	Learning the principle of spectrophotometry, colometry, photometry and Clinical biochemistry tests: Skill dev and Employbility and Enterepreneurship
Immunopathology	BSMT2408	2017	Understanding the Immunological aspects of clinically significant diseases: Skill dev and Employbility
Basic Computer & Information Science	BSMT2409	2017	Concept for Input & output device, Processor & memory, Word, excel, power point: Skill dev and Employbility
Biochemistry Lab	BSMT2410	2017	Analysis of urine and serum sample for biochemical parameters: Skill dev and Enterepreneurship
Parasitology Lab	BSMT2411	2017	Identification of parasites collected from human specimens: Skill dev and Employbility
Transfusion Medicine	BSMT3501	2017	Blood product analysis and transfusion procedure: Skill dev and Employbility
Introduction to Quality and patient safety	BSMT3508	2017	Studying of culture of safety, Quality improvement innovations: Skill dev and Employbility
Research Methodology	BSMT3509	2017	Study of Scientific writing, Selection of problem, criteria for selecting a research title, research hypothesis: Skill dev
Mycology and Virology Lab	BSMT3510	2017	Performing experiments using culture media and staining techniques for identification of fungi: Skill dev

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Mini Project	BSMT3511	2016	Conducting experimental/ research work by engaging in a project: Skill dev and Employbility
Project	BSMT3603	2016	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	BSMT3604	2016	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Basic Medical Instrumentation & Techniques	BSRT1105	2016	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Medical Imaging Lab - 1	BSRT1204	2017	Care and maintenance of x-ray equipment: Skill dev & Enterpreunership
Special Radiographic Technique and Procedures	BSRT2303	2017	Understanding of special procedures and importance of contrast media: Skill dev. and Employbility
Basics Equipment's in Radiodiagnosis	BSRT2304	2017	Understanding of gamma rays and its use in radiography, magnetron and klestron: Skill dev and Enterpreunership
Medical Imaging Lab - 2	BSRT2305	2017	Performing radiographic positioning, application of contrast media, Darkroom procedures: Skill dev and Enterpreunership
Radiotherapy and Brachy Therapy Techniques In Malignant And Non Malignant Diseases	BSRT2401	2017	Concept on treatment of cancer, dose limits for individuals: Skill dev and Employbility
Interventional Radiology & Drugs Used in Radiology	BSRT2403	2017	Concept on use of anaesthesia in diagnostic radiology: Skill dev and Employbility
Basic Computer & Information Science	BSRT2405	2017	Concepts of basic input & output device; Processor & memory; Word, excel, power point: Skill dev.
Hospital posting Medical Imaging Lab - III	BSRT2406	2017	Exposure to different hospitals, training of x-ray, CT and MRI: Skill dev. & Employbility & Enterpreunership

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Basics of X-Ray and Digital X-Ray Imaging	BSRT3501	2017	Properties of x-ray, x-ray machines and application of portable xray: Skill dev and Employbility
Computerized Tomography (CT scanning) Method and Procedure	BSRT3502	2017	Diagnosis of muscle and bone disorders, detecting conditions such as cancer, heart disease, lung nodules: Skill dev and Employbility
Basics of Magnetic Resonance Imaging	BSRT3503	2017	Understanding of MRI scans of different organs: Skill dev and Employbility
Medical Imaging Lab - IV	BSRT3506	2017	Access to CT, MRI and their indications: Skill dev. & Employbility & Enterpreunership
BIOCHEMISTRY LAB	BSOL1102	2015	Gaining adequecy in the concept of metabolism of various macromolecules in humab body and the diagnosis of diseses associted with their malfunction: Skill dev. & Employbility
GENERAL ANATOMY & PHYSIOLOGY LAB	BSOL1103	2015	Learning about basic structure and connections between the various parts of the body and their integrative function: Skill dev & Employbility
OPTICS LABORATORY-II	BSOL1201	2015	Predicting the distribution of light under various conditions: Skill and Employbility
ANATOMY& PHYSIOLOGY LAB (CLINIC-I)	BSOL1202	2015	Learning about basic structures in eye and their integrative function: Skill dev & Employbility
BUSINESS COMMUNICATION	FCHU0203	2015	Effectiveness in participation in group discussion and job interviews: Skill dev. And Employbility
OPYOMETRIC OPTICS I	BSOP2303	2015	Ability to measure the power of lens, lens centration using conventional techniques, identify different forms of lenses: Skill dev. and Enterpreunership
CLINICAL EXAMINATION OF VISUAL SYSTEM	BSOL2301	2015	Performing various clinical tests, their interpretation and finding: Skill dev. and Entrepreneurship and Employbility
CLINICAL OPTOMETRY-I	BSOL2302	2015	Measurement of lens power, lens centration using conventional techniques,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			transposition of various types of lenses: Skill dev. and Entrepreneurship and Employbility
OPTOMETRIC OPTICS II	BSOP2403	2015	Developing the art and science of dispensing spectacle lens and frames based on the glass prescription: Skill dev. and Entrepreneurship and Employbility
BASIC AND OCULAR PHARMACOLOGY	BSOP2404	2015	Developing conceptual knowledge on the mechanism, indications, contraindications, drug dosage and adverse effects of Ocular Drugs: Skill dev. And Employbility
CLINICAL OPTOMETRY II	BSOL2401	2015	To gain practical knowledge regarding Ocular Diseases, Visual Optics, Optometric Optics: Skill dev. and Entrepreneurship and Employbility
BINOCULAR VISION & SQUINT	BSOP3501	2015	Binocular muscle coordination; Integration of motor and sensory system into binocular vision; Differentiate different types of strabismic anomalies; non strabismic anomalies related to accommodation & convergence: Skill & Employbility
LOW VISION AID	BSOP3503	2015	Training for Low Vision subjects with Low vision devices: Skill and Employbility
CONTACT LENS LABORATORY	BSOL3502	2015	Applying the concepts of contact lenses: Skill dev. & Employbility
OCULAR DISEASES LABORATORY II	BSOL3503	2015	Performing the basic workup for a patient in a hospital and clinic set up: Skill dev. and Entrepreneurship and Employbility
STATISTICS & OCCUPATIONAL OPTOMETRY	BSOP3601	2015	Interpretation and ability to prescribe suitable corrective lenses and eye protective wear: Skill dev. and Entrepreneurship and Employbility
PEDIATRIC & GERIATRIC OPTOMETRY	BSOP3602	2015	Ability to identify, investigate the age-related changes in the eyes: Skill dev. & Employbility
OPTOMETRIC INSTRUMENTS LABORATORY-II	BSOL3602	2015	Gaining practical skill in handling the advanced instruments in an Optometry

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Lab: Skill dev. and Entrepreneurship and Employbility
PROJECT	BSOP4701	2015	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
ORGANIZATIONAL BEHAVIOR	BSFE2401	2015	Understanding of Organizational behavior and conceptualization of foundations of organization structure: Skill dev.
Human Anatomy and Physiology I– Theory	BPHT1101	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Analysis I – Theory	BPHT1102	2017	Skill-Employability-Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Pharmaceutics I – Theory	BPHT1103	2017	Skill- Employability- Entrepreneurship - Understand the impact of pharmaceutical solutions in a global, economic, environmental, and societal context
Pharmaceutical Inorganic Chemistry – Theory	BPHT1104	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Communication skills – Theory *	BPHT1105	2017	Skill- Students can improve their coomunication Skill
Human Anatomy and Physiology – Practical	BPHL1101	2017	Skill-allows Students to verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Analysis I – Practical	BPHL1102	2017	Skill- Employability- Students can assay ,preparaed and standarized various Heavy metals and Chemicals
Pharmaceutics I – Practical	BPHL1103	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Pharmaceutical Inorganic Chemistry – Practical	BPHL1104	2017	Skill- Students can perform purity test on drugs or chemicals

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Communication skills – Practical*	BPHL1105	2017	Skill- Students can improve their coomunication Skill
Remedial Biology – Practical*	BPHL1106	2017	Skill- Students can learn about structure and functional system of plant and animal kingdom
Human Anatomy and Physiology II – Theory	BPHT1201	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Organic Chemistry I – Theory	BPHT1202	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Pathophysiology – Theory	BPHT1204	2017	Skill-Employability-student get to know about various communicable diseases and pathophysiology along with all thetechniques for screening test .
Computer Applications in Pharmacy – Theory *	BPHT1205	2017	Skill-Employability-Buding compitancy in programme coding, various softwares, simulation techniques, statistical application etc.
Human Anatomy and Physiology II –Practical	BPHL1201	2017	Skill- allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Organic Chemistry I– Practical	BPHL1202	2017	Skill-Students can do qualitative analysis and synthesis of Organic Compound
Biochemistry – Practical	BPHL1203	2017	Skill- Students can demostrate different Biochemical Test
Computer Applications in Pharmacy – Practical*	BPHL1204	2017	Skill-Allows students to details with Database, Database Management system, computer application in clinical studies and use of databases
Pharmaceutical Organic Chemistry II – Theory	BPHT2101	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			problems in research and development sector.
Physical Pharmaceutics I – Theory	BPHT2102	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmaceutical Microbiology – Theory	BPHT2103	2017	Skill- Employability- Carried out sterility testing, microbiological standardization of Pharmaceuticals and perform cell culture technology and its applications in pharmaceutical industries
Pharmaceutical Engineering – Theory	BPHT2104	2017	Skill -Employability- Enterprenurship- students can able to unterstand and perform unit operations, material handling techniques, screening test and plant lay out design for optimum use of resources used in Pharmaceutical industries
Pharmaceutical Organic Chemistry II – Practical	BPHL2101	2017	Skill-Stuents can do qualitative analysis and synthesis of Organic Compound
Physical Pharmaceutics I – Practical	BPHL2102	2017	Skill- Allows student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmaceutical Microbiology – Practical	BPHL2103	2017	Skill- Allows students to study of all categories of microorganisims especially for the production of alchol antibiotics, vaccines, vitamins enzymes etc.
Pharmaceutical Engineering –Practical	BPHL2104	2017	Skill- Students can get fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry
Pharmaceutical Organic Chemistry III– Theory	BPHT2201	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Physical Pharmaceutics II – Theory	BPHT2203	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmacology I – Theory	BPHT2204	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry I– Theory	BPHT2205	2017	Skill - Students can do identification and evaluation, phytochemicals present in them and their medicinal properties
Medicinal Chemistry I – Practical	BPHL2201	2017	Skill - Students can get fundamental knowledge on the structure, chemistry and synthesis of each class of drug
Physical Pharmaceutics II – Practical	BPHL2202	2017	Skill-student get to know better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmacology I – Practical	BPHL2203	2017	Skill -Student can Observe the effect of drugs on animals by simulated experiments
Pharmacognosy and Phytochemistry I – Practical	BPHL2204	2017	Skill-Extraction and isolation of plant product ,determination of chemical parameter of plant product with molecular modeling and geometrical optimization
Industrial Pharmacy– I Theory	BPHT3102	2017	Skill-Employability-Entrepreneurship- students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Pharmacology II – Theory	BPHT3103	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry II– Theory	BPHT3104	2017	Skill-Emloyability-Isolate, Identify, Analyze, screen and ensure quality as ell as quantity of drugs/pharmaceuticals and also able to design phytopharmaceutical schemes of crude drugs estimation
Industrial Pharmacy I – Practical	BPHL3101	2017	Skill- Students can Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality
Pharmacology II – Practical	BPHL3102	2017	Skill- Students can demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments
Pharmacognosy and Phytochemistry II – Practical	BPHL3103	2017	Skill- Students can carryout isolation and identification of phytoconstituents
Pharmacology III – Theory	BPHT3202	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Herbal Drug Technology – Theory	BPHT3203	2017	Skill-Employability- students get to know basic principles of traditional medicinal systems with method of preparation and standardization of ayurvedic formulations
Biopharmaceutics and Pharmacokinetics – Theory	BPHT3204	2017	Skill- Employability- student get to know about pharmacokinetic and pharmacodynamic parameters of different dosage form and use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Quality Assurance – Theory	BPHT3206	2017	Skill-Employability- students get to know about the validation, confirmation of test product substance and able to analyze,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			screen and ensure quality of drugs/pharmaceuticals.
Medicinal chemistry III – Practical	BPHL3201	2017	Skill- Students can do chemical synthesis of selected drugs
Pharmacology III – Practical	BPHL3202	2017	Skill- Students can demonstrate the various receptor actions using isolated tissue preparation
Herbal Drug Technology – Practical	BPHL3203	2017	Skill- Students can preparae herbal cosmetics, natural sweeteners, nutraceuticals
PROGRAMMING IN 'C'	CCCS1202	2016	Skill - Practice using programming in C.
PROGRAMMING IN C++	BCAC2401	2016	Skill - Practice using programming in C++
INTERNET AND WEB TECHNOLOGY	BCAC3501	2016	Skill - Design and development of web programming.
PROGRAMMING IN JAVA	BCAC3502	2016	Skill - Programming using JAVA
RDBMS	BCAC2302	2016	Skill - Database and file management
Apparel Production & Marketing	CUTM3029	2017	Employability/Skill - Practice and Project
Line Stitching Supervising	CUTM3030	2017	Employability/Skill - Practice and Project
Apparel Production	CUTM3031	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Light Motor Vehicle Driving	CUTM3032	2017	Employability/Skill - Practice and Project
Fork Lift Operation	CUTM3033	2017	Employability/Skill - Practice and Project
Heavy Vehicle Technology	CUTM3034	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Two Wheeler Service Technology	CUTM3035	2017	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Four Wheeler Service Technology	CUTM3036	2017	Employability/Skill - Practice and Project
E-Vehicle Assembly and Service Technology	CUTM3037	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Robotics	CUTM3038	2017	Employability/Skill - Practice and Project
Poultry Farming	CUTM3039	2017	Employability/ Entrepreneurship/Skill
CNC Programming (CAM)	CUTM3040	2017	Employability/Skill - Practice and Project
Design Supervising Wooden and Modular Furniture	CUTM3041	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Composite Manufacturing	CUTM3042	2018	Employability/Skill - Practice and Project
3D Modelling and Printing	CUTM3043	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Precast Concrete Manufacturing	CUTM3045	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Fabrication	CUTM3046	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Hi-Tech Surveying	CUTM3047	2018	Employability/Skill - Practice and Project
Internet of Things	CUTM3048	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Mechatronics System Design	CUTM3049	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nanotechnology	CUTM3051	2018	Employability/Skill - Practice and Project
Drone Piloting	CUTM3052	2018	Employability/Skill - Practice and Project
Camera Operation	CUTM3053	2018	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Editor	CUTM3054	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Desktop Publishing	CUTM3055	2018	Employability/Skill - Practice and Project
Introduction to Blender and Unity tools	CUTM3056	2018	Employability/Skill - Practice and Project
Refraction Technology	CUTM3057	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Emergency Medical Technology	CUTM3058	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Medical Lab Technology	CUTM3059	2019	Employability/Skill - Practice and Project
Operating Theatre Technology	CUTM3060	2019	Employability/Skill - Practice and Project
Radiology Technology	CUTM3061	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Phlebotomy Technology	CUTM3062	2019	Employability/Skill - Practice and Project
First Aid Service	CUTM3063	2019	Employability/Skill - Practice and Project
General Duty Assistance Service	CUTM3064	2019	Employability/Skill - Practice and Project
X- ray Technology	CUTM3065	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Retail Sales	CUTM3067	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Basketball	CUTM3068	2019	Employability/Skill - Practice and Project
Gym Fitness	CUTM3069	2019	Employability/Skill - Practice and Project
Swimming	CUTM3070	2019	Employability/Skill - Practice and Project
Yoga & Meditation	CUTM3072	2019	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Solar PV Installation	CUTM3073	2019	Employability/Skill - Practice and Project
Solar Lighting Technology	CUTM3074	2019	Employability/Skill - Practice and Project
Solar PV Microgrid System	CUTM3076	2019	Employability/Skill - Practice and Project
Solar PV Driven Equipment O/M & Assembly	CUTM3077	2019	Employability/Skill - Practice and Project
Solar Thermal Engineering	CUTM3078	2019	Employability/Skill - Practice and Project
2020-21			
Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Differential Equations and Linear Algebra	CUTM1001	2020	Skill Development(Students will know about the modelling of different enggineering application) Skill Development(Students will know about modelling of problems related to system of equations in enggneering application)
Laplace & Fourier Transforms	CUTM1002	2020	Skill Development(Students will know to find the solution using laplace and fourier transform)
Complex Analysis & Numerical Methods	CUTM1003	2020	Skill Development(Students will know to find the solution usingcomplex integral)
Discrete Mathematics	CUTM1004	2020	Skill Development(Students will know about graphs, sets and logic)
Probability & Statistics	CUTM1005	2020	Employability (Students will know about probability distribution) Skill (Students will know about mean, media, mode)
Optics and Optical Fibres	CUTM1007	2020	Employability (knowledge enhansement) / Skill development (LASER and Optical fiber portion)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Applied Analytical Chemistry	CUTM1008	2020	Employbility-Water softening processes,Soil Analysis,fuels,petroluem,Corrosion,Electrochemical Phenomenon,error analysis Skill-All Practices.
Applied Engineering Materials	CUTM1009	2020	Employbility- Nanostructures and nanomaterials,Carbon nanomaterials,Polymers,Composites:,Adhesives Lubricants ,: Energy Storages material-I&II Skill-All Projects.
Optimisation Techniques	CUTM1011	2020	Skill Development (Students shall be able to apply the theory of optimization methods and algorithms to develop and for solving various types of optimization problems). Employability and Entrepreneurship (Students shall be able to solve the mathematical results and numerical techniques of optimization theory to concrete Engineering problems by using computer software)
Engineering Economics and Costing	CUTM1012	2020	Skill Development (Students shall be able to apply the microeconomics concepts related to business and its impact on enterprise). Employability and Entrepreneurship (Students shall be able to apply cost concepts to analyse common business management decisions such as pricing a product and services)
Project Management	CUTM1013	2020	Skill Development (Students shall be able to develop a Project Charter document for any project). Employability and Entrepreneurship (Students shall be able to implement the Project and Prepare a project document that they have undertaken as a learning tool)
Gender, Human Rights and Ethics	CUTM1014	2020	Skill Development (Students shall be sensitive to gender, human rights and ethics within an organizational context). Employability and Entrepreneurship

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			(Students shall be able to integrate concerns related to gender, human rights and ethics into the policies, processes and systems in an organization)
Climate Change, Sustainability and Organisation	CUTM1015	2020	Skill Development (Students will be exposed to current climate change issues, challenges and debates). Employability and Entrepreneurship (Students shall be equipped to develop strategies for perspective planning of organisations)
Job Readiness	CUTM1016	2020	Skill Development (Develop additional skills (verbal, logical, quantitative and reasoning) required to enhance employability as well as the entrepreneurial ability of the students). Employability (Students will develop skill in the area of proficiency in english, reasoning and aptitude, which are required to obtain a job)
Industrial IOT and Automation	CUTM1017	2020	Skill Development and Employability (the new evolution in hardware, software, and data. While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns)
Data Analysis and Visualisation using Python	CUTM1018	2020	Skill And Employability(Students had Created data visualizations of various data sets using matplotlib and the seaborn modules with python and also developed portfolios of various data analysis projects .)
Machine Learning using Python	CUTM1019	2020	Skill And Employability(Implement ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and computer vision, energy and natural language processing.)
Design Thinking	CUTM1021	2020	Skill And Employability (student will be able to apply the design thinking process to innovative problem solving)
Construction Material Testing	CUTM1069	2020	Skill Development(Gain knowledge about how determine the standard quality of construction materials)
Quantity Estimation & Costing	CUTM1063	2020	Skill development(Students will be able to Estimating, brick calculations & cost for different materials, foundation & footing calculations. Gain knowledge about how to schedule & estimate different construction works both manually and using software.)
Geometric Modeling	CUTM1060	2020	Skill development(Students will be able to Demonstrate use of CAD in Civil Construction, basic knowledge of operating software & commands, and benefit of civil developments in the construction industry. Do 2d &3d drafting /design with AUTO CAD software.)
Hydrology and Irrigation	CUTM1071	2020	Skill development(Project oriented skills shall be gained by students to work efficiently in survey, planning, design and construction in irrigation sector.)
Surveying Techniques	CUTM1067	2020	Skill development(Doing centering, leveling & measuring coordinate points of area and calculation, transfer to data from Total station to software spectrum link Doing field work using of simple machine parts such as Total –Station, Auto- level)
Geospatial Survey	CUTM1068	2020	Skill development(Gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections Carryout measurements Differential Global Positioning System (DGPS)/ Global Navigation Satellite System (GNSS) in field.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Preparation & digitization of different topography map with the help of Arc-GIS software)
Concrete Technology	CUTM1066	2020	Skill development(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)
Electrical, Plumbing, and Woodwork	CUTM1065	2020	Skill development(Identify timber and perform sawing and planning using hand and power tools. Demonstrate surface finish with exact sizing by planning operation. Prepare different wooden Joints. (Range of skill - framing joint, Housing joints, broadening joints, Lengthening joints) Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware. Make different types of doors and windows with fixing of components.)
Design of Structure	CUTM1074	2020	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards. • After completion of the courses the students will gain knowledge of Pre-Engineered design calculation with relevant Indian Standards • Students will develop skill of converting

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			client's requirement to structural drawing by using ETABS.)
Road Engineering	CUTM1070	2020	Skill development(Students will gain knowledge on planning, material selection for construction, Economics and finance and designing of elements on highway. Acquire the skill of designing the geometric elements of highway using CIVIL 3D software.)
Construction Materials	CUTM1064	2020	Skill development(Knowledge: Able to learn basic theory about main building- and construction materials. Skills: Able to make right and well-founded choice of materials. General competence: Understand how properties of materials that are important in engineering can be related to the characteristics of the material.)
Water Supply and Sanitary Engineering	CUTM1072	2020	Skill development(To understand the principles of treatment units and their design units of drinking water, solid andliquid waste water treatmentunits; its recycle, reuse or disposal methods along with hands on practice of house plumbing and sanitary fittings)
Computer-Aided Engineering	CUTM1081	2020	Skill development(Students will be able to Create complete finite element models Submit and monitor analysis jobs View and evaluate simulation results)
Hydraulic Machinery	CUTM1090	2020	Skill development(• After completion of the course, the students will have a strong foundation on the pertinent equations to engineering design of the machines for required applications. • Students will learn to determine performance characteristics of fluid machinery by using various simulation tools)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Fluid Mechanics with FVM	CUTM1089	2020	Skill development(• After completion of the course, the students will able to evaluate finite difference/volume schemes on model problems of computational fluid dynamics. • Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems)
Theories of Failure analysis using FEA	CUTM1062	2020	Skill development(• Students will have knowledge and practical engineering skills in analysis of mechanical strength of structures and load transmission elements and will be able to design them based on input data. • Students will be able to deploy 3D Experience Platform to develop design solutions. • Students will be able to apply the Concept of Meshing and Failure Criteria to Practical Problems which will lead Economical and safe in Design Aspect.)
Database Management Systems	CUTM1059	2020	Skill development(Design ER-models to represent simple database application scenarios Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data Improve the database design by normalization Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing)
Programming in Java	CUTM1058	2020	Skill development(Able to use object oriented concept to solve problems
Remote Sensing & Digital Image Processing	CUAS2020	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Geospatial Technology and its Application	CUAS2021	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Photogrammetry and its Application	CUAS2022	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Lidar Remote sensing and its Applications	CUAS2023	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Hyper-spectral Remote Sensing and its Application	CUAS2024	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Project	CUAS2025	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Study of Drawings and Plan	CUCP2110	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Project Scheduling &Management	CUCP2111	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Site Study And Study on Contract Laws	CUCP2112	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Concepts Of Quality Control and Checking	CUCP2113	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Quantity Estimation and Equipment Management	CUCP2114	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Site Supervision Project	CUCP2115	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Critical Thinking and Presenting it with Digital Platform	CUSD2120	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Scope to Enrich by Exposing them to BIM Modelling	CUSD2121	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Design and Failure Analysis of Structure	CUSD2122	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Amalgamation of Architecture and Civil Requirements using Generative Apps	CUSD2123	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Project	CUSD2124	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
IT Infrastructure Management	CUTM1024	2020	Skill And Employability(Students developed skills to build and manage IT infrastructur in Enterprise level using CISCO packet tracer)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Cloud Practitioners	CUTM1025	2020	Skill And Employabilty(Analyze and Understand the functioning of different components involved in Amazon web services and also acquire cloud technology skill for cloud partitioner certification which helps students in getting jobs in different MNCs)
Wireless Networks	CUTM1026	2020	Skill(Students devloped Skills needed to install, configure, and troubleshoot WLAN hardware peripherals and protocols.)
Information Security	CUTM1027	2020	Skill And Employability(Students have done activities like network analysis, intrusion detection in the network and file integrity using different open source tool.)
OOPs with C ++ Programming	CUTM1028	2020	Skill And Employability(Case study to be given to students on uses of C++ program for development of various real time applications like online examination system, online quiz competetion etc.)
Data Structures using C++	CUTM1029	2020	Skill And Employability(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems)
Advanced Web Programming	CUTM1030	2020	Skill And Employability(Develop a static, interactive and well-formed webpage using JavaScript, CSS3 and HTML5)
Java Technologies	CUTM1031	2020	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Operating System Concepts	CUTM1032	2020	Skill(Demonstrate understanding of operating system design and its impact on

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			application system design and performance)
Database Creation and Maintenance	CUTM1033	2020	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL- Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored Functions – Triggers Case study in industrial standards of Database Management)
Database Cluster Administration and Security	CUTM1034	2020	Skill(Students will develop skill of developing new techniques in cluster deployment in real world Applications.)
Data Warehousing and Data Mining	CUTM1035	2020	Skill (Student will able to design data warehouse with dimensional modeling and apply OLAP operations.)
Android App Development	CUTM1036	2020	Skill And Employability(Understand Android UI design, activity and fragments, intents, notifications, SQL Lite are implemented. As a course project students should implement a mobile app with the app idea and design user interface/wireframes of mobile app and also set up the mobile app development environment)
Mathematical Problem Solving	CUTM1037	2020	Skill(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems.)

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Formal Language and Automata Theory	CUTM1038	2020	Skill (Be able to design FAs, NFAs, Grammars, languages modelling, small compilers)
AWS Solution Architect (SAA-CO2)	CUCT2030	2020	Skill And Employability(Developed scalable and secure Cloud applications and acquired cloud solution architect certification)
AWS Developer (DVA-CO1)	CUCT2031	2020	Skill And Employability(Able to develop scalable and secure Cloud applications and acquired cloud developer certification)
Project	CUCT2032	2020	Skill And Employability(Able to develop scalable and secure Cloud applications)
Web Services Using Java	CUST2010	2020	Skill And Employability(Developed knowledge-based force to serve the IT industry with the latest technologies.)
Advanced Java Programming	CUST2011	2020	Skill And Employability(Understands the advance concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Web Programming Using React	CUST2012	2020	Skill And Employability(Develop knowledge-based force to serve the IT industry with the latest technologies.)
Product Development	CUST2013	2020	Skill And Employability(Develop knowledge-based force to serve the IT industry with the latest technologies.)
ML for Predictive Analysis	CUML2002	2020	Skill And Employability(Implement ML algorithms that generates insight to high volume datasets and helps to make better prediction, classifications and clustering. The students are able to solve problems in areas computational finance and computer vision, energy and natural language processing.)
ML for Image Analytics	CUML2003	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
ML for Hyperspectral imaging	CUML2004	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural hyperspectral images)
Internship	CUML2005	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Project	CUML2006	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Linux Administration	CUCS2040	2020	Skill And Employability(Developed skills to manage a Linux server and provide basic security to the server)
Advanced Hacking Techniques	CUCS2041	2020	Skill And Employability(Learned different white hat hacking tools to defend different cyber attacks)
System and Network Security	CUCS2042	2020	Skill And Employability(Learned different network security tools to defend different cyber attacks)
IT Data Security	CUCS2043	2020	Skill And Employability(Students able to detect different data leakage and able to prevent some of it)
Project	CUCS2044	2020	Skill And Employability(Analyzed a self developed website for various types of vulnerability and defense)
Introduction to Gaming & Simulation	CUAR2060	2020	Skill And Employability(End to End Game Development Pipeline)
Game Assets & Game Objects	CUAR2061	2020	Skill And Employability(Able to built different models, assets and objects like temple, park, agriculture field etc..)
Building Game Environment	CUAR2062	2020	Skill And Employability(Able to built game environment)
Game Animation, Scripting & UI	CUAR2063	2020	Skill And Employability(Able to design different cartoon animations and UI)
Binary Deployment and Cross-Platform Controls	CUAR2064	2020	Skill And Employability(Design several 3D games which supports cross platforms)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Project	CUAR2065	2020	Skill And Employability(End to End Game Development Pipeline such as 3D games, model of konark temple)
Embedded System Programming with ARM-Cortex	CUTM1039	2020	Skill Development, Employability (Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller)
VLSI Design (NSQF level 5)	CUTM1040	2020	Skill Development, Employability (Design combinational and sequential circuit using CMOS logic Enhancement of complex digital VLSI logic design skill of students which will help them to complete any project work undertaken in higher semesters. Perform back-end physical design)
Electromagnetic Interference and Compatibility	CUTM1041	2020	Skill Development This subject is a base subject for wireless communication, Antenna Engineering and other advanced communication based subject.
Electromagnetic Field Theory & Transmission Lines	CUTM1042	2020	Skill Development Introduce theory and concepts of electromagnetic waves and transmission lines, Model and design the transmission lines at high frequencies, applying Smith chart use for solution of transmission line problems and impedance matching.
Principles of wireless communication	CUTM1047	2020	Skill Development and Employbility Knowledge about the characteristic of wireless channel, designing of a cellular system, study the various digital signaling techniques and multipath mitigation techniques, understanding the concepts of multiple antenna techniques
Smart Phone Trouble shooting and Repair	CUCS2080	2020	Skill Development Basic of Mobile Repairing and Basic Electronics Hardware Repairing

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Software Repairing Basic and Advanced Troubleshooting
Satellite & TV Communications	CUCS2081	2020	Skill Development The fundamentals of satellite communication. To provide them with a sound understanding of how a satellite communication system successfully transfers information from one earth station to another. To expose them to examples of applications and tradeoffs that typically occur in engineering system design, and to ask them to apply the knowledge in design problems
RF Planning and Drive Test	CUCS2082	2020	Employability (Students will develop skill on GSM RF Planning tool, Use of mapping software's like Map info/Google KLM, drive test tool TEMS and NEMO Tool for 4G LTE optimization with field exposure This will lead employment as RF engineer)
Project	CUCS2085	2020	Employability (Skill development course)
Project	CUES2053	2020	Employability (Skill development course)
Energy Production & Transmission	CUTM1051	2020	Skill development(Students will develop the skill of how energy is being produced and transmitted)
Substation Switch gear & Protection	CUTM1052	2020	Skill development(Students will develop the Skill of different substation, switchgear and its protection techniques)
System Modeling and Control	CUTM1053	2020	Skill development(Students will develop the skill of modelling the various systems and its control techniques)
Electrical Machines Operation and Control	CUTM1054	2020	Skill development(Students will develop the skill of operating different electrical machines and its control techniques)
Industrial Power Electronics	CUTM1055	2020	Skill development(Students will develop the skill of using different power

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			electronics converters and its industrial applications)
Digital Measurement and Instrumentation	CUTM1056	2020	Skill development(Students will develop the skill of measuring the instruments digitally)
Basic Electrical Engineering	CUTM1057	2020	Skill development(Students will develop the skill on various fundamental concepts of electrical engineering)
Introduction to Industrial Automation	CUIA2100	2020	Skill development(Students will develop skill of designing Automatic Control System using PLC)
Advanced Programming & Control Blocks of PLC	CUIA2101	2020	Skill development (Students will gain Functional skill set with hands-on; on System Automation by using relevent software & hardware tools)
Control & Signal Wiring of PLC	CUIA2102	2020	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications Such as Load Changing Automation in Power Networks by using relevent tools)
SCADA based advanced features	CUIA2103	2020	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
SCADA & PLC based sequential control	CUIA2104	2020	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Human Machine Interface	CUIA2105	2020	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
OPC server base data fetching & control	CUIA2106	2020	Skill development (Students will gain knowledge about OPC server and nerwork in automation)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Project	CUIA2107	2020	Skill Development (Students will develop different automation related project)
Internship	CUIA2108	2020	Skill Development (Students will undergo training for the industrial automation)
Introduction, Power Scenario, Power Quality & Fault clearance	CUEG2090	2020	Skill Development (Students will get functional knowledge on different fault clearing techniques to impprove power quality)
Switchyard & substation Networks	CUEG2091	2020	Skill Development (Students will design the electrical grid network system with busbar arrangement in transmission & distribution system)
Protection scheme & Switchgear	CUEG2092	2020	Skill Development (Students will develop different protection scheme with hardware & software integration)
Cable system & Testing	CUEG2093	2020	Skill Development (Students will learn the three phase power cabel layout system wit the testing techniques in workshop)
Grid Safety	CUEG2095	2020	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques)
Transformer Manufacturing	CUEG2096	2020	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification, during project work)
Project	CUEG2097	2020	Skill Development (Students will develop different electrical system & transformer related project)
Materials for Renewable Energy applications	CURE2190	2020	Skill Development (Students will learn and develop the different materials for Renewable Energy generation)
Renewable Energy Technology for Industrial Process	CURE2191	2020	Skill development (Students will gain Functional skill set with hands-on; on application of Renewable energy for the industry)
Micro-grid Design & Implementation	CURE2192	2020	Skill Development (Students will learn and develop the different Micro-grid Design

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and its application to fulfill the load requirement)
Hybrid Renewable Energy Systems	CURE2193	2020	Skill Development (Students will learn and develop the hybrid generations that combines the solar photovoltaic along with the Thermal power generations)
Solar Off-grid Entrepreneur	CURE2194	2020	Skill Development (Students will learn and develop the Entrepreneurship skill for the developement of different solar off grid project
Project	CURE2195	2020	Skill Development (Students will develop different renewable energy sources & solar related project)
Internship	CURE2196	2020	Skill Development (Students will undergo training for the renewable energy)
Computer Aided Drafting	CUTM1075	2020	Skill development (Students will be able to use CATIA for creation of 3D models, Assembly Designs and Drawings.)
Product Design and Development	CUTM1076	2020	Employability and Skill development (Student will understand and explain the concept of Industrial design and robust design concepts.Student will understand the concept of Design for manufacture and assembly.)
Reverse Engineering and Rapid Prototype	CUTM1077	2020	Employability and Skill development (Student will understand principles of imaging, cross-sectional scanning, digital data, computational graphics.)
Product Life Cycle Management	CUTM1078	2020	Employability and Skill development(Studentswill use ENOVIA Engineering BOM Management)
Manufacturing Process- process planning and Heat Treatment	CUTM1079	2020	Employability and Skill development (Student will understand the Importance of Materials, Manufacturing Processes, Process Planning & Design in Product Manufacturing)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Material in product design and development	CUTM1080	2020	Employability and Skill development (Student will understand the various material selection for manufacturing processes. Students will able to Identify and select suitable material for product design. Students will able to understand Application of smart materials, shape memory metal, Nano material.
Quality Assurance	CUTM1082	2020	Employability and Skill development (Students will carry out statistical analysis of experiment, ANOVA ratio test and apply advanced DOE method for product testing.Students will understand SIX SIGMA process and lean production concept.)
Applied Ergonomics	CUTM1083	2020	Employability and Skill development (Students will able to use the Human Erogonomics software to create an accurate simulation of a human entity and its work environment to ensure a natural operation)
Computer Aided Manufacturing	CUTM1084	2020	Skill development (Students will able to create 2-D Geometry and 3-D models using various Command in Master CAM software. Simulation of CNC programs using Master CAM software.)
CNC Programming & CNC Machining	CUTM1085	2020	Employability and Skill development (Demonstrate and explain various CNC control Calculate technological data for CNC machining. Prepare programs, demonstrate, simulate and operate CNC milling machines for various machining operations)
Design of Tools, Jigs and Fixtures	CUTM1086	2020	Skill development (To learn basic concepts, functions and design principles of Jigs, Fixtures and Dies)
Advance Metrology	CUTM1087	2020	Skill development (Student will have knowledge of basic measurement systems in Real time Engineering Applications.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Thermodynamics	CUTM1088	2020	Skill development (To know the laws of thermodynamics and conditions for energy transformation)
Theory of Machines	CUTM1091	2020	Skill development (To develop skills for designing and analyzing linkages, cams, gears and other mechanisms.)
Heat Transfer with FDM/FVM	CUTM1092	2020	Skill development (Students will be able to analyze and design various Equipment used in industry using principles of Heat Transfer.)
Introduction to Automobile Engineering	CUAE2170	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Subsystems of Automobile	CUAE2171	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Electric Vehicles	CUAE2172	2020	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Maintenance of Automobile	CUAE2173	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			research & development, sales & service.The students can also successfully run their own business in this field.)
Project	CUAE2174	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Internship	CUAE2175	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Introduction to composites	CUCD2130	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Composite materials and characterization	CUCD2131	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			different types of composite which can be used in our day to day work)
CATIA-Composites Design	CUCD2132	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Composite Product Validation; Simulia	CUCD2133	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Machineries and Technologies used for Manufacturing of Composites	CUCD2134	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Quality control and Fabrication of Composite Structure	CUCD2135	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Project	CUCD2136	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Manufacturing Requirements and Planning (Jigs & Fixtures; Process Planning & Cost Estimation)	CUCM2150	2020	Employability and Skill development (Developing the visibility of skills and potentials of students in ways that are relevant to manufacturing need & employability and also promoting a production oriented learning method.)
Conventional Machining for Cylindrical and Prismatic Shape Components	CUCM2151	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
CNC Machining	CUCM2152	2020	Employability and Skill development(Makes student Industry ready through

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improvemanufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Non-Traditional Machining and 3D Printing	CUCM2153	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Wood Engineering	CUCM2154	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)

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Internship	CUCM2155	2020	Employability and Skill development(Students go to different corporate industry to carry out their internship for 3month duration.This help students to give specific skills followed by internships
Joining Processes and Technology	CUWI2160	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Metal Transfer and Weld Metallurgy	CUWI2161	2020	Employability and Skill development ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Design of Welded Joints	CUWI2162	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Testing of Welded Joints	CUWI2163	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Advanced Structural Analysis	MTSE1101	2019	Skill development(• Skill in developing computer program for the structural analysis of two-dimensional frames. • To obtain some experience in the use of modern structural analysis programs.)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Structural Dynamics	MTSE1102	2019	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
Theory of Elasticity & Plasticity	MTSE1103	2019	Skill development(• Ability to apply the knowledge of mathematics, science and engineering with Elasticity concept to solve problems in two Dimensional Problems in Polar Coordinates. • To provide the students with basic skill of plasticity concept applicable in structural systems)
Architectural Design	MTSE1104	2019	Skill development(Provide skill with a well-educated workforce that is ready and able to perform valuable architectural and construction engineering and managerial services immediately after graduation The ideas / concepts learned in Basic Design and other related subjects have to be carried forward into the architectural design now envisaged. The exercises may be taken up as mentioned herein.)
Bridge Engineering	MTSE1105	2019	Skill development(At the end of the course, the students have a skill to: • Design the slab culvert, Box culvert • Design the T beam bridge and substructures • Design the Bridge bearings • Design the steel bridge for railway)
Computer Graphics	MTSE1106	2019	Skill development(At the end of the course, the students have a skill and emplyobility to: Event driven I/O and callback programming & typical structure of an interactive, real-time computer graphics program

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			¨ 2&3D transformations, homogeneous co-ordinates, post-multiplication ¨ Modelling and instantiati)
Finite Element Method	MTSE1201	2019	Skill development(• Enable the students to identify, formulate and skill to engineering problems related to one, two and three Dimensional structures subjected to static loads. • To show the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to wrong analysis)
Concrete Technology	MTSE1202	2019	Skill development(• To study and understand various types of technology added in concrete • Have a skill to develop in design of various grades of concrete)
Research Methodology & IPR	MTRM1201	2019	Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)
Structural Engineering Lab	MTSE1203	2019	"Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)"
3D Modeling using ANSYS and CATIA	ISSE1205	2019	Skill development(Introduction to Engineering Design Different types of Numerical Methods & Applications, Practical Applications of FEA, Basics of finite element method (FEM),)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Design of Prefabricated Structures	MTSE0101	2019	Skill development(• Grasp of the construction methods using these elements have the skill of the construction methods using these prefabricated elements)
Renovation and Retrofitting of green structures	MTSE0102	2019	Skill development(By the end of this course students will have the skill /knowledge of • various distress and damages to concrete and masonry structures • the importance of maintenance of structures, types and properties of repair materials etc)
Advanced Construction Materials	MTSE0103	2019	Skill development(• To study the polymers in civil engineering construction • To study the corrosion of concrete in various environments)
Soil Dynamics and Geotechnical Earthquake Engineering	MTSE0104	2019	Skill development(Develop skill in applying theory of vibrations to basic facets of soil behavior under dynamic loading together with the exposure of the fundamental principles of wave propagation in engineering example)
Industry Internship and Project - I	MTIP2101	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen Strong Work Ethic toward work, Positive Attitude towards work, develop effective Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Industry Internship and Project - II	MTIP2201	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen Strong Work Ethic toward work, Positive Attitude towards work, develop effective

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Traffic Engineering And Management	ISTE1101	2019	Skill development(• To learn traffic studies, their analysis and their interpretation. • To learn analysis of LOS. • To learn design of signal. • To learn transportation system management.)
Pavement Material Lab	ISTE1106	2019	Skill development(• To learn about characteristic of subgrade soil. • To learn about characteristic of road aggregates. • To learn about characteristic of paving grade bitumen. • To learn about characteristic of cement used in road construction.)
Traffic Survey Practice	ISTE1107	2019	Skill development(• Fieldwork using Hi-Tech surveying instruments .• Clistering using field traffic data .• Preparation of questionaries for OD survey
Pavement Analysis And Design	ISTE1201	2019	Skill development(• To learn about various factors affecting pavement design. • To learn about stress analysis of the pavement. • To learn about various methods of flexible pavement design. • To learn about various methods of rigid pavement design.)
Traffic Safety	ISTE1203	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Survey Lab	ISTE1204	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Transportation Engineering Design Practice	ISTE1205	2019	Skill development(Gain knowledge about the software used in transportation like surface creation, surface profile and cross section of roads.)
Remote Sensing And GIS for Transportation Engineering	ISTE1207	2019	Skill development(• Ability to understand the basics and characteristics of remote sensing. • Ability to process remotely sensed data. • Ability to draw information from remotely sensed data. • Ability to understand the basics and application of GPS in transportation engineering)
Computer Applications toPower System Analysis	MTPS1101	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Non-Linear Control Systems	MTPS1102	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Micro Controller Application with PLC	MTPS1103	2019	Skill development (Students will gain Functional skill set with hands-on; on Micro

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Controller & Application of Micro Controllers in System Dynamic by using relevent software & hardware tools)
SCADA- Compatible with all PLC	MTPS1104	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Advanced Electrical in Automation	MTPS1105	2019	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications Such as Load Changing Automation in Power Networks by using relevent tools)
Sensors and VFDInterface to PLC and SCADA	MTPS1106	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Digital Control System Applied to Power System	MTPS1201	2019	Skill development (Students will gain Functional skill set with hands-on; on Digital Control System Applied to Power System by using relevent software & hardware tools)
Power System Dynamics & Stability	MTPS1202	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
SCADA-Compatible with fixed brand of PLC	MTPS1203	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Distributed Control System	MTPS1204	2019	Skill development (Students will gain Functional skill set with hands-on; onDistributed Control System by using relevent software & hardware tools)
Power System Monitoring by HMI	MTPS1205	2019	Skill development (Students will gain Functional skill set with hands-on; on

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Power System Monitoring by HMI by using relevent software & hardware tools)
High voltage Engineering	MTPS0101	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Optimization Techniques in Power System	MTPS0102	2019	Skill development (Students will gain Functional knowledge with hands-on; on digital applications in power system techniques)
Digital Power System Applications	MTPS0103	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Power Quality Analysis	MTPS0104	2019	Skill development (Students will gain Functional knowledge of power quality)
Non-Conventional Renewable Energy	MTPS0105	2019	Skill development (Students will gain Functional knowledge with hands-on; on different RE electriccity generation process)
Renewable Energy System Integration with Grid	MTPS0106	2019	Skill development (Students will gain Functional knowledge with hands-on; on RE system integration with grid application in transformer workshop)
Concepts of Smart Grid Technology	MTPS0107	2019	Skill development (Students will gain Functional knowledge with hands-on; onsmart grid system operation)
Distribution System Engineering	MTPS0108	2019	Skill development (Students will gain Functional knowledge on power distribution system)
Power System Security	MTPS0109	2019	Skill development (Students will gain Functional knowledge with hands-on; on system security in power system)
Digital Signal Processing Applicationsin Power System Protection	MTPS0110	2019	Skill development (Students will gain Functional knowledge with hands-on; of DSP power system protection)
Irrigation Engineering	CUTM1131	2017	Skill Development(Estimate the quantity of water required by different types of crop.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Soil-Water Conservation Engineering and Structure	CUTM1136	2017	Skill Development(Develop analytical thinking and problem solving skills in soil and water conservation engineering problems.)
Processing Technology of Cereals and Millets	CUFP2310	2020	(Skill development)Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
Processing Technology of Legumes and Oilseeds	CUFP2311	2020	(Skill development)know principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
Processing Technology of Fruits,Vegetables,Spices	CUFP2312	2020	(Skill development)study of the effects of processing parameters on product safety and quality
Food Standards and Regulations and HACCP Systems	CUFP2314	2020	(Skill development) Understand and develop HACCP plans based on the standards and regulations
Summer training-I	CUTM1939	2020	(Skill development)Students will be able to have real exposer to industries or Institutes to get training and accure some practical exposer.
Pharmcognosy and Phytochemistry of Important Medicinal Herbs	CUTM1167	2020	(Skill development/Employability) Identification of medicinal herbs and gaining knowledge of their pharmaceutical use
Ayurveda and fermentation technology	CUTM1168	2020	(Skill development/Employability) Formulation of herbal dosage forms, leading to improved employability
Material Science of Excipients and Additives	CUTM1170	2020	(Skill development/Employability) Practical aspects of pharmaceutical dosage form formulation
Thermodynamics	CUTM 1088	2020	(Employability and skill development)Designing of air-conditioning system and Estimation of air-conditioning load.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Human Anatomy and Physiology	CUTM1708	2020	(Skill Development) learn about human anatomy and physiology and gain knowledge about vital measurements
Heat and Mass Transfer	CUTM1525	2020	(Employability and skill development) learn about heat and mass transfer under industrial set up
Summer training-II	CUTM1940	2020	(Skill development)Students will be able to have real exposer to industries or Institutes to get training and accure some practical exposer.
Packaging of Dairy Products	CUTM1160	2020	Skill development (Students will get acquainted with the basics as well as new packaging technologies and utilize those packaging concepts in dairy industries and also in any packaging industry).
Chemical Quality Assurance	CUTM1161	2020	Employability and skill development (The students can become internal and external auditor based on the knowledge about different food regulations in this course and also can get job in dairy industry as quality control executive).
Microbiology of Dairy Products	CUTM1151	2020	Skill development and Employability (Students can go for higher studies (m.Tach and PhD) or can get job in quality control lab in dairy industry as a dairy microbiologist)
Food and Industrial Microbiology	CUTM1163	2020	Skill development (It is also purely industrial based course via. higher studies where students can be involved as industrial microbiologists/biotechnologists in various sectors. The key job role will be in developing and designing a process for production for industrial food products).
Sensory Evaluation of Dairy Products	CUTM1164	2020	Skill development (Students will be familiarized with the basic idea on sensory evaluation of milk and other dairy products at platform level and apply it at industrial and research level).

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Evolution of Management Thought	CUTM1181	2011	Application of Basic mangement principles-Skill development
Job Readiness	CUTM1182	2020	Analytical Ability, ability to plan & strategic, creative & logical thinking, attention to details, ability to recall (Working Memory), problem solving ability, communication skills (written), spatial ability articulation, data interpretation skills, active Listening, ability to visualize, adaptation skills, decision making, ability to analyze pattern & trends- Employability
Data analysis through Microsoft Excel	CUTM1185	2019	Able to analyse data appropriately- Skill development
Data Analysis and Visualization Using Python	CUTM1191	2020	Can use Python for data analysis and visualization.- Skill Development
Designing User/Customer Experience (UX/CX)	CUTM1207	2020	Product Design & User experience - Skill Development
Robotics Process Automation (RPA) in Finance	CUFM2357	2020	Utilize skill set to work in finance with the help of Robot -Emloybility & Entreprenuership,
Training and Development	MGHR2320	2011	Assess, design and implement various methods, techniques and sources of training- Employability & Skill development
Business Analytics	CUTM 1613	2020	Use tools and technique to analyse data - Skill development
Data Analysis using Excel and Python	CUTM1241	2020	Can use Python for data analysis and visualization.- Skill Development
Development Project Management Planning Tools and Techniques-I	CUTM1242	2014	Knowledge and skills acquisition on Appraisal, Planning, and Monitoring & Evaluation and impact assessment of development projects - Skill development
Development Theory and Practice	CUTM1222	2020	Utilization of development theories in practocal field- Employability and Skill
Development Project Management Planning Tools and Techniques-II	CUTM1223	2014	Knowledge and skills acquisition on Appraisal, Planning, and Monitoring &

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Evaluation and impact assessment of development projects - Skill development
Financial Inclusion and Micro Finance	CUTM1932	2017	To appraise the scenario of financial inclusion in the country , acquire skills to opearte in Micro Finance sector - Employability, Entrepreneurship
Public Policy: Design, Analysis and Implementation	CUTM1935	2020	Disigning campaigns and implementation of policies- Employability and Skill
Skill Ecosystem development	CUDM2356	2018	Create skill ecosyetm and analyse its dimensions - Employability
Corporate Social Responsibility	CUDM2360	2017	Demonstrate a multi-stakeholder perspective in viewing CSR issues, Compare and contrast the multiple viewpoints and tradeoffs that exist in the area of CSR, design CSR startegies focusing agri sector- Employabiltiy, Skill Development
Disaster Management	CUDM2361	2017	To build skills and abilities in analyzing potential effects of disasters and the strategies to avert the disasters: Employability, Entrepreneurship & Skill development
Organizing Conference	CUDM2381	2014	Learning skills for organizing events - Employability, Entrepreneurship & Skill development
Managing Watersheds	CUDM2365	2020	Watershed management- Employability and skill
Financial Analysis and Visualization	CUTM1231	2020	Solve problems through analytics-Emloybility & Skill Development
Robotics Process Automation (RPA) in Finance	CUTM1232	2020	Utilize skill set to work in finance with the help of Robot -Emloybility & Entreprenuership,
Computer Applications in Business	CUTM1686	2017	Utilize computer in the day to day activities of the business - Skill development
Tally ERP 9	CUBC2432	2017	Preparation of financial statement of different types of organisations with Tally: Skill development

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Internship-I	CUBC2436	2017	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
Internship-II	CUBC2437	2017	To make self-disciplined, self-motivated and integrate theory and practice-Employability, Entrepreneurship & Skill development
Communication Research Methods	MAMC1101	2018	Analyse data with techniques of social science, media research - Skill development
Introduction to Print & Electronic Media	MAMC1102	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development and Employability
Society, Media and Communication	MAMC0501	2018	Skill development and Entrepreneurship; Competence on the media business, its functioning and gemerate idea on inter relationship between media and society.
Cultural Studies	MAMC0903	2016	Skill development; Competence in the process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures
Advanced Digital Media	MAMC1103	2018	Students will be able to Competence skills in mordern media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. - Skill development and Employability
Film studies	MAMC1105	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film-Employability
Animation	MCDE0601	2016	Ability to create quality animation performance through a creative and professional portfolio using principles of animation. Will help in Employability and Skill development
Radio Jockeying	MCDE0602	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
TV Anchoring	MCDE0603	2016	Skill development in the aggregate capacity to develop the skills of a Television Anchor.
Fashion Photography	MCDE0604	2016	Skill development: Developing competency for professional fashion photography.
Camera Operator	MCDE0605	2018	Skills development and Employability in camera handling and planning and producing programs for television and Photography.
Video Editor	MCDE0606	2018	Skill development in television field and its functioning. Build the ability to develop and demonstrate strategic plans and planning methods in television content production.
Web Content Development	MCDE0607	2016	Skill development and Entrepreneurship: Competence in Content development for web site or degital media.
Sound Engineer	MCDE0608	2018	Skill development on sound editing with defferent software.
Adobe tools and Illustrations	MCDE0609	2018	Work on Adobe Illustrator in the beginner level, and on graphics designing. Skill Development and Employability
Communication, Media and Society	CUTM1264	2020	Skill development in culture to influence nonverbal communication and cultural influences in communication process across society.
Introduction to Journalism	CUTM1265	2020	Students enhance their skill and will able to design news and they have can deliver information-Skill development
Communication Research	CUTM1266	2020	Employability: Conduct research on different media elements, Conduct research on radio, TV, advertising and public relations Write research reports and project proposals-Skill development
Exploring Hindi Cinema	CUTM1268	2020	After successful completion of the course the learners will be able to develop skill on the arts and aesthetic values of Hindi Cinema and India Panorama-Skill development and Employability

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Television Journalism	CUTM 1270	2020	students will be able to write script, voice over and field reporting-Skill development The student will be able to produce a program from scripting to broadcasting everything can be done by a students. .-Employability
Development Communication	CUTM1271	2016	Students will make strategy designing and campaign designing. They will enhance their skill and able to develop contents for development purposes-Skill development
Camera and Editing for TV	CUTM 1272	2020	Improve skills in contemporary video technology and operation of cameras, audio, lighting and other television production equipment Improve in film and video, including shot composition and continuity editing-Skill development
Global Politics and Media	CUTM1274	2020	Students will enhance skill on impacts of different issues on global media scenario and global media culture-Skill development
Documentary	CUTM1275	2020	Develop skill to produce documentary cinema.-Skill development
Communication and the Plastic Arts	CUTM1276	2020	The learners will able to communicate in public space by using the plastic arts as the media for mass communication and Competence skill on appreciate the socio-cultural and religious institutions of India.-Skill development
Web Content Development	CUMC2383	2016	Skill development and Employability on technology and content of the world wide web, development of contents on web copy writing, digital news writing for various type of web sites. Skill development on write E-books, Blogs, E-Commerce content.
Radio Jockeying	CUMC 2380	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.

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Animation	CUMC2379	2020	Ability to create quality animation performance through a creative and professional portfolio using principles of animation.will help in Employability: and Skill development
Advanced characterization techniques	CUTM1402	2020	Skill development:To know the experimental techniques for the microstructural and physicochemical characterizations of materials and helps in optimizing material research.
Synthesis and application of nano composites	CUTM1405	2020	Skill developmet:To provide knowledge of the advantages of using different types of nanocomposites and to make the students familiar with the mechanism of nanocomposites. Employability:Students will understand and appreciate the significance of the nanocomposites as an important class of materials and they will be well equipped to design and develop nanocomposites for specialized applications
Material behavior of nanostructures	CUTM1406	2020	Skill development: It will enchance the ability of the students to explore various nano materials for different application areas depending on their properties.
Synthesis routes of nanomaterials	CUTM1408	2020	Skill development: To enchance the skill of the students for fabrication of varirous nano materials in cost effective routes and useful for device fabrication.
Computational materials science	CUTM1409	2020	Skill development: It will expose the students to the face the challenges in the analyses of materials and how to address those challenges and get hands-on training on open source tools in Molecular Dynamics (LAMMPS) and Hartree-Fock and Density Functional Theory (Quantum Espresso); Data Visualization Tools like OVITO and VMD

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Essentials of nanomaterials	CUTM1411	2020	Skill development:To understand and use the properties of Nano-materials in diverse fields and to gain knowledge about the Nanomaterials, their properties, behavior, interaction and use of them over many discipline of science.
Advanced quantum mechanics	CUTM1412	2020	Skill development:To improve the ability of the student to co-relate the theory and the experiement and the gap between them for the material application using some advance simulation tools
Physics of solids and semiconductors	CUTM1413	2020	Skill development:Will be able to explain the physical characteristics such as electronic structure and optical and transport properties, and current-voltage characteristics of semiconductors and apply the knowledge of semiconductors to illustrate the functioning of basic electronic devices
Laser technology	CUTM1414	2020	Skill development:To acquire a thorough understanding of the theory of modern Laser Physics and understand different types of modern lasers and their applications
Industrial chemicals	CUTM1415	2020	Employbility-Plastic Additive,Specialty Chemicals,Market Directed Specialty and Fine Chemicals,Management and treatments of Waste chemicals,Sustainable chemicals market and chemical safety. Skill-Extraction and isolation of Fine Chemicals,Selected Industrial process and all projects
Polymer chemistry	CUTM1417	2020	Employbility-Fundamental ,Copolymerization,Radical Polymerization ,Ionic Polymerization ,Conducting Polymers Application of Polymers . Skill-Analysis of Polymers and All Practices
Packaging	CUTM1418	2020	Employbility-Fundamentals of packaging ,Conversion technology ,Specialty

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			packaging ,barrier properties Skill-Package Testing and all projects
Industrial pollution and its waste management	CUTM1419	2020	Employbility-Fundamentals of pollution ,Water quality standard ,Methods of treatment of waste water ,Air pollution and its Permissible limit , Solid waste disposal and Management , Industrial water and air pollution Skill- Industrial Waste Water Treatment and all practices
Toxicology	CUTM1420	2020	Employbility-Concepts of toxicology,Toxicity Pathways,Toxicity mechanism,Integrated Testing Strategies,Toxicity beyond chemicals,Ecotoxicology and Risk assessment,Toxicity remediation and Application of toxicants Skill- All Practices
Biopolymer and hydrogel	CUTM1421	2020	Employbility-Fundamentals of biopolymers,Polymer biodegradation and biocomposites,Basics of biomaterials,Properties of Hydrogels,Applications of Hydrogels. Skill-Surface modification and characterization of biomaterials,Synthesis and Characterization of hydrogels and all practices.
Nano-pharmaceuticals and biomedical science	CUTM1422	2020	Employbility-Nanotechnology in Food and pharmaceutical industry ,Nanotechnology in Biomedical and Pharmaceutical Industry ,Nanotechnology in Agriculture ,Molecular Cell Biology ,Optical and non-optical probes ,Protein Labelling and bio-medical applications ,Target Identification and Drug designing Skill-A practical approach to antibody labelling
Synthetic organic chemistry	CUTM1423	2020	Employbility-Fundamentals ,Organic Reagents ,Molecular Rearrangement ,Stereochemistry ,

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			Photochemistry,Pericyclic Reaction,Retrosynthesis Skill- All Practices
Sustainable chemistry	CUTM1425	2020	Employbility-Fundamental,Green Chemistry,Green Solvents,Green Synthetic Methods,Value addition to Waste Biomass,Sustainable materials,Recycling and circular economy Skill-All Practices
Analytical techniques	CUTM1426	2020	Employbility-Basic Tools of Analytical Methods,Chemical Equilibria for Quantitative Analysis-I,Electrochemical Analysis,Spectrophotometry, Molecular analysis by Spectroscopy, Spectrochemical Analysis, Analytical Separations. Skill- All Practices.
Numerical Methods for CFD	CUTM1526	2020	Skill- Evaluate finite difference/volume schemes on model problems of computational fluid dynamics using python Employability - Solution of Simultaneous Equations
Fluid Dynamics	CUTM1527	2020	Skill-To apply fluid dynamics problems using different tools. Employability - Methods describing Fluid motion, Lagrangian and Eulerian Methods
Advanced differential equations	CUTM1530	2020	Skill – Solve the problems choosing the most suitable method Employability - Solution of Diffusion equation in n-dimensional
Graph Theory	CUTM1531	2020	Skill –To impart knowledge about tracing of graphs and network analysis Employability - Minimum spanning trees;Fundamental Circuit;Cut set and Separability
Optimization techniques	CUTM1532	2020	Skill –To impart knowledge about various computational methods for fluid flow and heat transfer problems
Advanced Statistical Methods	CUTM1533	2020	Skill – Ability to learn new statistical analysis techniques using python

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			Employability - Understand Chi Squared Tests
Applied Number Theory	CUTM1534	2020	Skill- Enhance and reinforce the student's understanding of concepts through the use of technology when appropriate Employabity - Divisibility, Representations of Integers,Computer Operations with Integers,Prime Numbers
TOPOLOGY	CUTM1536	2020	Skill - To introduce the student to maps between topological spaces Employability - student's ability to handle abstract ideas of Mathematics and Mathematical proofs
Herbal Cosmetic Technology	CUTM1427	2020	Employabilityand Skill- Students Completed practicle on analysis of carbohydrates, protein, reducing sugars etc.
Plant Physiology and Metabolism	CUTM 1428	2020	Employability and Skill - Hand on Isolation of chloroplast and measurement of electron transport activity,Racker's experiment, role of uncouplers. Inhibitors of oxidative phosphorylation and prospects of C4 and C3 plants
Good Manufacturing Practices-Herbal Industry	CUTM 1429	2020	Skill-Learn the concept of quality standards in terms of ISO-9000 and quality audit and understand the necessity of GMP's
Developmental Biology and Phytotomy	CUTM 1430	2020	Employability and Skill- understand the morphology and development of reproductive parts.Learn identification of plants based on cytotaxonomy, helps in forensic science, pharmagonosy and drug developement.This will be helpful for higher studies and research
Systematics and Diversity of Plants	CUTM 1431	2020	Employability and Skill- Indentification of plants based on morphology and cytotaxonomy, provide a comprehensive knowledge on diversity of plant kingdom with focus onall plant groups; algal biomass production and utilization, algal blooms

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			and their environmental impacts, seaweed cultivation and utilization ; help to pursue higher studies and employability in National organization;
Advanced Separation Technologies and Downstream Processing	CUTM 1432	2020	Skill-Learn different extraction techniques, can handle advanced instruments to perform well at industrial level
Advances In Plant Ecology	CUTM 1434	2020	Employability and Skill- Learn to critically evaluate environment pollution issues, practicle on E-waste management, smart waste management.
Computational Biology	CUTM 1435	2020	Employabilityand Skill- Hand on skill and practical knowledgr on different databases., Sequence homology and Gene annotation etc.
Microbiology	CUTM 1436	2020	Employability and Skill-Students can dopracticals and learnt on preparation and sterilization of media, plating, tubing, slanting of media, Isolation of bacteria in pure culture
Cell and Molecular Biology	CUTM 1437	2020	Employability and Skill-Perform comparative karyotypic analysis, techniques like extraction and separation of DNA by gel electrophoresis, squashing technique for the study of different stages of mitosis and meiosis
Bioanalytical Techniques	CUTM 1438	2020	Skill-Students will be exposed to various biological techniques and their applications in identification, isolation of different biological molecules (DNA , RNA quantification, UV Spectrophotometry, PCR, ELISA, RIA, FISH and GISH); instrumentation and application
Plant Breeding and Genetics	CUTM 1440	2020	Skill-Learn to carry out specific plant breeding activities, such as selection of parental germplasm, conservation and recording of phenotypic variation and selection among progeny; mating systems,

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			selection, testing and germplasm maintenance of horticultural and crop plants
Plant Genomics	CUTM 1441	2020	Skill-Learn to understand genomics and proteomics and the different approaches and techniques employed in these fundamental fields of study; analyse information from plant genomic research and recognise its potential applications in crop improvement
Advanced Aquaculture	CUTM1442	2020	Skill - Systems of aquaculture - Pond culture , Pen culture, Cage culture and Running water culture, Aquaculture production and resource statistics- World and India, Principles of organic aquaculture.Pond Management - Pre stocking and Post stocking,Components of Aquaculture farms, Culture System - Monoculture and Polyculture System, Integrated culture systems.Practices on pre stocking and post stocking management, Biological factors affecting productivity of ponds. Study on waste accumulation in aquaculture system (NH3, Organic matter, CO2), Feed technology: Micro encapsulated feeds; micro coated feeds; micro particulate feeds and bio-encapsulated feeds; mycotoxins and their effects on feeds. Application of Nanotechnology in aquaculture.Analysis of manure, Health management: vaccines; molecular diagnosis of viral diseases; Biofilms and its impact on health management; genetically modified microorganisms as probiotics, Use of probiotics in aquaculture farms
Coastal Aquaculture	CUTM1447	2020	Skill-Principles of pond design – Inland and Coastal, Tank and raceway farms, cage farms, pens – Types of culture systems:

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			Traditional, extensive, modified extensive, semi extensive,intensive and super-intensive culture of shrimps and their management, Economics of Shrimp Culture, Design and construction of shrimp culture ponds, Liming and fertilization in shrimp pond, Primary productivity calculation, Estimation by Light and Dark Bottle method. Transportation stocking in nursery ponds, rearing and growout ponds, pond harvesting of Shrimps, Principles of crab hatchery, brood stock, larval and post-larval management. Packing and transportation of crab instar and brood stock, Crab culture: Pond design, management of crab farm. Identification of important cultivable species, Crab culture and crab fattening process, economics of carb culture, Principles involved in seed production of lobsters and mussels. Cage Culture, Collection and identification of commercially important seed of fish and shellfishes, Pen culture, Potential Brackish water fish species for culture, Dissecting out the pituitary gland and preparing the extract. Culture of mullet, Culture of Cobia, Culture of Pompano, Lobster culture, Mussel culture, Pearl culture, Oyster culture, Sea-weed culture, Different types of Products obtained from seaweeds.Visit To shrimp hatchery/Farm, Methods of Shellfish Culture rafts, racks, cages, poles and ropes, Sea ranching, Resources for shore-based aquaculture and sea farming in India, Regulation for mariculture., Estimation of seed survival.
Water and Soil Quality Management in Aquaculture	CUTM1443	2020	Skill - Fertilizers and manures: Different kinds of fertilizers and manures; fertilizer grade, source, rate and frequency of

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			application; Use of treated sewage for pond fertilization and biofertilizers, Ecological changes taking place after fertilizing. Water analysis: measurement of temperature,turbidity, determination of pH and EC. Determination ofinorganic nitrogen, and phosphorus. Utilization of bioactive compounds by microorganisms; Cat clay/pyrite soil and its management; seepage and its control. Estimation of primary productivity and chlorophyll. water treatment, water filtration devices, aeration, chlorination, ozonization and UV radiation; eutrophication; Algal bloom control; Aquatic weed management.Determination of salinity, Chlorinity, Total solids,Redox potential, DO, Free CO2., Determination of total alkalinity, hardness. Waste water treatment practices; Waste discharge standards; Water quality management in carp culture; Water quality management in brackishwater shrimp culture; Water quality management in hatcheries.Calculation of dose of fertilizers and pond liming. Soil and water amendments: lime, manures,fertilizers, micronutrients, zeolites, alum, gypsum, Effluent Treatment plant; Areation,Chlorination,Ozonisation and UV radiation; Waste and water Treatment Practices; Machine Leaning for water quality analysis.
Anatomy and Biology of Fish and Shellfish	CUTM1446	2020	Skill - Basic Structural Features, Body shape,scales, and fins , Internal features. Museum Specimen, Habitat , Biogeography , Marine Habitats , Freshwater Fishes, Slide preparion of scales, Food habit study. Hematological study, Techniques for

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			Studying Food Habits and Feeding , Optimal Foraging Theor , Food Choices, Size, and Development , Food Capture, Biochemical study, Fertilization to Hatching (Incubation) Parental Care , Growth Writing Review literature, Discipline, Schooling, Orientation and Migration
Fish Processing and Value addition	CUTM1448	2020	Skill - Contribution of aquaculture , Implications for the processing industry, How to make your own fish food, Principles of canning , Packaging materials , Processing operations , Canning of specific species, Dry fish preparation, Fresh fish packing, , Freezing systems , Environmental impact of freezing operations, : preparation of fish pickle, Sustainability Impacts of Fish-Processing Operations, On-board Fish Processing, On-board processing , Advantages of on-board processing, The fishmeal process , Alternatives to fishmeal,
Fish and Shellfish Nutrition	CUTM1444	2020	Skill - Principal Nutrients essential for feed formulation, Role of different nutrients on fish and shellfish growth, Nutritional requirement of cultivable fish and shellfish, Importance of Priciple of Protein: Energy Ratio for aquaculture. General principles for feed formulation, Different steps of feed formulation, Methods of Feed formulation, Classification of feed ingredients, Energy and protein sources. Evaluation of ingredient quality, Types of feed Dry (pellets, flakes, powdered, Moist Feed), Micro-encapsulated, micro-bound and micro-coated diets, Feed manufacturing units and processes. Pulveriser, Grinder and Mixer (Types and importance), Pelletizer, Crumbler and Drier, Extruder and Fat sprayer, Hydro-stability of

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			feed and their storage, Anti-nutritional factors in feed ingredients and methods of their, Principles of Nutritional energetic, Energy partitioning. Role of feed digestibility study in feed quality evaluation, Feed Management in Aquaculture Farms, • Identification of Common feed ingredients • Preparation of artificial feeds using locally available feed ingredients • Proximate analysis of feed ingredients and feeds: Moisture, Crude protein • Proximate analysis of feed ingredients and feeds: Crude lipid, Ash • Preparation of feeds with various binders in order to determine their hydro-stability • Effect of Storage on Feed Quality and Determination of sinking rate feeds
Bioanalytical Techniques	CUTM1438	2020	Skill - To study and gain expertise on differential and cytological staining techniques, Demonstration of UV-vis Spectrophotometer, To separate proteins on the basis of their size and charge, To separate the amino acids in a mixture by thin layer chromatography. , Purification of immunoglobulins by affinity chromatography, To study the separation of DNA by agarose gel electrophoresis,
Fish and Shellfish Health Management	CUTM1445	2020	Skill - , stress in aquaculture and its role in disease development, pathological processes, quarantine and health certification in aquaculture, health management strategies in aquaculture, environmental management, sanitary and phytosanitary agreement, vaccines used in aquaculture, immuno-stimulants used in aquaculture, , Bioremediation, viral diseases of fish, viral diseases of shellfish,

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			bacterial diseases of fish, bacterial diseases in shellfish.crustacean parasites of fish, environmental induced diseases of fish, nutrition deficiency diseases, 1. Examination of normal and diseased fish - thorough examination of external surface. 2. Autopsy of the diseased fish. 3. Histopathology of organs of diseased fish (sectioning – staining and mounting). 4. Slide preparation of fish parasites (Protozoan – Helminth and Copepod). 5. Collection of ectoparasites and its preservation. 6. Extraction of DNA from fish fins.
Cell and Molecular Biology	CUTM1437	2020	Skill - 1. Visualization of DNA by performing agarose gel electrophoresis and extraction of DNA from the agarose gel. 2. Extraction of DNA from the fish fins. 3. Plasmid isolation (miniprep). 4. Polymerase Chain Reaction (PCR) 5. Glucose uptake assay 6. In silico membrane-receptor and ligand interaction studies using DISCOVERY STUDIO (BIOVIA).
Ornamental Aquaculture	CUTM1449	2020	Skill - External morphology of important marine aquarium fishes, External morphology of important fresh water aquarium fishes , Identification of common ornamental fishes and plants, Aquarium accessories and decorative, Lighting and aeration, Aquarium fish feeds. Dry, wet and live feeds, Setting up and maintenance of Aquarium accessories and equipment, , Ornamental fish breeding - Brood stock maintenance, Breeding techniques of ornamental fishes, Nursery rearing of ornamental fishes, Transportation of ornamental fishes, Application of genetics and biotechnology for producing quality

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			strains, Conditioning and packing of ornamental fishes. Preparation of feed, Ornamental Fish Farm Management Construction of commercial ornamental fish farm, Feeding and maintenance of stock, , Conditioning and packing of ornamental fishes. Preparation of feed, ,Management practices of backyard culture of ornamental fish, Conditioning, packing, transport and quarantine methods, Setting up of breeding tank for live bearers, barbs, goldfish, tetras, chiclids, gouramis, fighters and catfishes, Starting an aquarium shop – a business opportunity, Small scale ornamental fish farming business, Identification of ornamental fish diseases and prophylactic measures., Employability - Construction and setting of aquarium - Types of aquarium tanks, Construction of home aquarium, Setting up of home aquarium 1, Maintenance of aquarium (cleaning and water quality management), Feeding of aquarium fishes Fabrication of all-glass aquarium
Genetics and Epigenetics	CUTM1454	2020	Skill - Identification of particular linkage groups with specific chromosome, Physical distance and map distance, Interference and coincidence, Preparation of Mitotic chromosomes from the given sample, To study the karyotyping of chromosomes from the given animal samples., To study the chromatin modelling and Chromatin-immunoprecipitation (ChIP), Isolation of total histones, and resolution on SDS-PAGE., Isolation of DNA from animal cell (Isolation of nuclei (as a source for studies on structure of chromatin) from rat/mouse liver by discontinuous sucrose-density gradient centrifugation, Dosage

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			compensation in mammals, Genomic imprinting in mammals, Germline and pleuripotent stem cells, Epigenetics and human disease., Identification of inactivated X chromosomes as barr body from the given sample, Preparation and study of metaphase chromosomes from mouse bone marrow,
Microbiology	CUTM1436	2020	Skill - Preparation of bacterial smear and staining – Gram's, Acid-fast, Staining of bacterial spores flagella, capsule, spirochaetes, Isolation, purification, identification and biomass production of cyanobacteria, Methods for measurement of bacterial growth by haemocytometer and spectrophotometer, Microbial degradation of pesticides, toxic chemicals, oil; Bioleaching, bioremediation, Agricultural and food Microbiology Agriculturally important microorganisms, Mycorrhizae, Microbial mineralization, Microbial toxins, Biological control. Microbial toxins produced in food items, Probiotics and preBiotics, Methods of food preservation, Microbiological legal standards of selected food and milk products. , Estimation of phosphate solubilizing capacity of microorganisms, Qualitative analysis of Milk and milk products; Microbiological analysis of food products; Detection of bacteria in milk by Standard plate count, Antibiotic sensitivity test disc preparation; Antibiotic sensitivity test – Kirby – Bauer, Stoke's; MIC determination by filter paper disc assay, Preparation of different microbial culture media, Genetic regulation: Operon concept (lac,trpara), Genetic mapping: Genome mapping of E.

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			coli, QTL Mapping.Molecular markers in genome analysis, RAPD, RFLP,AFLP, FISH and GISH,
Mathematical Physics-I	CUTM1483	2020	Skill - Practice using programming in C.
Mechanics	CUTM1484	2020	Skill - Mechanics Lab
Thermal Physics	CUTM1485	2020	Employability - Laws of Thermodynamics, Carnot engine & efficiency. Carnot's Theorem. Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence. Applications of Second Law of thermodynamics, Entropy, Thermodynamic Potentials, Kinetic Theory of Gases, Molecular Collisions, Real Gases. Skill- Thermal Physics Lab
Waves and Optics	CUTM1486	2020	Employability - Interferometer, Diffraction grating. Resolving power of grating, Fresnel's half-Period Zones Skill - Waves and Optics Lab.
Mathematical Physics-II	CUTM1487	2020	Skill - Practice using Scilab leads to computational skill.
Electricity and Magnetism	CUTM1488	2020	Employability - Magnetic Properties of Matter, Magnetization, Electromagnetic Induction, Electrical Circuits, Network Theorem. Skill - Electricity and Magnetism Lab
Analog System and Application	CUTM1489	2020	Employability - Semiconductor Diodes, Two-terminal Devices and their Application, Amplifiers, Applications of Op-Amp. Skill - Analog Systems and ApplicationsLab
Mathematical Physics-III	CUTM1490	2020	Skill - Develop the skill of solving mathematical problems using Scilab.
Elements of Modern Physics	CUTM1491	2020	Employability - Radioactivity, Fission and Fusion, Lasers. Skill - Elements of Modern Physics Lab

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Digital Systems and Applications	CUTM1492	2020	Employability - CRO uses, Integrated Circuits, Digital Circuits, Data processing circuit, Microprocessor Architecture. Skill - Digital system Lab
Quantum Mechanics and Applications	CUTM1493	2020	Employability - Schrodinger equation and its solution, its application, hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Many electron atoms. Skill - Learn to solve quantum problems through computational methods
Solid State Physics	CUTM1494	2020	Employability - Magnetic properties of materials, dielectric properties of materials, superconductivity. Skill - Solid state physics lab
Electromagnetic Theory	CUTM1495	2020	Skill - Electromagnetic lab.
Statistical Mechanics	CUTM1496	2020	Skill - Learn to solve statistical physics problems through computational methods
Atomic Structure and Chemical bonding-I	CUTM1469	2020	Employbility-Wave mechanics,Atomic structure-2,Periodic Properties-I &II,Ionic bond,Covalent bond, Covalent character in ionic compounds Skill-Practice 1 to 12
States of matter and ionic equilibrium	CUTM1470	2020	Employbility- Gaseous State-I & II, Liquid State, Solid State,Ionic Equlibria I,II and III. Skill-Practice 1 to 12
Basics and Hydrocarbons	CUTM1471	2020	Employbility-Basics Organic Compounds, Reaction Intermediate , Chemistry of alkanes,Carbon-Carbon pi bonds, Aromatic HydrocarbonsCycloalkanes and Conformational Analysis,Stereochemistry. Skill-Practice 1 to 12
Chemical Thermodynamics and its application	CUTM1472	2020	Employbility-Chemical Thermodynamics,Chemical Thermodynamics and Open System ,Chemical Equilibrium I&II,Colligative Properties .Skill- Practice 1 to 12
S- and P-block elements	CUTM1473	2020	Employbility- General Principles of Metallurgy,Acids and Bases,Chemistry of s

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			and p Block Elements I,II and III, Noble Gases,Inorganic Polymers .Skill-1 to 12.
Oxygen Containing Functional Groups	CUTM1474	2020	Employbility- Chemistry of Alkyl Halides,Aryl Halides and Organometallic compounds,Alcohols,Carbonyl Compounds 1,Carboxylic Acids and their Derivatives and Sulfer containing compounds. Skill- All Practices
Phase Equilibria& Chemical Kinetics	CUTM1475	2020	Employbility-Phase Equilibria-1,3 , Chemical Kinetics 1&2, Catalysis, Surface Chemistry, Skill- All practices
Coordination Chemistry	CUTM1476	2020	Enterprenurship-Crystal Field Theory,Transition Elements Employbility-Bio-inorganic Chemistry-1& 2 Skill- All practices
Heterocyclic Chemistry	CUTM1477	2020	Empoybility-Amines, 5 and 6 membered Heterocyclic Compounds containing one heteroatom,Six membered and condensed Heterocyclic Compounds. Skill-All practices
Electrochemistry	CUTM1478	2020	Employbility-Conductance I,II, and III , Electrochemistry I.II Enterprernership-Energy Storage and Conversion, Skill- All Practices
Bio-molecules	CUTM1479	2020	Employbility-Amino acids, peptide and proteins, Enzymes, Bio-imaging and Bio-Medical science Enterpreneurship-Concept of Energy in Biosystems ,Pharmaceutical Compounds . Skill- All Practices
Quantum Chemistry & Spectroscopy	CUTM1480	2020	Employbility-Quantum Chemistry ,Introduction to Molecular Spectroscopy Skill-Nuclear Magnetic Resonance (NMR) spectroscopy,Electron Spin Resonance (ESR) spectroscopy,Photochemistry and all practices
Organometallic chemistry	CUTM1481	2020	Skill-Study of the following industrial processes and their mechanism and All practices

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Spectroscopy	CUTM1482	2020	Employbility- Carbohydrates, Enterprenurship-Dyes Skill- Chromatography and All practices.
Calculus	CUTM1511	2020	Skill- Tracing of different curves and functions. Employability - To explain about vector, different types of vector and vector algebra with suitable example
Linear Algebra	CUTM1512	2020	Skill –To gain the knowledge on MATLAB and uses in algebra. Employability - Preparation of working rule for finding rank of a matrix with example.
ANALYSIS-I	CUTM-1513	2020	Skill –• Describe the real line as a complete, ordered field. Employability - Determine the continuity, differentiability, and integrability
ANALYSIS-II	CUTM-1515	2020	Skill –• Describe the Riemann integrable and Riemann sums Employability - To evaluate the definite integral, double integral and triple integral
MODERN ALGEBRA	CUTM1516	2020	Skill – Effectively write abstract mathematical proofs in a clear and logical manner
ADVANCED ANALYSIS	CUTM1519	2020	Skill –To point out that iterative processes and convergence of sequences occur in many areas of mathematics, and to develop a general context in metric spaces. Employability - To reinforce ideas of proof
Ordinary Differential Equations	CUTM1514	2020	Skill –To understand solving Free Undamped Motion of a Spring System using Python and other skills Employability - Find power series solutions of 2nd order differential equations
Partial Differential Equations and System of Ordinary Differential Equation	CUTM1517	2020	Skill –Application of MATLAB in system of differential equations Employability - To practice heat and wave equations in 2D and 3D..
Numerical Analysis	CUTM1518	2020	Skill – Numerical Solution of different linear and non-linear equations using software.

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Complex Analysis	CUTM1520	2020	Skill –Learn the Plotting of complex functions using Matlab Employability - To get equipped with the understanding of the fundamental concepts of functions of a complex variable along with the concepts of analyticity, Cauchy-Riemann relations and harmonic functions.
Integral Transformations	CUTM1521	2020	Skill –To learn the Fourier series expansions of periodic functions by using Matlab Employability - Learn application of MATLAB programming
Discrete Mathematical Structure	CUTM1522	2020	Skill –To work with different types of Sets, Lattices and Boolean Algebra using Python
Linear Programming	CUTM1523	2020	Skill - To demonstration of the utilization of Linear Programming Problems in industry and business. Employability - • Formulate the necessary and sufficient optimality conditions for linear programming and demonstrate the geometrical interpretation of these conditions
Probability and Statistics	CUTM1524	2020	Skill- To apply probability and statistics in engineering and science like disease modeling, climate Prediction and computer networks etc using MATLAB
Phycology and Microbiology	CUTM1455	2020	Employability- Classification and identification of microbes and algae. Skill-Practice on staining procedure of different Algae and Bacteria. Hand on practice on Classification and identification of microbes and algae.
Biomolecules & Cell biology	CUTM1456	2020	Employability- Carbohydrates,Lipids,Nucleic Acids,Bioenergetics Skill- Students Completed practicle on analysis of carbohydrates, protein, reducing sugars etc.
Mycology & Phytopathology	CUTM1457	2020	Skill-Practice on identification of different

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			casuative agent of plant pathogen like fungi, bacteria and virus and their management.
Archegoniate	CUTM1458	2020	Employability-Learn the phylogeny of archegoniate . Skill-Practice on cutting thin sections and staining procedure of Archegoniates
Anatomy of Angiosperms	CUTM1459	2020	Employability-Learn identification of plants based on cytotaxonomy, helps in forensic science, pharmagonosy and drug development. Skill- To gain hand on skills about the anatomical details of conducting tissues and secertory tissues.
Basics of Genetics	CUTM1461	2020	Skill-Learn to carry out specific activities, such as selection of parental germplasm, conservation and recording of phenotypic variation and selection among progeny; mating systems, selection, testing and germplasm maintenance of horticultural and crop plants
Molecular Biology	CUTM1462	2020	Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing
Plant Systematics	CUTM 1464	2020	Employability- Students can easily identified plants, prepared and seposited herbarium, they also practiced digital documentation of herbarium. Skill- Hands on skill on herbarium preparation.
Reproductive Biology of Angiosperm	CUTM1465	2020	Employability -Keen Observations of some of the variation in different parts of sample fruits, and relate these modifications to changes in function,significance of angiosperm gametogenesis and fertilization, including double fertilization. Help to pursue higher studies.

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			Skill -Hands on skill on Pollen viability: Tetrazoliumtest. Germination: Calculation of percentage germination in different media using hanging drop method.
Plant Physiology	CUTM1466	2020	Employability- A keen observation and application of Plant water relationnship and Growth regulators. Skill-Hand on practice on calculate the area of an open stoma and percentage of leaf area open through stomata;Study the phenomenon of seed germination
Plant Metabolism	CUTM1467	2020	Employability- Students isolate and quantify the biomolecules, metabolites present on plants and analyse them. Skill- Hand on skill of bioassay of Avena coleoptile.
Fundamentals of Agronomy	ASAG1101	2018	Understanding the tools of agronomy and their application in crop production: skill dev.
Fundamentals of Genetics	ASPG1101	2018	Application of genetic principles in plant breeding:employbility& skill dev.
NSS/NCC/Physical Education & Yoga Practices	ASPE1101	2018	Understanding and application of different yoga asanas and pranayama techniques for physical and mental well-being :Skill & Employability
Comprehension &Communication Skills in English	ASEL1101/	2018	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Irrigation water management	ASAG1206	2018	Understsanding the practices of water management and its application in irrigation management : skill dev.& employbility
Production Technology for Vegetables and Spices	ASHO1203	2018	Understanding the different methods i.e. seed treatement and vegetative propogation for the production of vegetable crops: enterpreneurship & skill
Crop Production Technology – I (Cereals,	ASAG2103	2018	Developing skills i.e. field management, cultural practices, disease and pest

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millets and pulses) Kharif crops			management for field crop production :skill & employbility
Fundamentals of Plant Breeding	ASPG2103	2018	Understand the basic methods of plant beeding i.e. emasculation and crossing : Skill & Employability
Production technology of fruits and plantation crops	ASHO2102	2018	Understanding the different methods i.e. grafting, budding and layering for production of fruit and plantation crops: enterpreneurship & skill
Communication skills and personality development	ASEE2104	2018	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Crop Production Technology –II (Oil seeds, fiber, sugar, tobacco, and fodder Crops) Rabi crops	ASAG2204	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Production Technology for Ornamental Crops, MAP and Landscaping	ASHO2204	2018	To gain expertise in production of ornamental crops and landscaping : ,employbility & skill development
Manures, Fertilizers and Soil Fertility Management	ASAC2202	2018	Understanding the manures and fertilizer and its application:skill and employbility.
Entrepreneurship Development and Business Communication	ASEE3103	2018	Development of enterpreneurial mindset and entrepreneurial skills for building a start-ups: skill dev
Problematic Soils and their Management	ASAC3103	2018	Understanding fertility and pH levels of soil to manage problematic soils :skill dev and employability
Crop Improvement-I (Cereals,millets,pulses and oil seeds etc)(Kharif crops)	ASPG3104	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Geoinformatics and Nano-technology for Precision Farming	ASAG3110	2018	To gain knowledge in nano materials and geoinformatics applicaions i.e. moonsoon tracking system, drainage networks for precision farming:Employbility, skill and enterprenureship

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Farming System & Organic farming for Sustainable Agriculture	ASAG3207	2018	To gain expertise in organic farming practice: employbility, skill development and Enterpreneurship
Post-harvest Management and Value Addition of Fruits and Vegetables	ASHO3205	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Pests of horticultural crops and their management and Beneficial Insects	ASEN3204	2018	Identification and management of crop & storedgrain pests :employability & skill dev
Crop Improvement-II (fibre, sugar, starches, narcotics, Vegetables, fruits, and flowers)	ASPG3205	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Principles of Integrated Pest and Disease Management (50% Entomology and 50% Pathology)	ASPP3204	2018	Identification of insects pests of different crops and its integrated pest management-Entrepreneurship& skill dev,employability
Protected cultivation and post harvest technologies	ASAE3204	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Intellectual Property Rights	ASIP3201	2018	Understanding the process to file patent and register for copyrights:skill and employbility.
Agribusiness Management	ASFE2207	2018	Understanding agriculture and allied business along with building skills i.e. marketing of agri-based products : Skill &Enterpreneurship
Commercial Plant Breeding	ASFE2204	2018	Understanding of commercial plant breeding techniques i.e. emasculation, crossing and storage practices :Employability & skill development
Food safety and Standards	ASFE2201	2018	Understanding the different food safety principles i.e. pasturization, canning etc: Skill

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Biopesticides & Biofertilizers	ASFE2205	2018	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
Micro propagation Technologies	ASFE2208	2018	Gaining knowledge in different micro irrigation techniques i.e. sprinkler and drip irrigation: Skill &Employbility
Hi-tech. Horticulture	ASFE2202	2018	Gaining knowledge in different techniques i.e. vertical farming and hydroponics of hitech horticulture: skill & employbility
Remote Sensing & GIS Applications	ASFE2209	2018	Understanding the applications of remote sensing i.e. analyzing the condition of rural roads and detecting land use: Employability, Entrepreneurship and Skill development
Climate Smart Agriculture	ASFE2210	2018	Gaining knowledge on the usage of drones in agriculture for crop improvement: Employability, Entrepreneurship and Skill development
Agricultural Waste Management	ASFE2203	2018	Understsanding the various methods for agricultural waste management i.e. green waste, waste silage: Skill development
Principles of Aquaculture	ASFE2213	2018	Understanding the various methods i.e. breeding, raising and harvesting in fish production :Employability, Entrepreneurship and Skill development
RAWEP	AGRW4101	2018	To impart diagnostic and remedial practical training and skills in crop production/horticulture/plant protection through work experience: employbility,enterpreneurship and skill development.
AELP	AGEL4201	2018	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Organic Farming	CUOF2230	2020	Production of organic vegetables & fruits- Entrepreneurship& skill dev
Biopesticides and Biofertilizers	CUOF2232	2020	To understand the production of Bio fertilizers i.e. VAM, PSB, AZACTOBACTER- Entrepreneurship & skill dev
Biofertilizer and Biopesticide Production Technology	CUOF2235	2020	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
AELP Project	CUOF2236	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Breeding methods: conventional and molecular approach	CUSP2260	2020	Gaining expertise in breeding of varieties ofVegetable, Tuber and Spice Crops - Entrepreneurship & skill development
Seed production of vegetable and cereals crops	CUSP2261	2020	Gaining expertise in seed production of cereal crops- Entrepreneurship & skill development
Hybridization techniques	CUSP2263	2020	Understand the principles of hybridization and its implementation in crop improvement: Skill
Vegetable Seed production	CUSP2264	2020	Understanding and hands on training work with different vegetable seed production: Skill, enterprenureship
Cultivar purity and seed quality testing	CUSP2265	2020	Gaining expertise in seed quality testing of pure cultivars - Entrepreneurship & skill development
AELP Project	CUSP2266	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Plant Tissue Culture Technologies	CUGE2274	2020	Learning about cultures for purity and rapid multiplication of planting materials: Skill, enterprenureship
AELP Project	CUGE2276	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Development of Biopesticides and Biofertilizers	CUNU2284	2020	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
AELP Project	CUNU2286	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Applied hi-tech horticulture	CUAG2290	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Protected cultivation of vegetable crops	CUAG2291	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
High-tech fruit culture	CUAG2292	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Management of high-value cut-flowers	CUAG2293	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Management of crops in hydroponics	CUAG2294	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Use of smart tools for precision crop management	CUAG2295	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev

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AELP Project/Industrial internship	CUAG2296	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Applied hi-tech horticulture	CUPH2300	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Protected cultivation of vegetable crops	CUPH2301	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
High tech fruit culture	CUPH2302	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Production technology of cut flowers & loose flowers	CUPH2303	2020	understanding the Scope and importance of cut and loose flowers- Entrepreneurship & skill dev
Protected floriculture	CUPH2304	2020	Production of high value floriculture crops under controlled environment- Entrepreneurship & skill dev
Production management of medicinal and aromatic crops	CUPH2305	2020	Understanding the importance and practices for production technology of medicinal and aromatic crops - Entrepreneurship & skill dev
AELP Project	CUPH2306	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Agri Input Marketing	CUAB2321	2020	Skill: promotes professional marketing skills & knowledge to the participants, important for success in the marketing of agricultural inputs

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Rural Haat and Market Analysis	CUAB2322	2020	To understant the scenario and marketing stategies at rural haat- Entrepreneurship & skill development
Community Owned and Managed Agri Businesses	CUAB2323	2020	To gain knowledge of community based farming and product development- Entrepreneurship & skill development
Agri Warehouse Management	CUAB2324	2020	To gain knowledge on food grain storage and its management at ware house- Employbility & skill
Seed pathology	CUFS2331	2020	Skill and employment: Future storage of various seeds under protected condition.
Post-harvest biochemistry and physiology of crops	CUFS2332	2020	Skill:Detection of Biochemical and physiological alterations at post harvest conditions.
Pest management techniques in storage	CUFS2334	2020	To understand about different possible pest responsible for post harvest losses and their management during food storage: Skill, enterprenureship
Post-harvest storage of fruits and vegetables	CUFS2335	2020	To understand about the differnt factors responsible for post harvest losses and preservation techniques to extend the post harvest life of perishables: Skill, enterprenureship
AELP Project	CUFS2336	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Project/Industrial internship	CUDP2246	2020	Employability and skill.
Quality assurance, management and certification	CUFT2352	2020	Skill and employment:involves quality assurance of fish and fish baseed products
Fish and shellfish waste management	CUFT2353	2020	Skill and Employability:To gain knowledge on various fish and shell fish byproducts,and their waste utilization.

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Microbiological analysis of fish and fisheries products	CUFT2354	2020	Skill and employability:To gain knowledge on sampling,processing and detection of microbes for safety and quality of sea food products.
Biochemical analysis of fish and fisheries product	CUFT2355	2020	Skill and employment:To familiarize with diffrent fish physiochemical quality estimation parameters.
Preparation of different fisheries products and quality assessment	CUFT2356	2020	Skill and emplyment:To teach scientific techniques of ish processing and value addition as well as quality of processed products.
Intensive Fish Rearing	CUAQ2250	2020	Skill & Enterprenureship- To gain knowledge on intensive fish farming
Ornamental Fish Farming	CUAQ2251	2020	Skill & Enterprenureship- to gain knowledge on marketing oppurtunity and scope of ornamental fish
Biofloc Aquaculture	CUAQ2252	2020	Skill & Enterprenureship- To gain knowledge on recent advancement in fish farming and handling of its components
Framing of SOPs for Intensive fish culture and ornamental fish culture	CUAQ2253	2020	Skill & Enterprenureship- To gain knowledge on SOP framing in intensive fish farming
Health Management in Aquaculture	CUAQ2254	2020	Skill, employability & Enterprenureship- To learn the procedures of health mangement in aquaculture
Feed Management in Aquaculture	CUAQ2255	2020	Skill & Entrepreneurship-To gain knowledge on feed mangement in aquaculture
Aquaculture rearing	CUAQ2256	2020	Skill & Entrepreneurship-To gain knowledge on the techniques involved in aquaculture rearing
Principles and practices of weed management	MAAG 1102*	2017	Skill development: Identification of different weeds and their control which in turn would further provide a scope to students in chemical industries
Principles and practices of water management	MAAG 1103*	2017	Skill development: The students can learn about judicious water management using different efficient technologies which

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			would further lay emphasis on job opportunities as well as they can make themselves self sufficient by serving as entrepreneurs to serve the farming community
Agronomy of major cereals and pulses	MAAG 1204*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Agronomy of oilseed, fibre and sugar crops	MAAG 1205*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Cropping systems and sustainable agriculture	MAAG 1206*	2017	Skill development: The students acquire knowledge about different cropping systems under various climatic situations and they can make themselves self employed as sucessful entrepreneurs
Dry land farming and watershed management	MAAG2107*	2017	Skill development: On the basis of climatic situations, students will learn raising of different climate resilient crops
Soil fertility and fertilizer use	MASA1101	2017	Skill development: Students gain knowledge on the application of fertilizers and soil fertility status
Management of problem soils and waters	MASA1202	2017	Skill development: students study different methods for the reclamation of problematic soils as well as their management
Statistical methods for applied sciences	MAST 2102	2017	Skill: To exploit various statistical tools as well as techniques to compile raw data for representing the results
Library and information services	MALI1101	2017	Skill development: To gain knowledge on the utilization of library resources for the rsearch finding of experiments.
Technical writing and communication Skills	MACS1101	2017	Skill development: learn the style and skill of writing technical papers
Intellectual property and its management in agriculture	MAIP 1201	2017	Employability and Skill development: students get an overall idea of IPR and their

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			applications towards the protection of property rights
Basic concepts in laboratory techniques	MALT1201	2017	Skill: students do learn the usage of different laboratory equipments along with the standard operating procedures for handling them
Agricultural research, research ethics and rural development programmes	MAAR2101	2017	Employability and Skill development: Acquire knowledge for research ethics and government policies.
Production technology of warm season vegetable crops	MAVS 1102*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.
Seed production technology of vegetable crops	MAVS 2106*	2017	Entrepreneurship, skill and research: Development of quality seeds and planting materials
Fundamentals of processing of vegetables	MAVS 2108*	2017	Entrepreneurship and skill: To utilize the knowledge in various processing units
Post harvest technology for fruit crops	MAFS1205	2017	Entrepreneurship and skill
Principles and practices of water management	MAAG1103	2017	Skill and research: To learn the judicious utilization of water during various developmental stages of plants
Principles of genetics	MAGP 1101*	2017	Practical skills and concepts leading to research to generate high yielding varieties.
Principles of plant breeding	MAGP 1103*	2017	Technical skills leading to research
Principles of quantitative genetics	MAGP 1204*	2017	Technical Skills leading to research in quantitative genetics
Biotechnology for crop improvement	MAGP 1206*	2017	Research and skill: To raise new crop varieties using the tools of molecular biology and genetic engineering
Master's Seminar	MAGP 2191*	2017	It is a skill to bring forward the problems as well as solutions to combat the problems

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			relating to the molecular biology of the plant
Techniques in molecular biology I	MAMB1205	2017	Skill: Students learn the techniques of molecular biology and further carry out research and also serve as entrepreneurs
Development communication and information management	MAEX1102*	2017	Skill and research: students can learn the skills and involve in research activities
e-Extension	MAEX 1207*	2017	Skill: Students can learn the usage of various tools related to ICT activities and further carry out research
Market led extension management	MAEX 1208*	2017	Entrepreneurship: students can learn the marketing and entrepreneurial skills
Human Resource Development	MAEX 2109*	2017	Skill: Students can learn the skills of studying human behaviour leading the management of human resources
Agricultural Marketing & Price Analysis	MAAE 1201	2017	Entrepreneurship: students can learn the marketing skills and serve as entrepreneurs
Statistical methods for social sciences	MAST 1203	2017	Skill: Students can learn the usage of different stastical tools that in turn would provide them a scope for employment
Non-Parametrics	MAST 2104	2017	Skill: Students can learn the usage of different non parametrics such as descriptive statistics and statistical inferences which would help them for carrying out research activities
Participatory methods for technology development and transfer	MAEX1104	2017	Skill and employability: students can learn the basic concepts of participatory techniques and thereby help in technology transfer from lab to land
Entrepreneurship Development and Management in Extension	MAEX2110	2017	Entrepreneurship: Students do learn the entrepreneural skills which ultimately provides them with a scope to serve as entrepreneurs
Taxonomy of Shellfish	FSRM1102	2017	Gain knowledge about the morphometric and meristric character of shellfish for identification. Skill development

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Fish Food Organisms	FSAQ2109	2017	Learn and practice the nutritional requirements of fish/shellfish larvae and knowledge on mass culture and enrichment of live food organisms. Employability and Skill development
Freezing Technology	FSPT2103	2017	Understanding the different types of low temperature preservation, handling, storage of different type of fish and fishery products to minimize the spoilage along with post harvest loss. Employability and Skill development
Genetics and Breeding	FSAQ2111	2017	Gain knowledge on genetic basis of inheritance and breeding plans for commercially important fishes. Employability, Entreperneurship and Skill development
Fish Immunology	FSHM2106	2017	Study the types of immunity, antigen-antibody interactions and learn the Serological methods in disease diagnosis. Employability and Skill development
Fisheries Economics	FSEE2102	2017	Learning the interface between economics and effective management decisions for fisheries business firm. Employability and Skill development
Coastal Aquaculture and Mariculture	FSAQ2204	2017	To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters. Employability and skill development
Fish Nutrition and Feed Technology	FSAQ2208	2017	Practical knowledge of feed formulation and different feed processing techniques and prepare feed based on the nutritional requirements of fish/shell fish. Employability and skill development
Fish Packaging Technology	FSPT2205	2017	Learn the different types of packaging, importance of packaging in fish processing, functions, objectives and requirements. Skill development

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Fish and Shellfish Pathology	FSHM2201	2017	Study fish and shellfish pathogens, their control measures and treatments. Employability and Skill development.
Fishing Craft Technology	FSFE2203	2017	Study the operation of various types of traditional and mechanised fishing craft, design and modification. Skill development
Fisheries Extension Education	FSEE2207	2017	Acquire skills required to practice various fisheries extension approaches, the transfer of modern and scientific findings of lab to the farmers land.
Shellfish Hatchery Management	FSAQ2206	2017	Practical skills of seed production and hatchery management of commercially important crustaceans and molluscs and can setup his/her own hatchery. Employability, Entrepreneurship and Skill development.
Communication Skills and Personality Development	FSEE2208	2017	Students will improve interpersonal skills, active listening and responding skills, communication into everyday practice, teamwork and group discussions skills. Employability and Skill development.
Intensive Fish Rearing	CUAQ 2250	2020	To anable students intensive production of commercially important fishes in different aquaculture production systems at fish rearing unit and ponds-Skill development and employbility
Ornamental fish farming	CUAQ 2251	2020	Aim to Familiar students with ornamental fish culture and aquarium management-Self employability and Skill development
Biofloc Aquaculture	CUAQ 2252	2020	To maintaining biofloc culture system with latest technological advancements-Self employability and Skill development
Framing of SOPs for intensive fish culture and ornamental fish culture	CUAQ 2253	2020	Aim to familiar students with SOPs for fish feed Management and Plant Nutrient Management in Aquaponics-Skill development
Health Mangement in aquaculture	CUAQ 2254	2020	To anable students fish health managements Clinical signs, symptoms and

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			treatment for different diseases- Skill Development and Self employability
Feed Management in Aquaculture	CUAQ 2255	2020	To make practice and familiar with Identification of Suitable locally available feed ingredients and Formulation of high quality fish feed- Skill Development and Self employment.
Aquaculture Rearing	CUAQ 2256	2020	To provide students with a good understanding of auaculture rearing and managements-Skill Developments
Introduction to Forensics, Psychology, Law and Statistics	CUTM1634	2020	Skill : Student will gain knowledge of Laws, Assessment of Deception and Statistical analysis.
Instrumental Techniques	CUTM1635	2020	Skill & Employability : Student will perform analysis of various samples by using instruments such as UV, IR, TLC etc.
Crime Scene Management and Forensic Physics	CUTM1636	2020	Skill & Employability : Skill to reconstruct crime scene. Student process the simulated crime scene. Student perform examination of various evidences such as soil, glass, paint, foot print and lip prints.
Finger prints and Questioned Documents	CUTM1637	2020	Skill, Employability & Entrepreneurship, : Student develops latent fingerprints and lift them for comparison & identification purpose.Gains knowledge about various Aspects of AFIS. Student also detects Signature, hand writing & document forgery, examines counterfiet currency, passport and seal impressions. Gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope.
Business Communication	CUTM1638	2020	Skill : Improvisation in Vocubalary Skills & Personality Development, Improving Fluency, Voice Quality, Articulation.
Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry	CUTM1639	2020	Skill & Employability : Student learn and perform examination of NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.

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Forensic Biology and Forensic Medicine	CUTM1640	2020	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student performs examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling	CUTM1641	2020	Skill & Employability : Students perform experiments to detect the presence of blood, semen, saliva and other body fluids , Performs DNA extraction,
Forensic Toxicology and Pharmacology	CUTM1642	2020	Skill & Employability, : Student isolate and Extract poisons\ Drugs from samples and detrmines the presence of various poisons. Also gains knowledge about interpretation of toxicological finding and preparation of reports.
Forensic Ballistics and Computer Forensics	CUTM1643	2020	Skill & Employability : Student gains knowledge about various aspects of ballistics, characteristics of ammunitions and Compurter Foreniscs. Student also perform instrumental analaysis of GSR & examines bullets and cartridge cases to determine the source of origin.
Concepts of Toxicology	CUTM1648	2020	Skill & Employability, : Students do analysis of various poison such as metallic poison, pesticides, plant poisons etc. and gains knowledge about interpretation of toxicological finding and preparation of reports.
Modern and Applied Analytical Forensic Chemistry	CUTM1649	2020	Skill & Employability : Student performs analysis of Various Cases in Forensic Chemistry, Validation of new methods & Accreditation in FSL's, Analysis of NDPS, Explosives, Fire, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres & Exmination of Forensic Chemicals.

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Molecular Biology and Genetics	CUTM1644	2020	Skill & Employability : Student performs serological analysis, quantification of DNA, Extraction of DNA from different sources. Also gains knowledge about genotyping and result preparation.
Biotechnology in Pharmaceutical Sciences	CUTM1645	2020	Skill & Employability, : Student studies about recombimant DNA Technology, Quality Assurance and Quality control, Studying Bioinformatics, intelectual property rights. Student performs isolation of bacteria, genomic an plasmid DNA & Western blotting
Environmental Biotechnology	CUTM1646	2020	Skill & Employability, : Student performs practicals to detect pollutants in samples & estimation of BOD. Student gains knowledge about measurement of pollutants with the help of biosensor and biomarker, Measurement of Biomagnification, Waste water management and Treatment.
Modern Trends in Fingerprint Sciences	CUTM1653	2020	Skill, Employability & Entrepreneurship, : Student Classifies, develop, Identifies and Compares fingerprint (latent and patent prints), performs experiments to identify lip prints. Gains knowledge about various Aspects of AFIS and use of nanoparticles in fingerprint development.
Questioned Document and Forensic Accounting	CUTM1654	2020	Skill, Employability, Entrepreneurship, : Student gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope. Also performs detection of forgeries & deciphermnet of Charred Documents, Secret Writing and indented, Examination of aging of paper, Basics of Forensic Accounting.
Forensic Photography and Biometric Traits	CUTM1655	2020	Skill & Employbility : Student will gain knowledge about Basics ofcrim scene photography and laboratory photography. Students take photographs of simiulated

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			crime scene and enhances the images using photo shop. Student also gains knowledge about techniques of Biometric recognition (hand fingerprint, facial iris and retina.
Assignment	CUTM1656	2020	Skill : Student study various cases where forensic science played significant role in delivery of justice and write reports.
Seminar	CUTM1657	2020	Skill : Student takes up cases and topics relevant to their specialization subjects and delivers the same.
Project	CUTM1658	2020	Skill, Employability & Entrepreneurship, : Student develops the skill to undertake research. Student carries out project by getting hands on training on various instruments.
Computer Networks	CUTM1620	2020	Skill Development , Employability-Learning about computer network & network security
Cyber Crime & Investigations	CUTM1621	2020	Skill Development,Employability-Learning about Analytical Skills,Comprehension of Cybersecurity Fundamentals and good practices for digital evidence and digital forensics: Skill Development
Number theory &Cryptography	CUTM1623	2020	Skill Devlopment,Employability-implement and analyse algorithms for integer factorization and primality testing: Skill Devlopment
Advanced Information Security	CUTM1624	2020	Skill Development, Employability-Focus on the CIA models, tools, and techniques for enforcement of security
Cyber Forensics	CUTM1625	2020	Skill Development, Employability-Focus on analysis and assessment of risk assesment process & control : Skill Development, Employability
System and Network Security	CUTM1626	2020	Skill Development, Employability-Gaining practical experience in installation, monitoring, and troubleshooting of current LAN systems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Business Continuity Planning (BCP) And Disaster Recovery (Dr)	CUTM1630	2020	Skill Devlopment-Learning how to reduce the overall risk & manage the company
Basics of forensic sciences	CUTM1659	2020	Skill : Student gains knowledge about fundamentals of forensic science, organizational setup of different FSLs in India, functioning of national and international investigative agencies, code of conduct, ethical issues, professional standards, qualification of forensic scientists, report writing.
Crime and society	CUTM1660	2020	Skill : Student studies basic cocepts of criminology, criminal profiling, types of crime, victimology, penology, psychological disorders and criminality, CJS, case studies
English	CUTM1673	2020	skill : Learns to communicate fluently in different business situation, effective oral and written communication, appropriate words usage with correct pronounciation, clarity of word stress and intonation
Criminal law	CUTM1661	2020	Skill : Student studies criminal procedure code, IPC, IEA, constitutions of india, acts pretaining to socio- economic and environmental crimes
Forensic Psychology	CUTM1662	2020	Skill : Student gains knowledge about fundamental concepts of forensic psychology and forensic psychiatry , the legal aspects of forensic psychology, significance of criminal profiling, the importance of psychological assessment in gauging criminal behaviour, tools and techniques for detection of deception (polygraph, narco analysis, brain mapping)
Forensic Dermatoglyphics	CUTM1663	2020	Employability & skill : Student locates, develops, lifts and compares fingerprint for identification. Also performs physical and chemical techniques for developing latent fingerprints, collect and examines lipprints, footprints.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Technological methods in forensic sciences	CUTM1664	2020	Employability & skill : Student uses chromatographic methods to separate various samples, gains hands on experience of various instruments
Criminalistics	CUTM1665	2020	Employability & skill : Students visit the simulated crime scene and documents the crime scene.Gains knowledge about the legal importance of chain of custody, the tools and techniques for analysis of different types of crime scene evidence
Introduction to biometry	CUTM1675	2020	Skill & Employability : Student learns the basics of biometry, classification and importance of behavioural biometry. Student identify individual characteristics of Fingerprints.
Forensic chemistry	CUTM1666	2020	Employability & skill : Student analyses petroleum products in fire debris,adulterants in petroleum products. Gains knowlege about the method of searching, collecting and preserving and analyzing arson evidence, significance of bomb scene management, techniques of locating hidden explosive
Questioned documents	CUTM1667	2020	Employability, Entrepreneurship & skill : Student examines the authenticity of signature, handwriting and other documents.Also gains knowledge of working principles of ESDA, VSC, Projectina nirvis, stereo microscope.
Forensic biology	CUTM1668	2020	Employability & skill : Performs analysis of biological and serological evidence such as blood, urine, semen etc. in crime investigations, Gains knowledge about wild life forensics in conserving natural resources, importance of forensic entomology in death investigations.
Handwriting identification and recognition	CUTM1676	2020	Skill & Employability : Student learns importance features in handwriting identification, basics of handwriting

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			characteristics. Student analyses handwriting samples for prescence of forgery and various other security documents.
Analytical Techniques	CUTM1709	2020	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Clinical Hematology	CUTM1712	2020	Differentiate various hematological procedures and the use of basic equipment essential to working in a Hematology Laboratory: Skill dev. & Employbility & Enterpreunership
Clinical Pathology	CUTM1715	2020	Pathological investiations of urine, stool and other biological specimen: Employbility/ Enterpreunership/ Skill
Clinical Biochemistry	CUTM1718	2020	Understanding of principle of biochemical Clinical biochemistry tests; to study about diseases related to biochemical and hormone imbalance in human body: Employbility/ Enterpreunership/ Skill
Histology	CUTM1720	2020	Special staining procedures & handling & testing of various cytological specimens: Employbility/ Skill dev.
General Microbiology	CUTM1711	2020	practical skills in microscopy and their handling techniques and staining procedures: Employbility/ Skill
Systemic Bacteriology	CUTM1713	2020	Conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body: Employbility/ Skill
Applied microbiology	CUTM1717	2020	Microbiology in diagnostics, hospitals and community: Employbility/ Enterpreunership/ Skill
Medical Parasitology and Mycology	CUTM1716	2020	Identification of pathogenic parasite and fungus in disease diagnosis and treatment: Skill dev./ Employbility
Immunology & Virology	CUTM1719	2020	Immunological investigations and viral diagnosis: Skill dev. & Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Clinical Bacteriology	CUTM1722	2020	Diagnosis of bacteria from infective regions of the body: Skill dev. & Employbility
Research Methodology	CUTM1721	2020	Provide learning opportunities to critically evaluate research methodology and findings: Skill
Mini Project	CUTM1754	2020	Research paper publication/ case study/ clinical study/ community service/ survey: Skill dev and Employbility
Project	CUTM1756	2020	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	CUTM1755	2020	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Blood Banking	CUTM1725	2020	Perform phlebotomy and related donor room activity in blood bank: Skill dev and Employbility
Medical Microbiology	CUTM1724	2020	Demonstrate practical skills in the use of tools, technologies and methods common to microbiology, and apply the scientific method and hypothesis testing in the design and execution of experiments: Skill dev. & Employbility
Immunology & Parasitology	CUTM1728	2020	To diagnose the immunological investigations and parasites: Skill dev. & Employbility
Advanced Hematology	CUTM1727	2020	Compare and contrast hematology values under normal and abnormal conditions: Skill dev. & Employbility & Enterpreunership
Basic computer and Information Science	CUTM1742	2020	Understand the difference between an operating system and an application program, and what each is used for in a computer: Employbility/ Skill
Medical Law and Ethics	CUTM1734	2020	Apply local, state, and federal standards and regulations for the control and use of health information: Skill

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Introduction to Quality and Patient safety	CUTM1753	2020	Understand policy related to managing lab and infection control:Employbility/ Skill/ Enterpreunership
Microbiology	CUTM1733	2020	Concept of the pathogenecity and culturing of microorganisms: Employbility/ Skill/ Enterpreunership
Medical Laboratory Management	CUTM1751	2020	Recognize the role of clinical laboratory scientist in the assurance of quality health care:Employbility, Skill Dev, Entreprenurship
Medical Instrumentation and Techniques	CUTM1730	2020	handling instruments required in Medical Laboratory set up: Skill dev. & Employbility & Enterpreunership
Immunology	CUTM1736	2020	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Molecular Biology	CUTM1737	2020	Basic techniques applicable in Molecular Biology: Skill dev/ Employbility
Hematology	CUTM1731	2020	Differentiate various laboratory test findings with their associated clinical conditions: Employbility/ Enterpreunership/ Skill dev
Systemic Virology & Mycology	CUTM1735	2020	Understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body: Employbility/ Skill
Analytical Biochemistry	CUTM1738	2020	Learning various tests carried out for biochemical analysis & Hormone investigations: Skill dev. & Employbility & Enterpreunership
Diagnostic Bacteriology	CUTM1747	2020	Lab diagnosis for Enteric infection, Respiratory tract Infection, Oral & Stomach infection, Urinary tract infections: Employbility/ Skill
Diagnostic Mycology	CUTM1745	2020	Understanding pathogenic fungi and the mechanisms by which they cause disease in the human body: Skill dev and Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Diagnostic Virology	CUTM1743	2020	Collection, transportation, processing and storage of Virus: Skill dev and Employbility
Diagnostic Parasitology	CUTM1744	2020	Collectionand identification of Parasites: Skill dev and Employbility
Applied Hematology	CUTM1749	2020	Understanding of Haemopoietic disorders and their laboratory diagnosis : Skill dev. & Employbility & Enterpreunership
Immunopathology	CUTM1750	2020	organization and functioning of the immune system, their diagnostic tests described on immunological techniques: Skill dev and Employbility
Parasitology	CUTM1748	2020	Identification of pathogenic parasite in disease diagnosis and treatment: Skill dev. And Employbility
Mycology & Virology	CUTM1752	2020	Plan and execute investigations relating to fungi to virus: Skill dev and Employbility
MATHEMATICS	CUTM1761	2020	represent linear systems by matrices and solve them for unknown variables: Skill
RADIOGRAPHIC TECHNIQUE -1	CUTM1767	2020	Position the tube; give instructions to the patient; assist radiologist in various procedures: Employbility / Skill
BASIC OF MAGNETIC RESONANCE IMAGING	CUTM1776	2020	Understand patient positioning during the MRI procedure of different organ system to obtain well defined images for proper diagnosis of MRI films and images: Employbility/ Skill
PHYSICAL OPTICS	CUTM1784	2020	Predict the distribution of light under various conditions: Employbbility/ Skill
VISUAL OPTICS I	CUTM1786	2020	Predict the basic properties of the images formed on the retina by the optics of the eye: Employbility/ Skill
OPTOMETRIC OPTICS I	CUTM1787	2020	Ophthalmic prism knowledge –effects, units, base-apex notation, compounding and resolving prisms: Entrepreneurship/ Skill
CLINICAL EXAMINATION OF VISUAL SYSTEM LAB	CUTM1790	2020	Knowledge on the purpose of each test, its indications and contraindications and will

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			be able to perform various clinical tests: Enterpreunership/ Employbility/ Skill
VISUAL OPTICS II	CUTM1791	2020	Theoretical knowledge and practical skill on visual acuity measurement, objective and subjective clinical refraction: Employbility/ Skill
OPTOMETRIC OPTICS II & DISPENSING OPTICS	CUTM1792	2020	Facial measurements - Interpupillary distance measurement and measuring heights (single vision, multifocal, progressives); Lens verification and axis marking and fitting of all lens types; Final checking of finished spectacle with frame adjustments: Employbility/ Enterpreunership/ Skill
CONTACT LENSES II	CUTM1795	2020	Special cases CL fitting; Identify and manage the adverse effects of contact lens: Employbility/ Skill
BINOCULAR VISION I	CUTM1796	2020	Depth perception; Binocular optical defects; Basic binocular evaluation: Employbility/ Skill
LOW VISION AND REHABILITATION	CUTM1797	2020	Optical, Non-Optical, Electronic, and Assistive devices; Training for Low Vision subjects with Low vision devices; Referrals and follow-up: Employbility/ Skill
BASIC & OCULAR PHARMACOLOGY	CUTM1798	2020	Commonly used ocular drugs, mechanism, indications, contraindications, drug dosage and adverse effects: Employbility/ Skill
PEDIATRIC & GERIATRIC OPTOMETRY	CUTM1800	2020	Be able to dispense spectacles with proper instructions; Adequately gained knowledge on common ocular diseases: Employbility/ Skill
OCCUPATIONAL OPTOMETRY	CUTM1802	2020	To be able to prescribe suitable corrective lenses and eye protective wear: Employbility/ Enterpreunership/ Skill
LAW AND OPTOMETRY	CUTM1805	2020	Universal consensus that legal and ethical considerations are inherent and inseparable parts of good medical practice across the whole spectrum: Skill

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PUBLIC HEALTH & COMMUNITY OPTOMETRY	CUTM1804	2020	Organize health education programmes in the community; Vision screening for various eye diseases in the community and for different age groups: Employbility/ Skill
OPTOMETRIC INSTRUMENTS	CUTM1803	2020	Gain theoretical knowledge and basic practical skill in handling the advanced instruments: Employbility/ Enterpreunership/ Skill
PROJECT	CUTM1809	2020	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
INTERNSHIP	CUTM1810	2020	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Human Anatomy and Physiology I– Theory	BPHT1101	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Analysis I – Theory	BPHT1102	2017	Skill-Employability-Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Pharmaceutics I – Theory	BPHT1103	2017	Skill- Employability- Entrepreneurship - Understand the impact of pharmaceutical solutions in a global, economic, environmental, and societal context
Pharmaceutical Inorganic Chemistry – Theory	BPHT1104	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Communication skills – Theory *	BPHT1105	2017	Skill- Students can improve their coomunication Skill
Human Anatomy and Physiology – Practical	BPHL1101	2017	Skill-allows Students to verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Analysis I – Practical	BPHL1102	2017	Skill- Employability- Students can assay ,preparaed and standarized various Heavy metals and Chemicals

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Pharmaceutics I – Practical	BPHL1103	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Pharmaceutical Inorganic Chemistry – Practical	BPHL1104	2017	Skill- Students can perform purity test on drugs or chemicals
Communication skills – Practical*	BPHL1105	2017	Skill- Students can improve their coomunication Skill
Remedial Biology – Practical*	BPHL1106	2017	Skill- Students can learn about structure and functional system of plant and animal kingdom
Human Anatomy and Physiology II – Theory	BPHT1201	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Organic Chemistry I – Theory	BPHT1202	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Pathophysiology – Theory	BPHT1204	2017	Skill-Employability-student get to know about various communicable diseases and pathophysiology along with all thetechniques for screening test .
Computer Applications in Pharmacy – Theory *	BPHT1205	2017	Skill-Employability-Buiding compitancy in programme coding, various softwares, simulation techniques, statistical application etc.
Human Anatomy and Physiology II –Practical	BPHL1201	2017	Skill- allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Organic Chemistry I– Practical	BPHL1202	2017	Skill-Students can do qualitative analysis and synthesis of Organic Compound
Biochemistry – Practical	BPHL1203	2017	Skill- Students can demostate different Biochemical Test

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Computer Applications in Pharmacy – Practical*	BPHL1204	2017	Skill-Allows students to details with Database, Database Management system, computer application in clinical studies and use of databases
Pharmaceutical Organic Chemistry II – Theory	BPHT2101	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Physical Pharmaceutics I – Theory	BPHT2102	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmaceutical Microbiology – Theory	BPHT2103	2017	Skill- Employability- Carried out sterility testing, microbiological standardization of Pharmaceuticals and perform cell culture technology and its applications in pharmaceutical industries
Pharmaceutical Engineering – Theory	BPHT2104	2017	Skill -Employability- Enterprenurship- students can able to unterstand and perform unit operations, material handling techniques, screening test and plant lay out design for optimum use of resources used in Pharmaceutical industries
Pharmaceutical Organic Chemistry II – Practical	BPHL2101	2017	Skill-Stuents can do qualitative analysis and synthesis of Organic Compound
Physical Pharmaceutics I – Practical	BPHL2102	2017	Skill- Allows student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmaceutical Microbiology – Practical	BPHL2103	2017	Skill- Allows students to study of all categories of microorganisims especially for the production of alchol antibiotics, vaccines, vitamins enzymes etc.
Pharmaceutical Engineering –Practical	BPHL2104	2017	Skill- Students can get fundamental knowledge on the art and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			science of various unit operations used in pharmaceutical industry
Pharmaceutical Organic Chemistry III– Theory	BPHT2201	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Physical Pharmaceutics II – Theory	BPHT2203	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmacology I – Theory	BPHT2204	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry I– Theory	BPHT2205	2017	Skill - Students can do identification and evaluation, phytochemicals present in them and their medicinal properties
Medicinal Chemistry I – Practical	BPHL2201	2017	Skill - Students can get fundamental knowledge on the structure, chemistry and synthesis of each class of drug
Physical Pharmaceutics II – Practical	BPHL2202	2017	Skill-student get to know better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmacology I – Practical	BPHL2203	2017	Skill -Student can Observe the effect of drugs on animals by simulated experiments
Pharmacognosy and Phytochemistry I – Practical	BPHL2204	2017	Skill-Extraction and isolation of plant product ,determination of chemical parameter of plant product with molecular modeling and geometrical optimization
Industrial Pharmacy– I Theory	BPHT3102	2017	Skill-Employability-Entrepreneurship- students get to design and develop process to meet desired needs within realistic

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			constraints to formulate and solve complex pharmaceutical problems.
Pharmacology II – Theory	BPHT3103	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry II– Theory	BPHT3104	2017	Skill-Emloyability-Isolate, Identify, Analyze, screen and ensure quality as ell as quantity of drugs/pharmaceuticals and also able to design phytopharmaceutical schemes of crude drugs estimation
Industrial Pharmacy I – Practical	BPHL3101	2017	Skill- Students can Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality
Pharmacology II – Practical	BPHL3102	2017	Skill- Students can demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments
Pharmacognosy and Phytochemistry II – Practical	BPHL3103	2017	Skill- Students can carryout isolation and identification of phytoconstituents
Pharmacology III – Theory	BPHT3202	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Herbal Drug Technology – Theory	BPHT3203	2017	Skill-Employability- students get to know basic principles of traditional medicinal systems with method of preparation and standardization of ayurvedic formulations
Biopharmaceutics and Pharmacokinetics – Theory	BPHT3204	2017	Skill- Employability- student get to know about pharmacokinetic and pharmacodynamic parameters of different dosage form and use the techniques, skills, and modern pharmaceutical instruments

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and tools necessary for pharmacy profession
Quality Assurance – Theory	BPHT3206	2017	Skill-Employability- students get to know about the validation, confirmation of test product substance and able to analyze, screen and ensure quality of drugs/pharmaceuticals.
Medicinal chemistry III – Practical	BPHL3201	2017	Skill- Students can do chemical synthesis of selected drugs
Pharmacology III – Practical	BPHL3202	2017	Skill- Students can demonstrate the various receptor actions using isolated tissue preparation
Herbal Drug Technology – Practical	BPHL3203	2017	Skill- Students can preparae herbal cosmetics, natural sweeteners, nutraceuticals
Instrumental Methods of Analysis – Theory	BPHT4101	2017	Skill-Employability- Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession.
Industrial Pharmacy –II Theory	BPHT4102	2017	Skill-Employability-Entrepreneurship- students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Pharmacy Practice – Theory	BPHT4103	2017	Skill-Emlpoyability-Enterprenurship- Understanding of professional and ethical responsibility, Manage contemporary pharmaceutical projects, Function effectively as a leader and member of multidisciplinary teams.
Novel Drug Delivery System – Theory	BPHT4104	2017	Skill-Employability-To Design and develop process to meet desired needs in formulation and evaluation of various drug delivery system.
Instrumental Methods of Analysis – Practical	BPHL4101	2017	Skill- Students can perform quantitative & qualitative analysis of drugs using various analytical instruments

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Practice School*	BPHL4102	2017	Employability- Skill- Enterprenership Sudents get to know about practice work for any subjective topics, Engage in life-long learning.
Biostatistics and Research Methodology	BPHT4201	2017	Skill- students get to know the appropriate statistical methods required for a particular research design and able to design and conduct experiments, as well as to carry out problem analysis data interpretation
Social and Preventive Pharmacy	BPHT4202	2017	Skill-Employability-students get to know different preventive measures in pharmacy, Understanding of professional and ethical responsibility.
Pharmaceutical Regulatory Science	BPHT4204	2017	Skill-Employability-students get to know about different regulatory bodies, Engage in life-long learning.
Project Work	BPHP4201	2017	Skill-Emploability-Enterpreurship-Students get to know about plan of work related to the subjective topics and question answer discussion.
Office Automation	CUTM1895	2020	Skill - Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards.
Programming in Python	CUTM1896	2020	Skill - Python programming for data visualization and data analytics
OOPs with C ++ Programming	CUTM1897	2020	Skill - Object-oriented programming with C++ to solve various problems.
Operating System Concepts	CUTM1879	2020	Skill- Concept of operating system and its impact on application system design and performance
Database Management Systems	CUTM1884	2020	Skill - Database and file management
Java Technologies	CUTM1900	2020	Skill-Integrated development environment to write, compile, run, and test object-oriented Java programs to solve real-world problems

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Internet and Web Technology	CUTM1902	2020	Skill - Design and development of web programming.
Dot Net Technology	CUTM1901	2020	Skill- Dot Net Framework
Digital Painting	CUTM3115	2020	Skill-Design and development of desktop publishing
Apparel Production & Marketing	CUTM3029	2017	Employability/Skill - Practice and Project
Line Stitching Supervising	CUTM3030	2017	Employability/Skill - Practice and Project
Apparel Production	CUTM3031	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Light Motor Vehicle Driving	CUTM3032	2017	Employability/Skill - Practice and Project
Fork Lift Operation	CUTM3033	2017	Employability/Skill - Practice and Project
Heavy Vehicle Technology	CUTM3034	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Two Wheeler Service Technology	CUTM3035	2017	Employability/Skill - Practice and Project
Four Wheeler Service Technology	CUTM3036	2017	Employability/Skill - Practice and Project
E-Vehicle Assembly and Service Technology	CUTM3037	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Robotics	CUTM3038	2017	Employability/Skill - Practice and Project
Poultry Farming	CUTM3039	2017	Employability/ Entrepreneurship/Skill
CNC Programming (CAM)	CUTM3040	2017	Employability/Skill - Practice and Project
Design Supervising Wooden and Modular Furniture	CUTM3041	2017	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to Composite Manufacturing	CUTM3042	2018	Employability/Skill - Practice and Project
3D Modelling and Printing	CUTM3043	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Precast Concrete Manufacturing	CUTM3045	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Fabrication	CUTM3046	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Hi-Tech Surveying	CUTM3047	2018	Employability/Skill - Practice and Project
Internet of Things	CUTM3048	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Mechatronics System Design	CUTM3049	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nanotechnology	CUTM3051	2018	Employability/Skill - Practice and Project
Drone Piloting	CUTM3052	2018	Employability/Skill - Practice and Project
Camera Operation	CUTM3053	2018	Employability/Skill - Practice and Project
Editor	CUTM3054	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Desktop Publishing	CUTM3055	2018	Employability/Skill - Practice and Project
Introduction to Blender and Unity tools	CUTM3056	2018	Employability/Skill - Practice and Project
Refraction Technology	CUTM3057	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Emergency Medical Technology	CUTM3058	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Medical Lab Technology	CUTM3059	2019	Employability/Skill - Practice and Project
Operating Theatre Technology	CUTM3060	2019	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Radiology Technology	CUTM3061	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Phlebotomy Technology	CUTM3062	2019	Employability/Skill - Practice and Project
First Aid Service	CUTM3063	2019	Employability/Skill - Practice and Project
General Duty Assistance Service	CUTM3064	2019	Employability/Skill - Practice and Project
X- ray Technology	CUTM3065	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Retail Sales	CUTM3067	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Basketball	CUTM3068	2019	Employability/Skill - Practice and Project
Gym Fitness	CUTM3069	2019	Employability/Skill - Practice and Project
Swimming	CUTM3070	2019	Employability/Skill - Practice and Project
Yoga & Meditation	CUTM3072	2019	Employability/Skill - Practice and Project
Solar PV Installation	CUTM3073	2019	Employability/Skill - Practice and Project
Solar Lighting Technology	CUTM3074	2019	Employability/Skill - Practice and Project
Solar PV Microgrid System	CUTM3076	2019	Employability/Skill - Practice and Project
Solar PV Driven Equipment O/M & Assembly	CUTM3077	2019	Employability/Skill - Practice and Project
Solar Thermal Engineering	CUTM3078	2019	Employability/Skill - Practice and Project
Introduction to Quantum Computing	CUTM3079	2020	Employability/Skill - Practice and Project
Organic Farming	CUTM3081	2020	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Mushroom Farming	CUTM3082	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Hydroponics Technology	CUTM3083	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Poultry Farming	CUTM3084	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Dairy Farming	CUTM3085	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Vermicomposting Farming	CUTM3086	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Transformer Manufacturing, Repairing and Maintenance	CUTM3087	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Electrical Installation	CUTM3089	2020	Employability/Skill - Practice and Project
Repair and Maintenance of Home Appliances	CUTM3090	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Refrigeration and air conditioning	CUTM3091	2020	Employability/Skill - Practice and Project
Super critical Co2 plant operation	CUTM3092	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Business Plan Preparation	CUTM3095	2020	Employability/Skill - Practice and Project
Composite fabrication practice	CUTM3098	2020	Employability/Skill - Practice and Project
Powder coating practice	CUTM3099	2020	Employability/Skill - Practice and Project
Farm appliances operation	CUTM3100	2020	Employability/Skill - Practice and Project
Bio fertilisers preparation	CUTM3103	2020	Employability/ Entrepreneurship/Skill - Practice and Project
PCB designing & fabrication	CUTM3104	2020	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to Block Chain Technology	CUTM3105	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nutraceuticals	CUTM3106	2020	Employability/Skill - Practice and Project
Introduction to NLP	CUTM3107	2020	Employability/Skill - Practice and Project
Introduction to Computational Biology	CUTM3108	2020	Employability/Skill - Practice and Project
Product Life Cycle Management through Gate process	CUTM3109	2020	Employability/Skill - Practice and Project
New material development with Biovia	CUTM3110	2020	Employability/Skill - Practice and Project
Spectral image processing using Python	CUTM3111	2020	Employability/Skill - Practice and Project
Satellite data processing	CUTM3112	2020	Employability/Skill - Practice and Project
Working with Graphene and carbon fibre	CUTM3113	2020	Employability/Skill - Practice and Project
Adobe Tools and Illustrations	CUTM3114	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Computer Installation and Maintenance	CUTM3120	2020	Employability/ Entrepreneurship/Skill - Practice and Project
2021-22			
Name of the Course	**Course Code**	**Year of introduction**	**Activities/Content with direct bearing on Skill development**
Differential Equations and Linear Algebra	CUTM1001	2020	Skill Development(Students will know about the modelling of different engineering application) Skill Development(Students will know about modelling of problems related to system of equations in engineering application)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Laplace & Fourier Transforms	CUTM1002	2020	Skill Development(Students will know to find the solution using Laplace and Fourier transform)
Complex Analysis & Numerical Methods	CUTM1003	2020	Skill Development(Students will know to find the solution using complex integral)
Discrete Mathematics	CUTM1004	2020	Skill Development(Students will know about graphs, sets and logic)
Probability & Statistics	CUTM1005	2020	Employability (Students will know about probability distribution) Skill (Students will know about mean, media, mode)
Optics and Optical Fibers	CUTM1007	2020	Employability (knowledge enhancement) / Skill development (LASER and Optical fiber portion)
Applied Analytical Chemistry	CUTM1008	2020	Employability-Water softening processes, Soil Analysis,fuels,petroluem,Corrosion,Electrochemical Phenomenon,error analysis Skill-All Practices.
Applied Engineering Materials	CUTM1009	2020	Employbility- Nanostructures and nanomaterials,Carbon nanomaterials,Polymers,Composites:,Adhesives Lubricants ,: Energy Storages material-I&II Skill-All Projects.
Optimisation Techniques	CUTM1011	2020	Skill Development (Students shall be able to apply the theory of optimization methods and algorithms to develop and for solving various types of optimization problems). Employability and Entrepreneurship (Students shall be able to solve the mathematical results and numerical techniques of optimization theory to concrete Engineering problems by using computer software)
Engineering Economics and Costing	CUTM1012	2020	Skill Development (Students shall be able to apply the microeconomics concepts related to business and its impact on enterprise). Employability and Entrepreneurship (Students shall be able to

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			apply cost concepts to analyse common business management decisions such as pricing a product and services)
Project Management	CUTM1013	2020	Skill Development (Students shall be able to develop a Project Charter document for any project). Employability and Entrepreneurship (Students shall be able to implement the Project and Prepare a project document that they have undertaken as a learning tool)
Gender, Human Rights and Ethics	CUTM1014	2020	Skill Development (Students shall be sensitive to gender, human rights and ethics within an organizational context). Employability and Entrepreneurship (Students shall be able to integrate concerns related to gender, human rights and ethics into the policies, processes and systems in an organization)
Climate Change, Sustainability and Organisation	CUTM1015	2020	Skill Development (Students will be exposed to current climate change issues, challenges and debates). Employability and Entrepreneurship (Students shall be equipped to develop strategies for perspective planning of organisations)
Job Readiness	CUTM1016	2020	Skill Development (Develop additional skills (verbal, logical, quantitative and reasoning) required to enhance employability as well as the entrepreneurial ability of the students). Employability (Students will develop skill in the area of proficiency in english, reasoning and aptitude, which are required to obtain a job)
Industrial IOT and Automation	CUTM1017	2020	Skill Development and Employability (the new evolution in hardware, software, and data. While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			technology architectural choices to security concerns)
Data Analysis and Visualisation using Python	CUTM1018	2020	Skill And Employability(Students had Created data visualizations of various data sets using matplotlib and the seaborn modules with python and also developed portfolios of various data analysis projects .)
Machine Learning using Python	CUTM1019	2020	Skill And Employability(Implement ML algorithms that generates insight to high volume data and helps to make better classifications and prediction. The students are able to solve problems in areas computational finance, image processing and computer vision, energy and natural language processing.)
Design Thinking	CUTM1021	2020	Skill And Employability (student will be able to apply the design thinking process to innovative problem solving)
Construction Material Testing	CUTM1069	2020	Skill Development(Gain knowledge about how determine the standard quality of construction materials)
Quantity Estimation & Costing	CUTM1063	2020	Skill development(Students will be able to Estimating, brick calculations & cost for different materials, foundation & footing calculations. Gain knowledge about how to schedule & estimate different construction works both manually and using software.)
Geometric Modeling	CUTM1060	2020	Skill development(Students will be able to Demonstrate use of CAD in Civil Construction, basic knowledge of operating software & commands, and benefit of civil developments in the construction industry. Do 2d &3d drafting /design with AUTO CAD software.)
Hydrology and Irrigation	CUTM1071	2020	Skill development(Project oriented skills shall be gained by students to work

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			efficiently in survey, planning, design and construction in irrigation sector.)
Surveying Techniques	CUTM1067	2020	Skill development(Doing centering, leveling & measuring coordinate points of area and calculation, transfer to data from Total station to software spectrum link Doing field work using of simple machine parts such as Total –Station, Auto- level)
Geospatial Survey	CUTM1068	2020	Skill development(Gain knowledge about the structure of spatial data including file associations, attribute tables, Metadata, coordinate systems, and projections Carryout measurements Differential Global Positioning System (DGPS)/ Global Navigation Satellite System (GNSS) in field. Preparation & digitization of different topography map with the help of Arc-GIS software)
Concrete Technology	CUTM1066	2020	Skill development(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)
Electrical, Plumbing, and Woodwork	CUTM1065	2020	Skill development(Identify timber and perform sawing and planning using hand and power tools. Demonstrate surface finish with exact sizing by planning operation. Prepare different wooden Joints. (Range of skill - framing joint, Housing joints,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			broadening joints, Lengthening joints) Make small wooden job as per drawing with schedule sizes of timber or alternatives of timber i.e. FRP, MDF, FOAM using various hardware. Make different types of doors and windows with fixing of components.)
Design of Structure	CUTM1074	2020	Skill development(To gain the knowledge of RCC design calculation with relevant Indian Standards. • After completion of the courses the students will gain knowledge of Pre-Engineered design calculation with relevant Indian Standards • Students will develop skill of converting client's requirement to structural drawing by using ETABS.)
Road Engineering	CUTM1070	2020	Skill development(Students will gain knowledge on planning, material selection for construction, Economics and finance and designing of elements on highway. Acquire the skill of designing the geometric elements of highway using CIVIL 3D software.)
Construction Materials	CUTM1064	2020	Skill development(Knowledge: Able to learn basic theory about main building- and construction materials. Skills: Able to make right and well-founded choice of materials. General competence: Understand how properties of materials that are important in engineering can be related to the characteristics of the material.)
Water Supply and Sanitary Engineering	CUTM1072	2020	Skill development(To understand the principles of treatment units and their design units of drinking water, solid andliquid waste water treatmentunits; its recycle, reuse or disposal methods along

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			with hands on practice of house plumbing and sanitary fittings)
Computer-Aided Engineering	CUTM1081	2020	Skill development(Students will be able to Create complete finite element models Submit and monitor analysis jobs View and evaluate simulation results)
Hydraulic Machinery	CUTM1090	2020	Skill development(• After completion of the course, the students will have a strong foundation on the pertinent equations to engineering design of the machines for required applications. • Students will learn to determine performance characteristics of fluid machinery by using various simulation tools)
Fluid Mechanics with FVM	CUTM1089	2020	Skill development(• After completion of the course, the students will able to evaluate finite difference/volume schemes on model problems of computational fluid dynamics. • Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems)
Theories of Failure analysis using FEA	CUTM1062	2020	Skill development(• Students will have knowledge and practical engineering skills in analysis of mechanical strength of structures and load transmission elements and will be able to design them based on input data. • Students will be able to deploy 3D Experience Platform to develop design solutions. • Students will be able to apply the Concept of Meshing and Failure Criteria to Practical Problems which will lead Economical and safe in Design Aspect.)
Database Management Systems	CUTM1059	2020	Skill development(Design ER-models to represent simple database application

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			scenarios Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data Improve the database design by normalization Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing)
Programming in Java	CUTM1058	2020	Skill development(Able to use object oriented concept to solve problems
Remote Sensing & Digital Image Processing	CUAS2020	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Geospatial Technology and its Application	CUAS2021	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Photogrammetry and its Application	CUAS2022	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Lidar Remote sensing and its Applications	CUAS2023	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Hyper-spectral Remote Sensing and its Application	CUAS2024	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Project	CUAS2025	2020	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Study of Drawings and Plan	CUCP2110	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Project Scheduling &Management	CUCP2111	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Site Study And Study on Contract Laws	CUCP2112	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Concepts Of Quality Control and Checking	CUCP2113	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Quantity Estimation and Equipment Management	CUCP2114	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant. Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Site Supervision Project	CUCP2115	2020	Skill development(Students will be able to work with the latest trend of the construction industry needs. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. Give the students experience, supervision and direction in recognizing and applying the concepts of project management and construction planning. Students will plan various projects relating to advanced building technology with trust. Students will be churned as Construction Manager, Project Engineer, Site Supervisor and Project Consultant.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Maintain and develop the pupils' ability to put their knowledge of theory into practice using forms of construction.)
Critical Thinking and Presenting it with Digital Platform	CUSD2120	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Scope to Enrich by Exposing them to BIM Modelling	CUSD2121	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Design and Failure Analysis of Structure	CUSD2122	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)
Amalgamation of Architecture and Civil Requirements using Generative Apps	CUSD2123	2020	Skill development(Strong understanding of architectural design and scope for innovative ideas. Case study based practical solution with actual site visits/live buildings Modelling of structural elements and failure analysis Time saving estimations/structural calculations using digital tool)

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Project	CUSD2124	2020	Skill(Demonstrate test and analysis of cement, aggregate, sand, effect of water cement ratio. Prepare concrete, carry out simple formwork and reinforcement with the application of modern Power Tools. Prepare reinforcement of different R.C.C. members i,e, Foundation, beams, columns, slabs, Retaining Wall, etc. Erect scaffolding and make the intricate formwork at different locations. Prepare a bar bending schedule and demonstrate bar bending and calculate the estimated quantity of materials.)
IT Infrastructure Management	CUTM1024	2020	Skill And Employability(Students developed skills to build and manage IT infrastructur in Enterprise level using CISCO packet tracer)
Cloud Practitioners	CUTM1025	2020	Skill And Employability(Analyze and Understand the functioning of different components involved in Amazon web services and also acquire cloud technology skill for cloud partitioner certification which helps students in getting jobs in different MNCs)
Wireless Networks	CUTM1026	2020	Skill(Students devloped Skills needed to install, configure, and troubleshoot WLAN hardware peripherals and protocols.)
Information Security	CUTM1027	2020	Skill And Employability(Students have done activities like network analysis, intrusion detection in the network and file integrity using different open source tool.)
Programming in C	CUTM1602	2021	Skill And Employability(Case study to be given to students on uses of C program for development of various real time applications like online examination system, online quiz competetion etc.)
Data Structures	CUTM1603	2021	Skill And Employability(Understand asymptotic analysis and different methods. Understand linear data structures and its

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems)
Advanced Web Programming	CUTM1030	2020	Skill And Employability(Develop a static, interactive and well-formed webpage using JavaScript, CSS3 and HTML5)
Java Technologies	CUTM1031	2020	Skill And Employability(Understands the concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Operating System Concepts	CUTM1032	2020	Skill(Demonstrate understanding of operating system design and its impact on application system design and performance)
Database Creation and Maintenance	CUTM1033	2020	Skill And Employability(Hands on training on Client/Server Architecture- System Structure , Instance and schema, Data Models, Types of DBMS Query Processing and Optimization: Evaluation of Relational algebra expressions-Query Equivalence-Transaction Processing: Built in SQL functions, Sub Queries-Joins-DCL – TCL-Views – Sequences – Index – Locks PL/SQL Basics – Exceptions – Cursors - Stored Functions – Triggers Case study in industrial standards of Database Management)
Database Cluster Administration and Security	CUTM1034	2020	Skill(Students will develop skill of developing new techniques in cluster deployment in real world Applications.)
Data Warehousing and Data Mining	CUTM1035	2020	Skill (Student will able to design data warehouse with dimensional modeling and apply OLAP operations.)
Android App Development	CUTM1036	2020	Skill And Employability(Understand Android UI design, activity and fragments, intents,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			notifications, SQL Lite are implemented. As a course project students should implement a mobile app with the app idea and design user interface/wireframes of mobile app and also set up the mobile app development environment)
Mathematical Problem Solving	CUTM1037	2020	Skill(Understand asymptotic analysis and different methods. Understand linear data structures and its applications. Understand different non-linear data structures and its applications Understand divide and conquer strategy for various sorting and searching techniques. Understand and apply the greedy approach for various problems.)
Formal Language and Automata Theory	CUTM1038	2020	Skill (Be able to design FAs, NFAs, Grammars, languages modelling, small compilers)
AWS Solution Architect (SAA-CO2)	CUCT2030	2020	Skill And Employability(Developed scalable and secure Cloud applications and acquired cloud solution architect certification)
AWS Developer (DVA-CO1)	CUCT2031	2020	Skill And Employability(Able to develop scalable and secure Cloud applications and acquired cloud developer certification)
Project	CUCT2032	2020	Skill And Employability(Able to develop scalable and secure Cloud applications)
Web Services Using Java	CUST2010	2020	Skill And Employability(Developed knowledge-based force to serve the IT industry with the latest technologies.)
Advanced Java Programming	CUST2011	2020	Skill And Employability(Understands the advance concepts of Threads, exception handling, file handling and even handling and applets implemented in the Java, which helps students in getting jobs in different IT firms)
Web Programming Using React	CUST2012	2020	Skill And Employability(Develop knowledge-based force to serve the IT industry with the latest technologies.)

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Product Development	CUST2013	2020	Skill And Employability(Develop knowledge-based force to serve the IT industry with the latest technologies.)
ML for Predictive Analysis	CUML2002	2020	Skill And Employability(Implement ML algorithms that generates insight to high volume datasets and helps to make better prediction, classifications and clustering. The students are able to solve problems in areas computational finance and computer vision, energy and natural language processing.)
ML for Image Analytics	CUML2003	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
ML for Hyperspectral imaging	CUML2004	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural hyperspectral images)
Internship	CUML2005	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Project	CUML2006	2020	Skill And Employability(Implemented different Real life Projects in the field of medical and Agricultural image processing)
Linux Administration	CUCS2040	2020	Skill And Employability(Developed skills to manage a Linux server and provide basic security to the server)
Advanced Hacking Techniques	CUCS2041	2020	Skill And Employability(Learned different white hat hacking tools to defend different cyber attacks)
System and Network Security	CUCS2042	2020	Skill And Employability(Learned different network security tools to defend different cyber attacks)
IT Data Security	CUCS2043	2020	Skill And Employability(Students able to detect different data leakage and able to prevent some of it)
Project	CUCS2044	2020	Skill And Employability(Analyzed a self developed website for various types of vulnerability and defense)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to Gaming & Simulation	CUAR2060	2020	Skill And Employability(End to End Game Development Pipeline)
Game Assets & Game Objects	CUAR2061	2020	Skill And Employability(Able to built different models, assets and objects like temple, park, agriculture field etc..)
Building Game Environment	CUAR2062	2020	Skill And Employability(Able to built game environment)
Game Animation, Scripting & UI	CUAR2063	2020	Skill And Employability(Able to design different cartoon animations and UI)
Binary Deployment and Cross-Platform Controls	CUAR2064	2020	Skill And Employability(Design several 3D games which supports cross platforms)
Project	CUAR2065	2020	Skill And Employability(End to End Game Development Pipeline such as 3D games, model of konark temple)
Embedded System Programming with ARM-Cortex	CUTM1039	2020	Skill Development, Employability (Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller)
VLSI Design (NSQF level 5)	CUTM1040	2020	Skill Development, Employability (Design combinational and sequential circuit using CMOS logic Enhancement of complex digital VLSI logic design skill of students which will help them to complete any project work undertaken in higher semesters. Perform back-end physical design)
Electromagnetic Interference and Compatibility	CUTM1041	2020	Skill Development This subject is a base subject for wireless communication, Antenna Engineering and other advanced communication based subject.
Electromagnetic Field Theory & Transmission Lines	CUTM1042	2020	Skill Development Introduce theory and concepts of electromagnetic waves and transmission lines, Model and design the transmission lines at high frequencies, applying Smith chart use for solution of transmission line problems and impedance matching.

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Principles of wireless communication	CUTM1047	2020	Skill Development and Employbility Knowledge about the characteristic of wireless channel, designing of a cellular system, study the various digital signaling techniques and multipath mitigation techniques, understanding the concepts of multiple antenna techniques
Project	CUCS2085	2020	Employability (Skill development course)
Energy Production & Transmission	CUTM1051	2020	Skill development(Students will develop the skill of how energy is being produced and transmitted)
Substation Switch gear & Protection	CUTM1052	2020	Skill development(Students will develop the Skill of different substation, switchgear and its protection techniques)
System Modeling and Control	CUTM1053	2020	Skill development(Students will develop the skill of modelling the various systems and its control techniques)
Electrical Machines Operation and Control	CUTM1054	2020	Skill development(Students will develop the skill of operating different electrical machines and its control techniques)
Industrial Power Electronics	CUTM1055	2020	Skill development(Students will develop the skill of using different power electronics converters and its industrial applications)
Digital Measurement and Instrumentation	CUTM1056	2020	Skill development(Students will develop the skill of measuring the instruments digitally)
Basic Electrical Engineering	CUTM1057	2020	Skill development(Students will develop the skill on various fundamental concepts of electrical engineering)
Introduction to Industrial Automation	CUIA2100	2020	Skill development(Students will develop skill of designing Automatic Control System using PLC)
Advanced Programming & Control Blocks of PLC	CUIA2101	2020	Skill development (Students will gain Functional skill set with hands-on; on System Automation by using relevent software & hardware tools)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Control & Signal Wiring of PLC	CUIA2102	2020	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications Such as Load Changing Automation in Power Networks by using relevent tools)
SCADA based advanced features	CUIA2103	2020	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
SCADA & PLC based sequential control	CUIA2104	2020	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Human Machine Interface	CUIA2105	2020	Skill development (Students will gain Functional skill set with hands-on; on PLC based Automation System by using HMI-Allen Bradley-Panel View C600 tools)
OPC server base data fetching & control	CUIA2106	2020	Skill development (Students will gain knowledge about OPC server and nerwork in automation)
Project	CUIA2107	2020	Skill Development (Students will develop different automation related project)
Internship	CUIA2108	2020	Skill Development (Students will undergo training for the industrial automation)
Introduction, Power Scenario, Power Quality & Fault clearance	CUEG2090	2020	Skill Development (Students will get functional knowledge on different fault clearing techniques to imuprove power quality)
Switchyard & substation Networks	CUEG2091	2020	Skill Development (Students will design the electrical grid network system with busbar arrangement in transmission & distribution system)
Protection scheme & Switchgear	CUEG2092	2020	Skill Development (Students will develop different protection scheme with hardware & software integration)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Cable system & Testing	CUEG2093	2020	Skill Development (Students will learn the three phase power cabel layout system wit the testing techniques in workshop)
Grid Safety	CUEG2095	2020	Skill Development (Students will develop skill set with hands on training & practice on electrical safety & first aid techniques)
Transformer Manufacturing	CUEG2096	2020	Skill Development (Students will Manufacture three phase Distribution Transformer of 11KV class as per BIS specification, during project work)
Project	CUEG2097	2020	Skill Development (Students will develop different electrical system & transformer related project)
Materials for Renewable Energy applications	CURE2190	2020	Skill Development (Students will learn and develop the different materials for Renewable Energy generation)
Renewable Energy Technology for Industrial Process	CURE2191	2020	Skill development (Students will gain Functional skill set with hands-on; on application of Renewable energy for the industry)
Micro-grid Design & Implementation	CURE2192	2020	Skill Development (Students will learn and develop the different Micro-grid Design and its application to fulfill the load requirement)
Hybrid Renewable Energy Systems	CURE2193	2020	Skill Development (Students will learn and develop the hybrid generations that combines the solar photovoltaic along with the Thermal power generations)
Solar Off-grid Entrepreneur	CURE2194	2020	Skill Development (Students will learn and develop the Entrepreneurship skill for the developement of different solar off grid project
Project	CURE2195	2020	Skill Development (Students will develop different renewable energy sources & solar related project)
Internship	CURE2196	2020	Skill Development (Students will undergo training for the renewable energy)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Computer Aided Drafting	CUTM1075	2020	Skill development (Students will be able to use CATIA for creation of 3D models, Assembly Designs and Drawings.)
Product Design and Development	CUTM1076	2020	Employability and Skill development (Student will understand and explain the concept of Industrial design and robust design concepts.Student will understand the concept of Design for manufacture and assembly.)
Reverse Engineering and Rapid Prototype	CUTM1077	2020	Employability and Skill development (Student will understand principles of imaging, cross-sectional scanning, digital data, computational graphics.)
Product Life Cycle Management	CUTM1078	2020	Employability and Skill development(Studentswill use ENOVIA Engineering BOM Management)
Manufacturing Process	CUTM1604	2021	Employability and Skill development (Student will understand the Importance of Materials, Manufacturing Processes, Process Planning & Design in Product Manufacturing)
Material in product design and development	CUTM1080	2020	Employability and Skill development (Student will understand the various material selection for manufacturing processes. Students will able to Identify and select suitable material for product design. Students will able to understand Application of smart materials, shape memory metal, Nano material.
Quality Assurance	CUTM1082	2020	Employability and Skill development (Students will carry out statistical analysis of experiment, ANOVA ratio test and apply advanced DOE method for product testing.Students will understand SIX SIGMA process and lean production concept.)
Applied Ergonomics	CUTM1083	2020	Employability and Skill development (Students will able to use the Human

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			Erogonomics software to create an accurate simulation of a human entity and its work environment to ensure a natural operation)
Computer Aided Manufacturing	CUTM1084	2020	Skill development (Students will able to create 2-D Geometry and 3-D models using various Command in Master CAM software. Simulation of CNC programs using Master CAM software.)
CNC Programming & CNC Machining	CUTM1085	2020	Employability and Skill development (Demonstrate and explain various CNC control Calculate technological data for CNC machining. Prepare programs, demonstrate, simulate and operate CNC milling machines for various machining operations)
Design of Tools, Jigs and Fixtures	CUTM1086	2020	Skill development (To learn basic concepts, functions and design principles of Jigs, Fixtures and Dies)
Advance Metrology	CUTM1087	2020	Skill development (Student will have knowledge of basic measurement systems in Real time Engineering Applications.)
Thermodynamics	CUTM1088	2020	Skill development (To know the laws of thermodynamics and conditions for energy transformation)
Theory of Machines	CUTM1091	2020	Skill development (To develop skills for designing and analyzing linkages, cams, gears and other mechanisms.)
Heat Transfer with FDM/FVM	CUTM1092	2020	Skill development (Students will be able to analyze and design various Equipment used in industry using principles of Heat Transfer.)
Optimisation Techniques	CUTM1079	2020	Skill development (students will able to apply the theory of optimization methods and algorithms to develop and for solving various types of optimization problems.)
Introduction to Automobile Engineering	CUAE2170	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Subsystems of Automobile	CUAE2171	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Electric Vehicles	CUAE2172	2020	Employability and Skill development (This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Maintenance of Automobile	CUAE2173	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Project	CUAE2174	2020	Employability and Skill development(This gives jobs oppertunity in automobile manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Internship	CUAE2175	2020	Employability and Skill development(This gives jobs oppertunity in automobile

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			manufacturing companies in India and abroad.There are large number of job opportunities in automobile designing, research & development, sales & service.The students can also successfully run their own business in this field.)
Introduction to composites	CUCD2130	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Composite materials and characterization	CUCD2131	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
CATIA-Composites Design	CUCD2132	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Composite Product Validation; Simulia	CUCD2133	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Machineries and Technologies used for Manufacturing of Composites	CUCD2134	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Quality control and Fabrication of Composite Structure	CUCD2135	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software. Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Project	CUCD2136	2020	Employability and Skill development (students will be able to learn how to design a composite material using Catia software. Material properties can be studied by Biovia software. Students will get familiar with 3d experience software.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Well-equipped laboratory with different types of matrix and fiber where students will do hands-on practice and fabricate different types of composite which can be used in our day to day work)
Manufacturing Requirements and Planning (Jigs & Fixtures; Process Planning & Cost Estimation)	CUCM2150	2020	Employability and Skill development (Developing the visibility of skills and potentials of students in ways that are relevant to manufacturing need & employability and also promoting a production oriented learning method.)
Conventional Machining for Cylindrical and Prismatic Shape Components	CUCM2151	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
CNC Machining	CUCM2152	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improvemanufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)

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Non-Traditional Machining and 3D Printing	CUCM2153	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Wood Engineering	CUCM2154	2020	Employability and Skill development(Makes student Industry ready through hands-on education. Provides required industrial experience within the academic environment to apply theoretical and practical concepts to improve manufacturing processes. Helps bright students to achieve more and struggling learners to find new ways to master. Provides in-depth technical training & knowledge of latest manufacturing processes and machineries. Strengthens the Industrial-Institutional partnership.)
Internship	CUCM2155	2020	Employability and Skill development(Students go to different corporate industry to carry out their internship for 3month duration.This help students to give specific skills followed by internships
Joining Processes and Technology	CUWI2160	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)

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Metal Transfer and Weld Metallurgy	CUWI2161	2020	Employability and Skill development ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Design of Welded Joints	CUWI2162	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Testing of Welded Joints	CUWI2163	2020	Employability and Skill development (ASNT Level II (LPI and UT) or NSQF skill certification will make the candidate recognised in national and international levels in the industry. He/she can be self employed by opening a small scale welding shop to a medium scale industry.)
Advanced Structural Analysis	MTSE1101	2019	Skill development(• Skill in developing computer program for the structural analysis of two-dimensional frames. • To obtain some experience in the use of modern structural analysis programs.)
Structural Dynamics	MTSE1102	2019	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
Theory of Elasticity & Plasticity	MTSE1103	2019	Skill development(• Ability to apply the knowledge of mathematics, science and engineering with Elasticity concept to solve problems in two Dimensional Problems in Polar Coordinates.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			• To provide the students with basic skill of plasticity concept applicable in structural systems)
Architectural Design	MTSE1104	2019	Skill development(Provide skill with a well-educated workforce that is ready and able to perform valuable architectural and construction engineering and managerial services immediately after graduation The ideas / concepts learned in Basic Design and other related subjects have to be carried forward into the architectural design now envisaged. The exercises may be taken up as mentioned herein.)
Bridge Engineering	MTSE1105	2019	Skill development(At the end of the course, the students have a skill to: • Design the slab culvert, Box culvert • Design the T beam bridge and substructures • Design the Bridge bearings • Design the steel bridge for railway)
Computer Graphics	MTSE1106	2019	Skill development(At the end of the course, the students have a skill and emplyobility to: Event driven I/O and callback programming & typical structure of an interactive, real-time computer graphics program ¨ 2&3D transformations, homogeneous co-ordinates, post-multiplication ¨ Modelling and instantiati)
Finite Element Method	MTSE1201	2019	Skill development(• Enable the students to identify, formulate and skill to engineering problems related to one, two and three Dimensional structures subjected to static loads. • To show the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to wrong analysis)

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Concrete Technology	MTSE1202	2019	Skill development(• To study and understand various types of technology added in concrete • Have a skill to develop in design of various grades of concrete)
Research Methodology & IPR	MTRM1201	2019	Skill development(1. Skill to research problem formulation. 2. Analyze research related information 3. Follow research ethics 4. Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.)
Structural Engineering Lab	MTSE1203	2019	Skill development(To provide basic knowledge of mathematics, science and engineering in the areas of vibrations applied to structural systems •To give procedural knowledge or skill to design a system, component or process as per needs and specifications when subjected to dynamic loads.)
3D Modeling using ANSYS and CATIA	ISSE1205	2019	Skill development(Introduction to Engineering Design Different types of Numerical Methods & Applications, Practical Applications of FEA, Basics of finite element method (FEM),)
Design of Prefabricated Structures	MTSE0101	2019	Skill development(• Grasp of the construction methods using these elements have the skill of the construction methods using these prefabricated elements)
Renovation and Retrofitting of green structures	MTSE0102	2019	Skill development(By the end of this course students will have the skill /knowledge of • various distress and damages to concrete and masonry structures • the importance of maintenance of structures, types and properties of repair materials etc)
Advanced Construction Materials	MTSE0103	2019	Skill development(• To study the polymers in civil engineering construction

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			• To study the corrosion of concrete in various environments)
Soil Dynamics and Geotechnical Earthquake Engineering	MTSE0104	2019	Skill development(Develop skill in applying theory of vibrations to basic facets of soil behavior under dynamic loading together with the exposure of the fundamental principles of wave propagation in engineering example)
Industry Internship and Project - I	MTIP2101	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen Strong Work Ethic toward work, Positive Attitude towards work, develop effective Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Industry Internship and Project - II	MTIP2201	2019	Employability(On successful completion of this course student will able to: • Get Experience of working conditions on live projects of company. • learn soft skill viz. Self-Confidence, widen Strong Work Ethic toward work, Positive Attitude towards work, develop effective Communication Skills, Time Management Abilities, Problem-Solving Skills etc. • Find successful employment after graduation.)
Traffic Engineering And Management	ISTE1101	2019	Skill development(• To learn traffic studies, their analysis and their interpretation. • To learn analysis of LOS. • To learn design of signal. • To learn transportation system management.)
Pavement Material Lab	ISTE1106	2019	Skill development(• To learn about characteristic of subgrade soil. • To learn about characteristic of road

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			aggregates. • To learn about characteristic of paving grade bitumen. • To learn about characteristic of cement used in road construction.)
Traffic Survey Practice	ISTE1107	2019	Skill development(• Fieldwork using Hi-Tech surveying instruments .• Clistering using field traffic data .• Preparation of questionaries for OD survey
Pavement Analysis And Design	ISTE1201	2019	Skill development(• To learn about various factors affecting pavement design. • To learn about stress analysis of the pavement. • To learn about various methods of flexible pavement design. • To learn about various methods of rigid pavement design.)
Traffic Safety	ISTE1203	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Survey Lab	ISTE1204	2019	Skill development(Identify specific data and methodologies for effective mapping and evaluation of natural resources. Develop geospatial models and tools to address the social and engineering problems Design multi-criteria geospatial systems for decision-making process Work in a team using geospatial tools and

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			environment to achieve project objectives. Pursue lifelong learning for professional advancement)
Transportation Engineering Design Practice	ISTE1205	2019	Skill development(Gain knowledge about the software used in transportation like surface creation, surface profile and cross section of roads.)
Remote Sensing And GIS for Transportation Engineering	ISTE1207	2019	Skill development(• Ability to understand the basics and characteristics of remote sensing. • Ability to process remotely sensed data. • Ability to draw information from remotely sensed data. • Ability to understand the basics and application of GPS in transportation engineering)
Computer Applications toPower System Analysis	MTPS1101	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Non-Linear Control Systems	MTPS1102	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
Micro Controller Application with PLC	MTPS1103	2019	Skill development (Students will gain Functional skill set with hands-on; on Micro Controller & Application of Micro Controllers in System Dynamic by using relevent software & hardware tools)
SCADA- Compatible with all PLC	MTPS1104	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Advanced Electrical in Automation	MTPS1105	2019	Skill development (Students will gain Functional skill set with hands-on; on Advnce Applications Such as Load Changing Automation in Power Networks by using relevent tools)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Sensors and VFDInterface to PLC and SCADA	MTPS1106	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Digital Control System Applied to Power System	MTPS1201	2019	Skill development (Students will gain Functional skill set with hands-on; on Digital Control System Applied to Power System by using relevent software & hardware tools)
Power System Dynamics & Stability	MTPS1202	2019	Skill development (Students will gain Functional skill set with hands-on; on Load Flow & Power System Dynamic Stability by using relevent software & hardware tools)
SCADA-Compatible with fixed brand of PLC	MTPS1203	2019	Skill development (Students will gain Functional skill set with hands-on; on Sensors and VFD Interface to PLC and SCADA by using relevent software & hardware tools)
Distributed Control System	MTPS1204	2019	Skill development (Students will gain Functional skill set with hands-on; onDistributed Control System by using relevent software & hardware tools)
Power System Monitoring by HMI	MTPS1205	2019	Skill development (Students will gain Functional skill set with hands-on; on Power System Monitoring by HMI by using relevent software & hardware tools)
High voltage Engineering	MTPS0101	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)
Optimization Techniques in Power System	MTPS0102	2019	Skill development (Students will gain Functional knowledge with hands-on; on digital applications in power system techniques)
Digital Power System Applications	MTPS0103	2019	Skill development (Students will gain Functional knowledge with hands-on; on high voltage engineering application in transformer workshop)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Power Quality Analysis	MTPS0104	2019	Skill development (Students will gain Functional knowledge of power quality)
Non-Conventional Renewable Energy	MTPS0105	2019	Skill development (Students will gain Functional knowledge with hands-on; on different RE electriccity generation process)
Renewable Energy System Integration with Grid	MTPS0106	2019	Skill development (Students will gain Functional knowledge with hands-on; on RE system integration with grid application in transformer workshop)
Concepts of Smart Grid Technology	MTPS0107	2019	Skill development (Students will gain Functional knowledge with hands-on; onsmart grid system operation)
Distribution System Engineering	MTPS0108	2019	Skill development (Students will gain Functional knowledge on power distribution system)
Power System Security	MTPS0109	2019	Skill development (Students will gain Functional knowledge with hands-on; on system security in power system)
Digital Signal Processing Applicationsin Power System Protection	MTPS0110	2019	Skill development (Students will gain Functional knowledge with hands-on; of DSP power system protection)
Post harvest enhgineering of cereals, pulses and oil seeds	CUTM2066	2021	(Skill development)Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
Irrigation Engineering	CUTM1131	2020	Skill Development(Estimate the quantity of water required by different types of crop.)
Farm Machinery and Equipment-I	CUTM1133	2020	Employability(To equip the students with technical knowledge and skills required for the operation of Tillage, Sowing and intercultural machinery needed for agricultural farms.)
Soil-Water Conservation Engineering and Structure	CUTM1136	2020	Skill Development(Develop analytical thinking and problem solving skills in soil and water conservation engineering problems.)

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Processing Technology of Cereals and Millets	CUFP2310	2020	(Skill development)Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
Processing Technology of Legumes and Oilseeds	CUFP2311	2020	(Skill development)know principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
Processing Technology of Fruits, Vegetables,Spices	CUFP2312	2020	(Skill development)study of the effects of processing parameters on product safety and quality
Food Standards and Regulations and HACCP Systems	CUFP2314	2020	(Skill development) Understand and develop HACCP plans based on the standards and regulations
Sustainable Watershed	CUSW2342	2020	(Skill development)Build skills in collecting, analyzing, and critically evaluating watershed data and documents from multiple sources
Product Development Brief	CUFM2220	2020	(Skill development)To make student learn about the smart technologies and their application in farm machinery.
Piloting a Drone	CUFM2223	2020	(Skill development)To make student learn how to simulate the model using software of drone
Testing of Farm Machinery	CUFM2225	2020	(Skill development)Students will be able to test the machine in real field conditions.
Summer training-I	CUTM1939	2020	(Skill development)Students will be able to have real exposer to industries or Institutes to get training and accure some practical exposer.
Pharmcognosy and Phytochemistry of Important Medicinal Herbs	CUTM1167	2020	(Skill development/Employability) Identification of medicinal herbs and gaining knowledge of their pharmaceutical use
Ayurveda and fermentation technology	CUTM1168	2020	(Skill development/Employability) Formulation of herbal dosage forms, leading to improved employability

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Material Science of Excipients and Additives	CUTM1170	2020	(Skill development/Employability) Practical aspects of pharmaceutical dosage form formulation
Plant Biotechnology	CUTM1177	2020	(Skill Development/Employability) Extensive application of plant biotechnology in herbal drug industry practice and classroom mode
Statistical Quality Control & Design of Experiments	CUTM1180	2020	(Skill Development/Employability) learn about pharmaceutical formulations
Human Anatomy and Physiology	CUTM1708	2020	(Skill Development) learn about human anatomy and physiology and gain knowledge about vital measurements
Industrial Pharmacy-II	CUTM1588	2020	(Skill development/Employability) Practical aspects of pharmaceutical dosage form formulation
Heat and Mass Transfer	CUTM1525	2020	(Employability and skill development) learn about heat and mass transfer under industrial set up
Summer training-II	CUTM1940	2020	(Skill development)Students will be able to have real exposer to industries or Institutes to get training and accure some practical exposer.
Fundamentals of Microbiology/General Microbiology	CUTM1711	2020	Skill development (basic idea of microbiology which will later help in higher study (M. Tech) in microbiological field.)
Business Organisation and Management	CUTM1947	2021	Application of Basic mangement principles- Skill development
Job Readiness	CUTM1182	2020	Analytical Ability, ability to plan & strategic, creative & logical thinking, attention to details, ability to recall (Working Memory), problem solving ability, communication skills (written), spatial ability articulation, data interpretation skills, active Listening, ability to visualize, adaptation skills, decision making, ability to analyze pattern & trends- Employability

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Data analysis through Microsoft Excel	CUTM1185	2020	Able to analyse data appropriately- ESkill development
Data Analysis and Visualization Using Python	CUTM1191	2020	Can use Python for data analysis and visualization.- Skill Development
Designing User/Customer Experience (UX/CX)	CUTM1207	2020	Product Design & User experience - Skill Development
Robotics Process Automation (RPA) in Finance	CUFM2357	2020	Utilize skill set to work in finance with the help of Robot -Emloybility & Entreprenuership,
Training and Development	MGHR2320	2011	Assess, design and implement various methods, techniques and sources of training- Employability & Skill development
Business Analytics	CUTM 1613	2020	Use tools and technique to analyse data - Skill development
Data Analysis using Excel and Python	CUTM1241	2020	Can use Python for data analysis and visualization.- Skill Development
Development Project Management Planning Tools and Techniques-I	CUTM1242	2020	Knowledge and skills acquisition on Appraisal, Planning, and Monitoring & Evaluation and impact assessment of development projects - Skill development
Development Theory and Practice	CUTM1222	2020	Utilization of development theories in practocal field- Employability and Skill
Development Project Management Planning Tools and Techniques-II	CUTM1223	2020	Knowledge and skills acquisition on Appraisal, Planning, and Monitoring & Evaluation and impact assessment of development projects - Skill development
Social Research Methods	CUTM1246	2020	Apply various data collection techniques, for both quantitative and qualitative research, Select and describe appropriate analytical techniques for quantitative and qualitative methods- Employability and Skill Development
Financial Inclusion and Micro Finance	CUTM1932	2020	To appraise the scenario of financial inclusion in the country , acquire skills to opearte in Micro Finance sector - Employability, Entrepreneurship

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Public Policy: Design, Analysis and Implementation	CUTM1935	2020	Disigning campaigns and implementation of policies- Employability and Skill
Skill Ecosystem development	CUDM2356	2020	Create skill ecosyetm and analyse its dimensions - Employability
Corporate Social Responsibility	CUDM2360	2020	Demonstrate a multi-stakeholder perspective in viewing CSR issues, Compare and contrast the multiple viewpoints and tradeoffs that exist in the area of CSR, design CSR startegies focusing agri sector- Employabiltiy, Skill Development
Disaster Management	CUDM2361	2020	To build skills and abilities in analyzing potential effects of disasters and the strategies to avert the disasters: Employability, Entrepreneurship & Skill development
Organizing Conference	CUDM2381	2020	Learning skills for organizing events - Employability, Entrepreneurship & Skill development
Managing Watersheds	CUDM2365	2020	Watershed management- Employability and skill
Financial Analysis and Visualization	CUTM1231	2020	Solve problems through analytics- Emloybility & Skill Development
Robotics Process Automation (RPA) in Finance	CUTM1232	2020	Utilize skill set to work in finance with the help of Robot -Emloybility & Entreprenuership,
Computer Applications in Business	CUTM1953	2020	Utilize computer in the day to day activities of the business - Skill development
Tally ERP 9	CUTM1956	2020	Preparation of financial statement of different types of organisations with Tally: Skill development
On Job Internship-I	CUBC2436	2021	To make self-disciplined, self-motivated and integrate theory and practice- Employability, Entrepreneurship & Skill development
On Job Internship-II	CUBC2437	2021	To make self-disciplined, self-motivated and integrate theory and practice-

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			Employability, Entrepreneurship & Skill development
Communication Research Methods	MAMC1101	2018	Analyse data with techniques of social science, media research - Skill development
Introduction to Print & Electronic Media	MAMC1102	2018	Competence in Print and Electronic Media and can work in Print and Electronic Media industry-Skill development and Employability
Society, Media and Communication	MAMC0501	2018	Skill development and Entrepreneurship; Competence on the media business, its functioning and gemerate idea on inter relationship between media and society.
Cultural Studies	MAMC0903	2018	Skill development; Competence in the process of production of media culture and its influences, cultural diffusion, cultural lag and acculturation kind of procedures
Advanced Digital Media	MAMC1103	2018	Students will be able to Competence skills in mordern media and will be able to analyse advertising, Marketing, social networking and using social media for different purposes. - Skill development and Employability
Film studies	MAMC1105	2018	Students will be able to develop skills in different aspects of Film and will be able to analyze film-Employability
Animation	MCDE0601	2016	Ability to create quality animation performance through a creative and professional portfolio using principles of animation. Will help in Employability and Skill development
Radio Jockeying	MCDE0602	2016	Skill development in aggregate capacity to develop the skills of a Radio Jockey.
TV Anchoring	MCDE0603	2016	Skill development in the aggregate capacity to develop the skills of a Television Anchor.
Fashion Photography	MCDE0604	2016	Skill development: Developing competency for professional fashion photography.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Camera Operator	MCDE0605	2018	Skills development and Employability in camera handling and planning and producing programs for television and Photography.
Video Editor	MCDE0606	2018	Skill development in television field and its functioning. Build the ability to develop and demonstrate strategic plans and planning methods in television content production.
Web Content Development	MCDE0607	2016	Skill development and Entrepreneurship: Competence in Content development for web site or degital media.
Sound Engineer	MCDE0608	2018	Skill development on sound editing with defferent software.
Adobe tools and Illustrations	MCDE0609	2018	Work on Adobe Illustrator in the beginner level, and on graphics designing. Skill Development and Employability
Communication, Media and Society	CUTM1264	2020	Skill development in culture to influence nonverbal communication and cultural influences in communication process across society.
Introduction to Journalism	CUTM1265	2020	Students enhance their skill and will able to design news and they have can deliver information-Skill development
Communication Research	CUTM1266	2020	Employability: Conduct research on different media elements, Conduct research on radio, TV, advertising and public relations Write research reports and project proposals-Skill development
Exploring Hindi Cinema	CUTM1268	2020	After successful completion of the course the learners will be able to develop skill on the arts and aesthetic values of Hindi Cinema and India Panorama-Skill development and Employability
Television Journalism	CUTM 1270	2020	students will be able to write script, voice over and field reporting-Skill development The student will be able to produce a program from scripting to broadcasting

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			everything can be done by a students. .-Employability
Development Communication	CUTM1271	2020	Students will make strategy designing and campaign designing. They will enhance their skill and able to develop contents for development purposes-Skill development
Camera and Editing for TV	CUTM 1272	2020	Improve skills in contemporary video technology and operation of cameras, audio, lighting and other television production equipment Improve in film and video, including shot composition and continuity editing-Skill development
Global Politics and Media	CUTM1274	2020	Students will enhance skill on impacts of different issues on global media scenario and global media culture-Skill development
Documentary	CUTM1275	2020	Develop skill to produce documentary cinema.-Skill development
Communication and the Plastic Arts	CUTM1276	2020	The learners will able to communicate in public space by using the plastic arts as the media for mass communication and Competence skill on appreciate the socio-cultural and religious institutions of India.-Skill development
Web Content Development	CUMC2383	2020	Skill development and Employability on technology and content of the world wide web, development of contents on web copy writing, digital news writing for various type of web sites. Skill development on write E-books, Blogs, E-Commerce content.
Radio Jockeying	CUMC 2380	2020	Skill development in aggregate capacity to develop the skills of a Radio Jockey.
Animation	CUMC2379	2020	Ability to create quality animation performance through a creative and professional portfolio using principles of

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			animation.will help in Employability: and Skill development
Advanced characterization techniques	CUTM1402	2020	Skill development:To know the experimental techniques for the microstructural and physicochemical characterizations of materials and helps in optimizing material research.
Synthesis and application of nano composites	CUTM1405	2020	Skill developmet:To provide knowledge of the advantages of using different types of nanocomposites and to make the students familiar with the mechanism of nanocomposites. Employability:Students will understand and appreciate the significance of the nanocomposites as an important class of materials and they will be well equipped to design and develop nanocomposites for specialized applications
Material behavior of nanostructures	CUTM1406	2020	Skill development: It will enchance the ability of the students to explore various nano materials for different application areas depending on their properties.
Synthesis routes of nanomaterials	CUTM1408	2020	Skill development: To enchance the skill of the students for fabrication of varirous nano materials in cost effective routes and useful for device fabrication.
Computational materials science	CUTM1409	2020	Skill development: It will expose the students to the face the challenges in the analyses of materials and how to address those challenges and get hands-on training on open source tools in Molecular Dynamics (LAMMPS) and Hartree-Fock and Density Functional Theory (Quantum Espresso); Data Visualization Tools like OVITO and VMD
Essentials of nanomaterials	CUTM1411	2020	Skill development:To understand and use the properties of Nano-materials in diverse fields and to gain knowledge about the Nanomaterials, their properties, behavior,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			interaction and use of them over many discipline of science.
Advanced quantum mechanics	CUTM1412	2020	Skill development:To improve the ability of the student to co-relate the theory and the experiement and the gap between them for the material application using some advance simulation tools
Physics of solids and semiconductors	CUTM1413	2020	Skill development:Will be able to explain the physical characteristics such as electronic structure and optical and transport properties, and current-voltage characteristics of semiconductors and apply the knowledge of semiconductors to illustrate the functioning of basic electronic devices
Laser technology	CUTM1414	2020	Skill development:To acquire a thorough understanding of the theory of modern Laser Physics and understand different types of modern lasers and their applications
Industrial chemicals	CUTM1415	2021	Employbility-Plastic Additive,Specialty Chemicals,Market Directed Specialty and Fine Chemicals,Management and treatments of Waste chemicals,Sustainable chemicals market and chemical safety. Skill-Extraction and isolation of Fine Chemicals,Selected Industrial process and all projects
Polymer chemistry	CUTM1417	2021	Employbility-Fundamental ,Copolymerization,Radical Polymerization ,Ionic Polymerization ,Conducting Polymers Application of Polymers . Skill-Analysis of Polymers and All Practices
Packaging	CUTM1418	2021	Employbility-Fundamentals of packaging ,Conversion technology ,Specialty packaging ,barrier properties Skill-Package Testing and all projects
Industrial pollution and its waste management	CUTM1419	2021	Employbility-Fundamentals of pollution ,Water quality standard ,Methods of

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			treatment of waste water ,Air pollution and its Permissible limit , Solid waste disposal and Management , Industrial water and air pollution Skill- Industrial Waste Water Treatment and all practices
Toxicology	CUTM1420	2021	Employbility-Concepts of toxicology,Toxicity Pathways,Toxicity mechanism,Integrated Testing Strategies,Toxicity beyond chemicals,Ecotoxicology and Risk assessment,Toxicity remediation and Application of toxicants Skill- All Practices
Biopolymer and hydrogel	CUTM1421	2021	Employbility-Fundamentals of biopolymers,Polymer biodegradation and biocomposites,Basics of biomaterials,Properties of Hydrogels,Applications of Hydrogels. Skill-Surface modification and characterization of biomaterials,Synthesis and Characterization of hydrogels and all practices.
Nano-pharmaceuticals and biomedical science	CUTM1422	2021	Employbility-Nanotechnology in Food and pharmaceutical industry ,Nanotechnology in Biomedical and Pharmaceutical Industry ,Nanotechnology in Agriculture ,Molecular Cell Biology ,Optical and non-optical probes ,Protein Labelling and bio-medical applications ,Target Identification and Drug designing Skill-A practical approach to antibody labelling
Synthetic organic chemistry	CUTM1423	2021	Employbility-Fundamentals ,Organic Reagents ,Molecular Rearrangement ,Stereochemistry , Photochemistry,Pericyclic Reaction,Retrosynthesis Skill- All Practices
Sustainable chemistry	CUTM1425	2021	Employbility-Fundamental,Green Chemistry,Green Solvents,Green Synthetic Methods,Value addition to Waste

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			Biomass,Sustainable materials,Recycling and circular economy Skill-All Practices
Analytical techniques	CUTM1426	2021	Employbility-Basic Tools of Analytical Methods,Chemical Equilibria for Quantitative Analysis-I,Electrochemical Analysis,Spectrophotometry, Molecular analysis by Spectroscopy, Spectrochemical Analysis, Analytical Separations. Skill- All Practices.
Numerical Methods for CFD	CUTM1526	2020	Skill- Evaluate finite difference/volume schemes on model problems of computational fluid dynamics using python Employability - Solution of Simultaneous Equations
Fluid Dynamics	CUTM1527	2020	Skill-To apply fluid dynamics problems using different tools. Employability - Methods describing Fluid motion, Lagrangian and Eulerian Methods
Advanced differential equations	CUTM1530	2020	Skill – Solve the problems choosing the most suitable method Employability - Solution of Diffusion equation in n-dimensional
Graph Theory	CUTM1531	2020	Skill –To impart knowledge about tracing of graphs and network analysis Employability - Minimum spanning trees;Fundamental Circuit;Cut set and Separability
Optimization techniques	CUTM1532	2020	Skill –To impart knowledge about various computational methods for fluid flow and heat transfer problems
Advanced Statistical Methods	CUTM1533	2020	Skill – Ability to learn new statistical analysis techniques using python Employability - Understand Chi Squared Tests
Applied Number Theory	CUTM1534	2020	Skill- Enhance and reinforce the student's understanding of concepts through the use of technology when appropriate Employabity - Divisibility, Representations

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			of Integers,Computer Operations with Integers,Prime Numbers
TOPOLOGY	CUTM1536	2020	Skill - To introduce the student to maps between topological spaces Employability - student's ability to handle abstract ideas of Mathematics and Mathematical proofs
Herbal Cosmetic Technology	CUTM1427	2020	Employabilityand Skill- Students Completed practicle on analysis of carbohydrates, protein, reducing sugars etc.
Plant Physiology and Metabolism	CUTM 1428	2020	Employability and Skill - Hand on Isolation of chloroplast and measurement of electron transport activity,Racker's experiment, role of uncouplers. Inhibitors of oxidative phosphorylation and prospects of C4 and C3 plants
Good Manufacturing Practices-Herbal Industry	CUTM 1429	2020	Skill-Learn the concept of quality standards in terms of ISO-9000 and quality audit and understand the necessity of GMP's
Developmental Biology and Phytotomy	CUTM 1430	2020	Employability and Skill- understand the morphology and development of reproductive parts.Learn identification of plants based on cytotaxonomy, helps in forensic science, pharmagonosy and drug developement.This will be helpful for higher studies and research
Systematics and Diversity of Plants	CUTM 1431	2020	Employability and Skill- Indentification of plants based on morphology and cytotaxonomy, provide a comprehensive knowledge on diversity of plant kingdom with focus onall plant groups; algal biomass production and utilization, algal blooms and their environmental impacts, seaweed cultivation and utilization ; help to pursue higher studies and employability in National organization;
Advanced Separation Technologies and	CUTM 1432	2020	Skill-Learn different extraction techniques, can handle

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Downstream Processing			advanced instruments to perform well at industrial level
Advances In Plant Ecology	CUTM 1434	2020	Employability and Skill- Learn to critically evaluate environment pollution issues, practicle on E-waste management, smart waste management.
Computational Biology	CUTM 1435	2020	Employabilityand Skill- Hand on skill and practical knowledgr on different databases., Sequence homology and Gene annotation etc.
Microbiology	CUTM 1436	2020	Employability and Skill-Students can dopracticals and learnt on preparation and sterilization of media, plating, tubing, slanting of media, Isolation of bacteria in pure culture
Cell and Molecular Biology	CUTM 1437	2020	Employability and Skill-Perform comparative karyotypic analysis, techniques like extraction and separation of DNA by gel electrophoresis, squashing technique for the study of different stages of mitosis and meiosis
Bioanalytical Techniques	CUTM 1438	2020	Skill-Students will be exposed to various biological techniques and their applications in identification, isolation of different biological molecules (DNA , RNA quantification, UV Spectrophotometry, PCR, ELISA, RIA, FISH and GISH); instrumentation and application
Plant Breeding and Genetics	CUTM 1440	2020	Skill-Learn to carry out specific plant breeding activities, such as selection of parental germplasm, conservation and recording of phenotypic variation and selection among progeny; mating systems, selection, testing and germplasm maintenance of horticultural and crop plants
Plant Genomics	CUTM 1441	2020	Skill-Learn to understand genomics and proteomics and the different approaches and techniques employed in these

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			fundamental fields of study; analyse information from plant genomic research and recognise its potential applications in crop improvement
Advanced Aquaculture	CUTM1442	2021	Skill - Systems of aquaculture - Pond culture , Pen culture, Cage culture and Running water culture, Aquaculture production and resource statistics- World and India, Principles of organic aquaculture.Pond Management - Pre stocking and Post stocking,Components of Aquaculture farms, Culture System - Monoculture and Polyculture System, Integrated culture systems.Practices on pre stocking and post stocking management, Biological factors affecting productivity of ponds. Study on waste accumulation in aquaculture system (NH3, Organic matter, CO2), Feed technology: Micro encapsulated feeds; micro coated feeds; micro particulate feeds and bio-encapsulated feeds; mycotoxins and their effects on feeds. Application of Nanotechnology in aquaculture.Analysis of manure, Health management: vaccines; molecular diagnosis of viral diseases; Biofilms and its impact on health management; genetically modified microorganisms as probiotics, Use of probiotics in aquaculture farms
Coastal Aquaculture	CUTM1447	2021	Skill-Principles of pond design – Inland and Coastal, Tank and raceway farms, cage farms, pens – Types of culture systems: Traditional, extensive, modified extensive, semi extensive,intensive and super-intensive culture of shrimps and their management, Economics of Shrimp Culture, Design and construction of shrimp culture ponds, Liming and fertilization in

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			shrimp pond, Primary productivity calculation, Estimation by Light and Dark Bottle method. Transportation stocking in nursery ponds, rearing and growout ponds, pond harvesting of Shrimps, Principles of crab hatchery, brood stock, larval and post-larval management. Packing and transportation of crab instar and brood stock, Crab culture: Pond design, management of crab farm. Identification of important cultivable species, Crab culture and crab fattening process, economics of carb culture, Principles involved in seed production of lobsters and mussels. Cage Culture, Collection and identification of commercially important seed of fish and shellfishes, Pen culture, Potential Brackish water fish species for culture, Dissecting out the pituitary gland and preparing the extract. Culture of mullet, Culture of Cobia, Culture of Pompano, Lobster culture, Mussel culture, Pearl culture, Oyster culture, Sea-weed culture, Different types of Products obtained from seaweeds.Visit To shrimp hatchery/Farm, Methods of Shellfish Culture rafts, racks, cages, poles and ropes, Sea ranching, Resources for shore-based aquaculture and sea farming in India, Regulation for mariculture., Estimation of seed survival.
Water and Soil Quality Management in Aquaculture	CUTM1443	2021	Skill - Fertilizers and manures: Different kinds of fertilizers and manures; fertilizer grade, source, rate and frequency of application; Use of treated sewage for pond fertilization and biofertilizers, Ecological changes taking place after fertilizing. Water analysis: measurement of temperature,turbidity, determination of pH and EC. Determination ofinorganic

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			nitrogen, and phosphorus. Utilization of bioactive compounds by microorganisms; Cat clay/pyrite soil and its management; seepage and its control. Estimation of primary productivity and chlorophyll. water treatment, water filtration devices, aeration, chlorination, ozonization and UV radiation; eutrophication; Algal bloom control; Aquatic weed management.Determination of salinity, Chlorinity, Total solids,Redox potential, DO, Free CO_2., Determination of total alkalinity, hardness. Waste water treatment practices; Waste discharge standards; Water quality management in carp culture; Water quality management in brackishwater shrimp culture; Water quality management in hatcheries.Calculation of dose of fertilizers and pond liming. Soil and water amendments: lime, manures,fertilizers, micronutrients, zeolites, alum, gypsum, Effluent Treatment plant; Areation,Chlorination,Ozonisation and UV radiation; Waste and water Treatment Practices; Machine Leaning for water quality analysis.
Anatomy and Biology of Fish and Shellfish	CUTM1446	2021	Skill - Basic Structural Features, Body shape,scales, and fins , Internal features. Museum Specimen, Habitat , Biogeography , Marine Habitats , Freshwater Fishes, Slide preparion of scales, Food habit study. Hematological study, Techniques for Studying Food Habits and Feeding , Optimal Foraging Theor , Food Choices, Size, and Development , Food Capture, Biochemical study, Fertilization to Hatching (Incubation) Parental Care , Growth

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			Writing Review literature, Discipline, Schooling, Orientation and Migration
Fish Processing and Value addition	CUTM1448	2021	Skill - Contribution of aquaculture , Implications for the processing industry, How to make your own fish food, Principles of canning , Packaging materials , Processing operations , Canning of specific species, Dry fish preparation, Fresh fish packing, , Freezing systems , Environmental impact of freezing operations, : preparation of fish pickle, Sustainability Impacts of Fish-Processing Operations, On-board Fish Processing, On-board processing , Advantages of on-board processing, The fishmeal process , Alternatives to fishmeal,
Fish and Shellfish Nutrition	CUTM1444	2021	Skill - Principal Nutrients essential for feed formulation, Role of different nutrients on fish and shellfish growth, Nutritional requirement of cultivable fish and shellfish, Importance of Priciple of Protein: Energy Ratio for aquaculture. General principles for feed formulation, Different steps of feed formulation, Methods of Feed formulation, Classification of feed ingredients, Energy and protein sources. Evaluation of ingredient quality, Types of feed Dry (pellets, flakes, powdered, Moist Feed), Micro-encapsulated, micro-bound and micro-coated diets, Feed manufacturing units and processes. Pulveriser, Grinder and Mixer (Types and importance), Pelletizer, Crumbler and Drier, Extruder and Fat sprayer, Hydro-stability of feed and their storage, Anti-nutritional factors in feed ingredients and methods of their, Principles of Nutritional energetic, Energy partitioning. Role of feed digestibility study in feed quality

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			evaluation, Feed Management in Aquaculture Farms, • Identification of Common feed ingredients • Preparation of artificial feeds using locally available feed ingredients • Proximate analysis of feed ingredients and feeds: Moisture, Crude protein • Proximate analysis of feed ingredients and feeds: Crude lipid, Ash • Preparation of feeds with various binders in order to determine their hydro-stability • Effect of Storage on Feed Quality and Determination of sinking rate feeds
Bioanalytical Techniques	CUTM1438	2021	Skill - To study and gain expertise on differential and cytological staining techniques, Demonstration of UV-vis Spectrophotometer, To separate proteins on the basis of their size and charge, To separate the amino acids in a mixture by thin layer chromatography. , Purification of immunoglobulins by affinity chromatography, To study the separation of DNA by agarose gel electrophoresis,
Fish and Shellfish Health Management	CUTM1445	2021	Skill - , stress in aquaculture and its role in disease development, pathological processes, quarantine and health certification in aquaculture, health management strategies in aquaculture, environmental management, sanitary and phytosanitary agreement, vaccines used in aquaculture, immuno-stimulants used in aquaculture, , Bioremediation, viral diseases of fish, viral diseases of shellfish, bacterial diseases of fish, bacterial diseases in shellfish.crustacean parasites of fish, environmental induced diseases of fish, nutrition deficiency diseases, 1. Examination of normal and diseased fish

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			- thorough examination of external surface. 2. Autopsy of the diseased fish. 3. Histopathology of organs of diseased fish (sectioning – staining and mounting). 4. Slide preparation of fish parasites (Protozoan – Helminth and Copepod). 5. Collection of ectoparasites and its preservation. 6. Extraction of DNA from fish fins.
Cell and Molecular Biology	CUTM1437	2021	Skill - 1. Visualization of DNA by performing agarose gel electrophoresis and extraction of DNA from the agarose gel. 2. Extraction of DNA from the fish fins. 3. Plasmid isolation (miniprep). 4. Polymerase Chain Reaction (PCR) 5. Glucose uptake assay 6. In silico membrane-receptor and ligand interaction studies using DISCOVERY STUDIO (BIOVIA).
Ornamental Aquaculture	CUTM1449	2021	Skill - External morphology of important marine aquarium fishes, External morphology of important fresh water aquarium fishes , Identification of common ornamental fishes and plants, Aquarium accessories and decorative, Lighting and aeration, Aquarium fish feeds. Dry, wet and live feeds, Setting up and maintenance of Aquarium accessories and equipment, , Ornamental fish breeding - Brood stock maintenance, Breeding techniques of ornamental fishes, Nursery rearing of ornamental fishes, Transportation of ornamental fishes, Application of genetics and biotechnology for producing quality strains, Conditioning and packing of ornamental fishes. Preparation of feed, Ornamental Fish Farm Management Construction of commercial ornamental fish farm, Feeding and maintenance of

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			stock, , Conditioning and packing of ornamental fishes. Preparation of feed, ,Management practices of backyard culture of ornamental fish, Conditioning, packing, transport and quarantine methods, Setting up of breeding tank for live bearers, barbs, goldfish, tetras, chiclids, gouramis, fighters and catfishes, Starting an aquarium shop – a business opportunity, Small scale ornamental fish farming business, Identification of ornamental fish diseases and prophylactic measures.,
Genetics and Epigenetics	CUTM1454	2021	Skill - Identification of particular linkage groups with specific chromosome, Physical distance and map distance, Interference and coincidence, Preparation of Mitotic chromosomes from the given sample, To study the karyotyping of chromosomes from the given animal samples., To study the chromatin modelling and Chromatin-immunoprecipitation (ChIP), Isolation of total histones, and resolution on SDS-PAGE., Isolation of DNA from animal cell (Isolation of nuclei (as a source for studies on structure of chromatin) from rat/mouse liver by discontinuous sucrose-density gradient centrifugation, Dosage compensation in mammals, Genomic imprinting in mammals, Germline and pleuripotent stem cells, Epigenetics and human disease., Identification of inactivated X chromosomes as barr body from the given sample, Preparation and study of metaphase chromosomes from mouse bone marrow,
Microbiology	CUTM1436	2021	Skill - Preparation of bacterial smear and staining – Gram's, Acid-fast, Staining of bacterial spores flagella, capsule, spirochaetes, Isolation, purification,

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			identification and biomass production of cyanobacteria, Methods for measurement of bacterial growth by haemocytometer and spectrophotometer, Microbial degradation of pesticides, toxic chemicals, oil; Bioleaching, bioremediation, Agricultural and food Microbiology Agriculturally important microorganisms, Mycorrhizae, Microbial mineralization, Microbial toxins, Biological control. Microbial toxins produced in food items, Probiotics and preBiotics, Methods of food preservation, Microbiological legal standards of selected food and milk products. , Estimation of phosphate solubilizing capacity of microorganisms, Qualitative analysis of Milk and milk products; Microbiological analysis of food products; Detection of bacteria in milk by Standard plate count, Antibiotic sensitivity test disc preparation; Antibiotic sensitivity test – Kirby – Bauer, Stoke's; MIC determination by filter paper disc assay, Preparation of different microbial culture media, Genetic regulation: Operon concept (lac,trpara), Genetic mapping: Genome mapping of E. coli, QTL Mapping.Molecular markers in genome analysis, RAPD, RFLP,AFLP, FISH and GISH,
Mathematical Physics-I	CUTM1483	2020	Skill - Practice using programming in C.
Mechanics	CUTM1484	2020	Skill - Mechanics Lab
Thermal Physics	CUTM1485	2020	Employability - Laws of Thermodynamics, Carnot engine & efficiency. Carnot's Theorem. Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and

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			their Equivalence. Applications of Second Law of thermodynamics, Entropy, Thermodynamic Potentials, Kinetic Theory of Gases, Molecular Collisions, Real Gases. Skill- Thermal Physics Lab
Waves and Optics	CUTM1486	2020	Employability - Interferometer, Diffraction grating. Resolving power of grating, Fresnel's half-Period Zones Skill - Waves and Optics Lab.
Mathematical Physics-II	CUTM1487	2020	Skill - Practice using Scilab leads to computational skill.
Electricity and Magnetism	CUTM1488	2020	Employability - Magnetic Properties of Matter, Magnetization, Electromagnetic Induction, Electrical Circuits, Network Theorem. Skill - Electricity and Magnetism Lab
Analog System and Application	CUTM1489	2020	Employability - Semiconductor Diodes, Two-terminal Devices and their Application, Amplifiers, Applications of Op-Amp. Skill - Analog Systems and ApplicationsLab
Mathematical Physics-III	CUTM1490	2020	Skill - Develop the skill of solving mathematical problems using Scilab.
Elements of Modern Physics	CUTM1491	2020	Employability - Radioactivity, Fission and Fusion, Lasers. Skill - Elements of Modern Physics Lab
Digital Systems and Applications	CUTM1492	2020	Employability - CRO uses, Integrated Circuits, Digital Circuits, Data processing circuit, Microprocessor Architecture. Skill - Digital system Lab
Quantum Mechanics and Applications	CUTM1493	2020	Employability - Schrodinger equation and its solution, its application, hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Many electron atoms. Skill - Learn to solve quantum problems through computational methods
Solid State Physics	CUTM1494	2020	Employability - Magnetic properties of materials, dielectric properties of materials, superconductivity. Skill - Solid state physics lab

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Electromagnetic Theory	CUTM1495	2020	Skill - Electromagnetic lab.
Statistical Mechanics	CUTM1496	2020	Skill - Learn to solve statistical physics problems through computational methods
Atomic Structure and Chemical bonding-I	CUTM1469	2021	Employbility-Wave mechanics,Atomic structure-2,Periodic Properties-I &II,Ionic bond,Covalent bond, Covalent character in ionic compounds Skill-Practice 1 to 12
States of matter and ionic equilibrium	CUTM1470	2021	Employbility- Gaseous State-I & II, Liquid State, Solid State,Ionic Equlibria I,II and III. Skill-Practice 1 to 12
Basics and Hydrocarbons	CUTM1471	2021	Employbility-Basics Organic Compounds, Reaction Intermediate , Chemistry of alkanes,Carbon-Carbon pi bonds, Aromatic HydrocarbonsCycloalkanes and Conformational Analysis,Stereochemistry. Skill-Practice 1 to 12
Chemical Thermodynamics and its application	CUTM1472	2021	Employbility-Chemical Thermodynamics,Chemical Thermodynamics and Open System ,Chemical Equilibrium I&II,Colligative Properties .Skill- Practice 1 to 12
S- and P-block elements	CUTM1473	2021	Employbility- General Principles of Metallurgy,Acids and Bases,Chemistry of s and p Block Elements I,II and III, Noble Gases,Inorganic Polymers .Skill-1 to 12.
Oxygen Containing Functional Groups	CUTM1474	2021	Employbility- Chemistry of Alkyl Halides,Aryl Halides and Organometallic compounds,Alcohols,Carbonyl Compounds 1,Carboxylic Acids and their Derivatives and Sulfer containing compounds. Skill- All Practices
Phase Equilibria& Chemical Kinetics	CUTM1475	2021	Employbility-Phase Equilibria-1,3 , Chemical Kinetics 1&2, Catalysis, Surface Chemistry, Skill- All practices
Coordination Chemistry	CUTM1476	2021	Enterprenurship-Crystal Field Theory,Transition Elements Employbility-

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			Bio-inorganic Chemistry-1& 2 Skill- All practices
Heterocyclic Chemistry	CUTM1477	2021	Empoybility-Amines, 5 and 6 membered Heterocyclic Compounds containing one heteroatom,Six membered and condensed Heterocyclic Compounds. Skill-All practices
Electrochemistry	CUTM1478	2021	Employbility-Conductance I,II, and III , Electrochemistry I.II Enterprernership-Energy Storage and Conversion, Skill- All Practices
Bio-molecules	CUTM1479	2021	Employbility-Amino acids, peptide and proteins, Enzymes, Bio-imaging and Bio-Medical science Enterpreneurship-Concept of Energy in Biosystems ,Pharmaceutical Compounds . Skill- All Practices
Quantum Chemistry & Spectroscopy	CUTM1480	2021	Employbility-Quantum Chemistry ,Introduction to Molecular Spectroscopy Skill-Nuclear Magnetic Resonance (NMR) spectroscopy,Electron Spin Resonance (ESR) spectroscopy,Photochemistry and all practices
Organometallic chemistry	CUTM1481	2021	Skill-Study of the following industrial processes and their mechanism and All practices
Spectroscopy	CUTM1482	2021	Employbility- Carbohydrates, Enterprenurship-Dyes Skill-Chromatography and All practices.
Calculus	CUTM1511	2020	Skill- Tracing of different curves and functions. Employability - To explain about vector, different types of vector and vector algebra with suitable example
Linear Algebra	CUTM1512	2020	Skill –To gain the knowledge on MATLAB and uses in algebra. Employability - Preparation of working rule for finding rank of a matrix with example.
ANALYSIS-I	CUTM-1513	2020	Skill –• Describe the real line as a complete, ordered field.

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			Employability - Determine the continuity, differentiability, and integrability
ANALYSIS-II	CUTM-1515	2020	Skill –• Describe the Riemann integrable and Riemann sums Employability - To evaluate the definite integral, double integral and triple integral
MODERN ALGEBRA	CUTM1516	2020	Skill – Effectively write abstract mathematical proofs in a clear and logical manner
ADVANCED ANALYSIS	CUTM1519	2020	Skill –To point out that iterative processes and convergence of sequences occur in many areas of mathematics, and to develop a general context in metric spaces. Employability - To reinforce ideas of proof
Ordinary Differential Equations	CUTM1514	2020	Skill –To understand solving Free Undamped Motion of a Spring System using Python and other skills Employability - Find power series solutions of 2nd order differential equations
Partial Differential Equations and System of Ordinary Differential Equation	CUTM1517	2020	Skill –Application of MATLAB in system of differential equations Employability - To practice heat and wave equations in 2D and 3D..
Numerical Analysis	CUTM1518	2020	Skill – Numerical Solution of different linear and non-linear equations using software.
Complex Analysis	CUTM1520	2020	Skill –Learn the Plotting of complex functions using Matlab Employability - To get equipped with the understanding of the fundamental concepts of functions of a complex variable along with the concepts of analyticity, Cauchy-Riemann relations and harmonic functions.
Integral Transformations	CUTM1521	2020	Skill –To learn the Fourier series expansions of periodic functions by using Matlab Employability - Learn application of MATLAB programming

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Discrete Mathematical Structure	CUTM1522	2020	Skill –To work with different types of Sets, Lattices and Boolean Algebra using Python
Linear Programming	CUTM1523	2020	Skill - To demonstration of the utilization of Linear Programming Problems in industry and business. Employability - • Formulate the necessary and sufficient optimality conditions for linear programming and demonstrate the geometrical interpretation of these conditions
Probability and Statistics	CUTM1524	2020	Skill- To apply probability and statistics in engineering and science like disease modeling, climate Prediction and computer networks etc using MATLAB
Phycology and Microbiology	CUTM1455	2020	Employability- Classification and identification of microbes and algae. Skill-Practice on staining procedure of different Algae and Bacteria. Hand on practice on Classification and identification of microbes and algae.
Biomolecules & Cell biology	CUTM1456	2020	Employability- Carbohydrates,Lipids,Nucleic Acids,Bioenergetics Skill- Students Completed practicle on analysis of carbohydrates, protein, reducing sugars etc.
Mycology & Phytopathology	CUTM1457	2020	Skill-Practice on identification of different casuative agent of plant pathogen like fungi, bacteria and virus and their management.
Archegoniate	CUTM1458	2020	Employability-Learn the phylogeny of archegoniate . Skill-Practice on cutting thin sections and staining procedure of Archegoniates
Anatomy of Angiosperms	CUTM1459	2020	Employability-Learn identification of plants based on cytotaxonomy, helps in forensic science, pharmagonosy and drug development. Skill- To gain hand on skills about the

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			anatomical details of conducting tissues and secertory tissues.
Basics of Genetics	CUTM1461	2020	Skill-Learn to carry out specific activities, such as selection of parental germplasm, conservation and recording of phenotypic variation and selection among progeny; mating systems, selection, testing and germplasm maintenance of horticultural and crop plants
Molecular Biology	CUTM1462	2020	Skill- Students can isolate plant DNA & quantification of extracted DNA by spectrophotometric method, plasmid DNA isolation and techniques and DNA sequecing
Plant Systematics	CUTM 1464	2020	Employability- Students can easily identified plants, prepared and seposited herbarium, they also practiced digital documentation of herbarium. Skill- Hands on skill on herbarium preparation.
Reproductive Biology of Angiosperm	CUTM1465	2020	Employability -Keen Observations of some of the variation in different parts of sample fruits, and relate these modifications to changes in function,significance of angiosperm gametogenesis and fertilization, including double fertilization. Help to pursue higher studies. Skill -Hands on skill on Pollen viability: Tetrazoliumtest. Germination: Calculation of percentage germination in different media using hanging drop method.
Plant Physiology	CUTM1466	2020	Employability- A keen observation and application of Plant water relationnship and Growth regulators. Skill-Hand on practice on calculate the area of an open stoma and percentage of leaf area open through stomata;Study the phenomenon of seed germination

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Plant Metabolism	CUTM1467	2020	Employability- Students isolate and quantify the biomolecules, metabolites present on plants and analyse them. Skill- Hand on skill of bioassay of Avena coleoptile.
Fundamentals of Agronomy	ASAG1101	2018	Understanding the tools of agronomy and their application in crop production: skill dev.
Fundamentals of Genetics	ASPG1101	2018	Application of genetic principles in plant breeding:employbility& skill dev.
NSS/NCC/Physical Education & Yoga Practices	ASPE1101	2018	Understanding and application of different yoga asanas and pranayama techniques for physical and mental well-being :Skill & Employability
Irrigation water management	ASAG1206	2018	Understsanding the practices of water management and its application in irrigation management : skill dev.& employbility
Production Technology for Vegetables and Spices	ASHO1203	2018	Understanding the different methods i.e. seed treatement and vegetative propogation for the production of vegetable crops: enterpreneurship & skill
Crop Production Technology – I (Cereals, millets and pulses) Kharif crops	ASAG2103	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Fundamentals of Plant Breeding	ASPG2103	2018	Understand the basic methods of plant beeding i.e. emasculation and crossing : Skill & Employability
Production technology of fruits and plantation crops	ASHO2102	2018	Understanding the different methods i.e. grafting, budding and layering for production of fruit and plantation crops: enterpreneurship & skill
Communication skills and personality development	ASEE2104	2018	Develop knowledge of english communication through presentation, extempore and GD: Skill & Employability
Crop Production Technology –II (Oil seeds, fiber, sugar,	ASAG2204	2018	Developing skills i.e. field management, cultural practices, disease and pest

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tobacco, and fodder Crops) Rabi crops			management for field crop production :skill & employbility
Production Technology for Ornamental Crops, MAP and Landscaping	ASHO2204	2018	To gain expertise in production of ornamental crops and landscaping : ,employbility & skill development
Manures, Fertilizers and Soil Fertility Management	ASAC2202	2018	Understanding the manures and fertilizer and its application:skill and employbility.
Entrepreneurship Development and Business Communication	ASEE3103	2018	Development of enterpreneurial mindset and entrepreneurial skills for building a start-ups: skill dev
Problematic Soils and their Management	ASAC3103	2018	Understanding fertility and pH levels of soil to manage problematic soils :skill dev and employability
Crop Improvement-I (Cereals,millets,pulses and oil seeds etc)(Kharif crops)	ASPG3104	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility
Geoinformatics and Nano-technology for Precision Farming	ASAG3110	2018	To gain knowledge in nano materials and geoinformatics applicaions i.e. moonsoon tracking system, drainage networks for precision farming:Employbility, skill and enterprenureship
Farming System & Organic farming for Sustainable Agriculture	ASAG3207	2018	To gain expertise in organic farming practice: employbility, skill development and Enterpreneurship
Post-harvest Management and Value Addition of Fruits and Vegetables	ASHO3205	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Pests of horticultural crops and their management and Beneficial Insects	ASEN3204	2018	Identification and management of crop & storedgrain pests :employability & skill dev
Crop Improvement-II (fibre, sugar, starches, narcotics, Vegetables, fruits, and flowers)	ASPG3205	2018	Developing skills i.e. field management, cultural practices, disease and pest management for field crop production :skill & employbility

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Principles of Integrated Pest and Disease Management (50% Entomology and 50% Pathology)	ASPP3204	2018	Identification of insects pests of different crops and its integrated pest management-Entrepreneurship& skill dev,employability
Protected cultivation and post harvest technologies	ASAE3204	2018	Understanding different practices with relation to Value addition of fruits and vegetables and their packaging and storage :Employability & skill development
Intellectual Property Rights	ASIP3201	2018	Understanding the process to file patent and register for copyrights:skill and employbility.
Agribusiness Management	ASFE2207	2018	Understanding agriculture and allied business along with building skills i.e. marketing of agri-based products : Skill &Enterpreneurship
Commercial Plant Breeding	ASFE2204	2018	Understanding of commercial plant breeding techniques i.e. emasculation, crossing and storage practices :Employability & skill development
Food safety and Standards	ASFE2201	2018	Understanding the different food safety principles i.e. pasturization, canning etc: Skill
Biopesticides & Biofertilizers	ASFE2205	2018	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
Micro propagation Technologies	ASFE2208	2018	Gaining knowledge in different micro irrigation techniques i.e. sprinkler and drip irrigation: Skill &Employbility
Hi-tech. Horticulture	ASFE2202	2018	Gaining knowledge in different techniques i.e. vertical farming and hydroponics of hitech horticulture: skill & employbility
Remote Sensing & GIS Applications	ASFE2209	2018	Understanding the applications of remote sensing i.e. analyzing the condition of rural roads and detecting land use: Employability, Entrepreneurship and Skill development
Climate Smart Agriculture	ASFE2210	2018	Gaining knowledge on the usage of drones in agriculture for crop improvement:

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			Employability, Entrepreneurship and Skill development
Agricultural Waste Management	ASFE2203	2018	Understsanding the various methods for agricultural waste management i.e. green waste, waste silage: Skill development
Principles of Aquaculture	ASFE2213	2018	Understanding the various methods i.e. breeding, raising and harvesting in fish production :Employability, Entrepreneurship and Skill development
RAWEP	AGRW4101	2018	To impart diagnostic and remedial practical training and skills in crop production/horticulture/plant protection through work experience: employbility,enterpreneurship and skill development.
AELP	AGEL4201	2018	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Organic Farming	CUOF2230	2020	Production of organic vegetables & fruits-Entrepreneurship& skill dev
Biopesticides and Biofertilizers	CUOF2232	2020	To understand the production of Bio fertilizers i.e. VAM, PSB, AZACTOBACTER-Entrepreneurship & skill dev
Biofertilizer and Biopesticide Production Technology	CUOF2235	2020	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
AELP Project	CUOF2236	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.

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Breeding methods: conventional and molecular approach	CUSP2260	2020	Gaining expertise in breeding of varieties ofVegetable, Tuber and Spice Crops - Entrepreneurship & skill development
Seed production of vegetable and cereals crops	CUSP2261	2020	Gaining expertise in seed production of cereal crops- Entrepreneurship & skill development
Hybridization techniques	CUSP2263	2020	Understand the principles of hybridization and its implementation in crop improvement: Skill
Vegetable Seed production	CUSP2264	2020	Understanding and hands on training work with different vegetable seed production: Skill, enterprenureship
Cultivar purity and seed quality testing	CUSP2265	2020	Gaining expertise in seed quality testing of pure cultivars - Entrepreneurship & skill development
AELP Project	CUSP2266	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Plant Tissue Culture Technologies	CUGE2274	2020	Learning about cultures for purity and rapid multiplication of planting materials: Skill, enterprenureship
AELP Project	CUGE2276	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Development of Biopesticides and Biofertilizers	CUNU2284	2020	Understanding the techniques involved in biopesticide and biofertilizer production: Skill &Enterpreneurship
AELP Project	CUNU2286	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise

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			management capabilities: enterpreneurship,skill dev.and employbility.
Applied hi-tech horticulture	CUAG2290	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Protected cultivation of vegetable crops	CUAG2291	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
High-tech fruit culture	CUAG2292	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Management of high-value cut-flowers	CUAG2293	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Management of crops in hydroponics	CUAG2294	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Use of smart tools for precision crop management	CUAG2295	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
AELP Project/Industrial internship	CUAG2296	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Applied hi-tech horticulture	CUPH2300	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
Protected cultivation of vegetable crops	CUPH2301	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev
High tech fruit culture	CUPH2302	2020	Production of high value crops under controlled environment- Entrepreneurship & skill dev

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Production technology of cut flowers & loose flowers	CUPH2303	2020	understanding the Scope and importance of cut and loose flowers- Entrepreneurship & skill dev
Protected floriculture	CUPH2304	2020	Production of high value floriculture crops under controlled environment- Entrepreneurship & skill dev
Production management of medicinal and aromatic crops	CUPH2305	2020	Understanding the importance and practices for production technology of medicinal and aromatic crops - Entrepreneurship & skill dev
AELP Project	CUPH2306	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Agri Input Marketing	CUAB2321	2020	Skill: promotes professional marketing skills & knowledge to the participants, important for success in the marketing of agricultural inputs
Rural Haat and Market Analysis	CUAB2322	2020	To understant the scenario and marketing stategies at rural haat- Entrepreneurship & skill development
Community Owned and Managed Agri Businesses	CUAB2323	2020	To gain knowledge of community based farming and product development- Entrepreneurship & skill development
Agri Warehouse Management	CUAB2324	2020	To gain knowledge on food grain storage and its management at ware house- Employbility & skill
Seed pathology	CUFS2331	2020	Skill and employment: Future storage of various seeds under protected condition.
Post-harvest biochemistry and physiology of crops	CUFS2332	2020	Skill:Detection of Biochemical and physiological alterations at post harvest conditions.
Pest management techniques in storage	CUFS2334	2020	To understand about different possible pest responsible for post harvest losses and their management during food storage: Skill, enterprenureship

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Post-harvest storage of fruits and vegetables	CUFS2335	2020	To understand about the differnt factors responsible for post harvest losses and preservation techniques to extend the post harvest life of perishables: Skill, enterprenureship
AELP Project	CUFS2336	2020	To promote professional skills and knowledge through hands on experience. To build confidence and ability to work in project mode. To acquire enterprise management capabilities: enterpreneurship,skill dev.and employbility.
Project/Industrial internship	CUDP2246	2020	Employability and skill.
Quality assurance, management and certification	CUFT2352	2020	Skill and employment:involves quality assurance of fish and fish baseed products
Fish and shellfish waste management	CUFT2353	2020	Skill and Employability:To gain knowledge on various fish and shell fish byproducts,and their waste utilization.
Microbiological analysis of fish and fisheries products	CUFT2354	2020	Skill and employability:To gain knowledge on sampling,processing and detection of microbes for safety and quality of sea food products.
Biochemical analysis of fish and fisheries product	CUFT2355	2020	Skill and employment:To familiarize with diffrent fish physiochemical quality estimation parameters.
Preparation of different fisheries products and quality assessment	CUFT2356	2020	Skill and emplyment:To teach scientific techniques of ish processing and value addition as well as quality of processed products.
Intensive Fish Rearing	CUAQ2250	2020	Skill & Enterprenureship- To gain knowledge on intensive fish farming
Ornamental Fish Farming	CUAQ2251	2020	Skill & Enterprenureship- to gain knowledge on marketing oppurtunity and scope of ornamental fish

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Biofloc Aquaculture	CUAQ2252	2020	Skill & Enterprenureship- To gain knowledge on recent advancement in fish farming and handling of its components
Framing of SOPs for Intensive fish culture and ornamental fish culture	CUAQ2253	2020	Skill & Enterprenureship- To gain knowledge on SOP framing in intensive fish farming
Health Management in Aquaculture	CUAQ2254	2020	Skill, employability & Enterprenureship- To learn the procedures of health mangement in aquaculture
Feed Management in Aquaculture	CUAQ2255	2020	Skill & Entrepreneurship-To gain knowledge on feed mangement in aquaculture
Aquaculture rearing	CUAQ2256	2020	Skill & Entrepreneurship-To gain knowledge on the techniques involved in aquaculture rearing
Principles and practices of weed management	MAAG 1102*	2017	Skill development: Identification of different weeds and their control which in turn would further provide a scope to students in chemical industries
Principles and practices of water management	MAAG 1103*	2017	Skill development: The students can learn about judicious water management using different efficient technologies which would further lay emphasis on job opportunities as well as they can make themselves self sufficient by serving as entrepreneurs to serve the farming community
Agronomy of major cereals and pulses	MAAG 1204*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Agronomy of oilseed, fibre and sugar crops	MAAG 1205*	2017	Skill development: Students gain an insight into the different package and practices for raising different agronomic crops under varied agroclimatic conditions.
Cropping systems and sustainable agriculture	MAAG 1206*	2017	Skill development: The students acquire knowledge about different cropping systems under various climatic situations

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			and they can make themselves self employed as sucessful entrepreneurs
Dry land farming and watershed management	MAAG2107 *	2017	Skill development: On the basis of climatic situations, students will learn raising of different climate resilient crops
Soil fertility and fertilizer use	MASA1101	2017	Skill development: Students gain knowledge on the application of fertilizers and soil fertility status
Management of problem soils and waters	MASA1202	2017	Skill development: students study different methods for the reclamation of problematic soils as well as their management
Statistical methods for applied sciences	MAST 2102	2017	Skill: To exploit various statistical tools as well as techniques to compile raw data for representing the results
Library and information services	MALI1101	2017	Skill development: To gain knowledge on the utilization of library resources for the rsearch finding of experiments.
Technical writing and communication Skills	MACS1101	2017	Skill development: learn the style and skill of writing technical papers
Intellectual property and its management in agriculture	MAIP 1201	2017	Employability and Skill development: students get an overall idea of IPR and their applications towards the protection of property rights
Basic concepts in laboratory techniques	MALT1201	2017	Skill: students do learn the usage of different laboratory equipments along with the standard operating procedures for handling them
Agricultural research, research ethics and rural development programmes	MAAR2101	2017	Employability and Skill development: Acquire knowledge for research ethics and government policies.
Production technology of cool season vegetable crops	MAVS 1101*	2017	Skill: The students can train others as well as the knowledge can be implemented for carrying out research in collaboration with various government and non-government organizations.

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Seed production technology of vegetable crops	MAVS 2106*	2017	Entrepreneurship, skill and research: Development of quality seeds and planting materials
Fundamentals of processing of vegetables	MAVS 2108*	2017	Entrepreneurship and skill: To utilize the knowledge in various processing units
Post harvest technology for fruit crops	MAFS1205	2017	Entrepreneurship and skill
Principles and practices of water management	MAAG1103	2017	Skill and research: To learn the judicious utilization of water during various developmental stages of plants
Principles of genetics	MAGP 1101*	2017	Practical skills and concepts leading to research to generate high yielding varieties.
Principles of cytogenetic	MAGP 1102*	2017	Practical skills and concepts leading to entrepreneurship and research to generate high yielding and disease resistant varieties.
Principles of plant breeding	MAGP 1103*	2017	Technical skills leading to research
Principles of quantitative genetics	MAGP 1204*	2017	Technical Skills leading to research in quantitative genetics
Biotechnology for crop improvement	MAGP 1206*	2017	Research and skill: To raise new crop varieties using the tools of molecular biology and genetic engineering
Master's Seminar	MAGP 2191*	2017	It is a skill to bring forward the problems as well as solutions to combat the problems relating to the molecular biology of the plant
Techniques in molecular biology I	MAMB1205	2017	Skill: Students learn the techniques of molecular biology and further carry out research and also serve as entrepreneurs
Development communication and information management	MAEX1102*	2017	Skill and research: students can learn the skills and involve in research activities

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e-Extension	MAEX 1207*	2017	Skill: Students can learn the usage of various tools related to ICT activities and further carry out research
Market led extension management	MAEX 1208*	2017	Entrepreneurship: students can learn the marketing and entrepreneurial skills
Human Resource Development	MAEX 2109*	2017	Skill: Students can learn the skills of studying human behaviour leading the management of human resources
Agricultural Marketing & Price Analysis	MAAE 1201	2017	Entrepreneurship: students can learn the marketing skills and serve as entrepreneurs
Statistical methods for social sciences	MAST 1203	2017	Skill: Students can learn the usage of different stastical tools that in turn would provide them a scope for employment
Non-Parametrics	MAST 2104	2017	Skill: Students can learn the usage of different non parametrics such as descriptive statistics and statistical inferences which would help them for carrying out research activities
Participatory methods for technology development and transfer	MAEX1104	2017	Skill and employability: students can learn the basic concepts of participatory techniques and thereby help in technology transfer from lab to land
Entrepreneurship Development and Management in Extension	MAEX2110	2017	Entrepreneurship: Students do learn the entrepreneural skills which ultimately provides them with a scope to serve as entrepreneurs
Taxonomy of Shellfish	FSRM1102	2017	Gain knowledge about the morphometric and meristric character of shellfish for identification. Skill development
Fish Food Organisms	FSAQ2109	2017	Learn and practice the nutritional requirements of fish/shellfish larvae and knowledge on mass culture and enrichment of live food organisms. Employability and Skill development
Freezing Technology	FSPT2103	2017	Understanding the different types of low temperature preservation, handling, storage of different type of fish and fishery products to minimize the spoilage along

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			with post harvest loss. Employability and Skill development
Genetics and Breeding	FSAQ2111	2017	Gain knowledge on genetic basis of inheritance and breeding plans for commercially important fishes. Employability, Entreperneurship and Skill development
Fish Immunology	FSHM2106	2017	Study the types of immunity, antigen-antibody interactions and learn the Serological methods in disease diagnosis. Employability and Skill development
Fisheries Economics	FSEE2102	2017	Learning the interface between economics and effective management decisions for fisheries business firm. Employability and Skill development
Coastal Aquaculture and Mariculture	FSAQ2204	2017	To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters. Employability and skill development
Fish Nutrition and Feed Technology	FSAQ2208	2017	Practical knowledge of feed formulation and different feed processing techniques and prepare feed based on the nutritional requirements of fish/shell fish. Employability and skill development
Fish Packaging Technology	FSPT2205	2017	Learn the different types of packaging, importance of packaging in fish processing, functions, objectives and requirements. Skill development
Fish and Shellfish Pathology	FSHM2201	2017	Study fish and shellfish pathogens, their control measures and treatments. Employability and Skill development.
Fishing Craft Technology	FSFE2203	2017	Study the operation of various types of traditional and mechanised fishing craft, design and modification. Skill development
Fisheries Extension Education	FSEE2207	2017	Acquire skills required to practice various fisheries extension approaches, the transfer of modern and scientific findings of lab to the farmers land.

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Shellfish Hatchery Management	FSAQ2206	2017	Practical skills of seed production and hatchery management of commercially important crustaceans and molluscs and can setup his/her own hatchery. Employability, Entrepreneurship and Skill development.
Communication Skills and Personality Development	FSEE2208	2017	Students will improve interpersonal skills, active listening and responding skills, communication into everyday practice, teamwork and group discussions skills. Employability and Skill development.
Intensive Fish Rearing	CUAQ 2250	2020	To anable students intensive production of commercially important fishes in different aquaculture production systems at fish rearing unit and ponds-Skill development and employbility
Ornamental fish farming	CUAQ 2251	2020	Aim to Familiar students with ornamental fish culture and aquarium management-Self employability and Skill development
Biofloc Aquaculture	CUAQ 2252	2020	To maintaining biofloc culture system with latest technological advancements-Self employability and Skill development
Framing of SOPs for intensive fish culture and ornamental fish culture	CUAQ 2253	2020	Aim to familiar students with SOPs for fish feed Management and Plant Nutrient Management in Aquaponics-Skill development
Health Mangement in aquaculture	CUAQ 2254	2020	To anable students fish health managements Clinical signs, symptoms and treatment for different diseases- Skill Development and Self employability
Feed Management in Aquaculture	CUAQ 2255	2020	To make practice and familiar with Identification of Suitable locally available feed ingredients and Formulation of high quality fish feed- Skill Development and Self employment.
Aquaculture Rearing	CUAQ 2256	2020	To provide students with a good understanding of auaculture rearing and managements-Skill Developments

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Introduction to Forensics, Psychology, Law and Statistics	CUTM1634	2020	Skill : Student will gain knowledge of Laws, Assessment of Deception and Statistical analysis.
Instrumental Techniques	CUTM1635	2020	Skill & Employability : Student will perform analysis of various samples by using instruments such as UV, IR, TLC etc.
Crime Scene Management and Forensic Physics	CUTM1636	2020	Skill & Employability : Skill to reconstruct crime scene. Student process the simulated crime scene. Student perform examination of various evidences such as soil, glass, paint, foot print and lip prints.
Finger prints and Questioned Documents	CUTM1637	2020	Skill, Employability & Entrepreneurship, : Student develops latent fingerprints and lift them for comparison & identification purpose.Gains knowledge about various Aspects of AFIS. Student also detects Signature, hand writing & document forgery, examines counterfiet currency, passport and seal impressions. Gains knowledge about instrumental techniques like ESDA, VSC, Stereo Microscope.
Business Communication	CUTM1638	2020	Skill : Improvisation in Vocubalary Skills & Personality Development, Improving Fluency, Voice Quality, Articulation.
Quality Management, Narcotic Drugs, Explosives, and Forensic Chemistry	CUTM1639	2020	Skill & Employability : Student learn and perform examination of NDPS drugs and controlled substanes , low explosives, Fire debris, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres.
Forensic Biology and Forensic Medicine	CUTM1640	2020	Skill : Student gains knowledge about basics of Human Anatony, Physiology & Forensic Biology. Student performs examination of skeletal remains to determine age, Sex & race Gains knowledge about medicolegal investigation such as cause of death, time since death etc.
Forensic Serology and DNA Profiling	CUTM1641	2020	Skill & Employability : Students perform experiments to detect the presence of

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			blood, semen, saliva and other body fluids , Performs DNA extraction,
Forensic Toxicology and Pharmacology	CUTM1642	2020	Skill & Employability, : Student isolate and Extract poisons\ Drugs from samples and detrmines the presence of various poisons. Also gains knowledge about interpretation of toxicological finding and preparation of reports.
Forensic Ballistics and Computer Forensics	CUTM1643	2020	Skill & Employability : Student gains knowledge about various aspects of ballistics, characteristics of ammunitions and Compurter Foreniscs. Student also perform instrumental analaysis of GSR & examines bullets and cartridge cases to determine the source of origin.
Concepts of Toxicology	CUTM1648	2020	Skill & Employability, : Students do analysis of various poison such as metallic poison, pesticides, plant poisons etc. and gains knowledge about interpretation of toxicological finding and preparation of reports.
Modern and Applied Analytical Forensic Chemistry	CUTM1649	2020	Skill & Employability : Student performs analysis of Various Cases in Forensic Chemistry, Validation of new methods & Accreditation in FSL's, Analysis of NDPS, Explosives, Fire, Petroluem Products, Beverages, Bribe Trap Cases, Adultrated food, Fibres & Exmination of Forensic Chemicals.
Molecular Biology and Genetics	CUTM1644	2020	Skill & Employability : Student performs serological analysis, quantification of DNA, Extraction of DNA from different sources. Also gains knowledge about genotyping and result preparation.
Biotechnology in Pharmaceutical Sciences	CUTM1645	2020	Skill & Employability, : Student studies about recombimant DNA Technology, Quality Assurance and Quality control, Studying Bioinformatics, intelectual property rights. Student performs isolation

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			of bacteria, genomic an plasmid DNA & Western blotting
Environmental Biotechnology	CUTM1646	2020	Skill & Employability, : Student performs practicals to detect pollutants in samples & estimation of BOD. Student gains knowledge about measurement of pollutants with the help of biosensor and biomarker, Measurement of Biomagnification, Waste water management and Treatment.
Assignment	CUTM1656	2020	Skill : Student study various cases where forensic science played significant role in delivery of justice and write reports.
Seminar	CUTM1657	2020	Skill : Student takes up cases and topics relevant to their specialization subjects and delivers the same.
Computer Networks	CUTM1620	2020	Skill Development , Employability-Learning about computer network & network security
Cyber Crime & Investigations	CUTM1621	2020	Skill Development,Employability-Learning about Analytical Skills,Comprehension of Cybersecurity Fundamentals and good practices for digital evidence and digital forensics: Skill Development
Number theory &Cryptography	CUTM1623	2020	Skill Devlopment,Employability-implement and analyse algorithms for integer factorization and primality testing: Skill Devlopment
Advanced Information Security	CUTM1624	2020	Skill Development, Employability-Focus on the CIA models, tools, and techniques for enforcement of security
Cyber Forensics	CUTM1625	2020	Skill Development, Employability-Focus on analysis and assessment of risk assesment process & control : Skill Development, Employability
System and Network Security	CUTM1626	2020	Skill Development, Employability-Gaining practical experience in installation, monitoring, and troubleshooting of current LAN systems

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Business Continuity Planning (BCP) And Disaster Recovery (Dr)	CUTM1630	2020	Skill Devlopment-Learning how to reduce the overall risk & manage the company
Basics of forensic sciences	CUTM1659	2020	Skill : Student gains knowledge about fundamentals of forensic science, organizational setup of different FSLs in India, functioning of national and international investigative agencies, code of conduct, ethical issues, professional standards, qualification of forensic scientists, report writing.
Crime and society	CUTM1660	2020	Skill : Student studies basic cocepts of criminology, criminal profiling, types of crime, victimology, penology, psychological disorders and criminality, CJS, case studies
English	CUTM1673	2020	skill : Learns to communicate fluently in different business situation, effective oral and written communication, appropriate words usage with correct pronounciation, clarity of word stress and intonation
Criminal law	CUTM1661	2020	Skill : Student studies criminal procedure code, IPC, IEA, constitutions of india, acts pretaining to socio- economic and environmental crimes
Forensic Psychology	CUTM1662	2020	Skill : Student gains knowledge about fundamental concepts of forensic psychology and forensic psychiatry , the legal aspects of forensic psychology, significance of criminal profiling, the importance of psychological assessment in gauging criminal behaviour, tools and techniques for detection of deception (polygraph, narco analysis, brain mapping)
Forensic Dermatoglyphics	CUTM1663	2020	Employability & skill : Student locates, develops, lifts and compares fingerprint for identification. Also performs physical and chemical techniques for developing latent fingerprints, collect and examines lipprints, footprints.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Technological methods in forensic sciences	CUTM1664	2020	Employability & skill : Student uses chromatographic methods to separate various samples, gains hands on experience of various instruments
Criminalistics	CUTM1665	2020	Employability & skill : Students visit the simulated crime scene and documents the crime scene.Gains knowledge about the legal importance of chain of custody, the tools and techniques for analysis of different types of crime scene evidence
Introduction to biometry	CUTM1675	2020	Skill & Employability : Student learns the basics of biometry, classification and importance of behavioural biometry. Student identify individual characteristics of Fingerprints.
Handwriting identification and recognition	CUTM1676	2020	Skill & Employability : Student learns importance features in handwriting identification, basics of handwriting characteristics. Student analyses handwriting samples for prescence of forgery and various other security documents.
Forensic ballistics	CUTM1669	2020	Employability & skill : Student learns classification of firearms, firing mechanism, method of identifying firearms, characteristics of ammunitions, importance of firearm evidence, nature of firearm injuries. They also do characterization of gunshot residues
Forensic toxicology	CUTM1670	2020	Employability & skill : significance of toxicological studies in forensic sciences, classification of poison and their modes of actions, absorption of poison in body fluids, forensic identification of illicit liquors, classification and characteristics of the narcotics drugs and psychotropic substances, menace of designer drugs
Forensic serology	CUFS2412	2020	Skill & Employability : Student learns significance of serological evidences such

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			as blood, urine, saliva etc. in crime scene investigations, usefulness of genetic markers in forensic investigations, forensic importance of blood stain patterns. Student performs prelimnary and confirmatory test for detection of all the body fluids.
Audio recognition and video analysis	CUFS2415	2020	Skill & Employability : Learns principle of voice production, forensic significance speaker identification and recognition and video analysis. Student anlayses voice samples and performs video analysis.
Forensic Anthropology	CUTM1671	2020	Skill : Student develops skill to identify skeletal remains and estimate age, sex, race of skeletal remains
Forensic Medicine	CUTM1672	2020	Skill : Student develops skill to ascertain the cause of death, time since death and learns about different kind of injuries
Explosives Analysis and Post Blast Investigation	CUFS2416	2020	Skill & Employablity : Student learns about management of bomb scene and performs examination of various explosives.
Analytical Techniques	CUTM1709	2020	Understanding the working principle of Common instruments used in a diagnostic lab: Skill dev. & Employbility & Enterpreunership
Clinical Hematology	CUTM1712	2020	Differentiate various hematological procedures and the use of basic equipment essential to working in a Hematology Laboratory: Skill dev. & Employbility & Enterpreunership
Clinical Pathology	CUTM1715	2020	Pathological investiations of urine, stool and other biological specimen: Employbility/ Enterpreunership/ Skill
Clinical Biochemistry	CUTM1718	2020	Understanding of principle of biochemical Clinical biochemistry tests; to study about diseases related to biochemical and hormone imbalance in human body: Employbility/ Enterpreunership/ Skill

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Histology	CUTM1720	2020	Special staining procedures & handling & testing of various cytological specimens: Employbility/ Skill dev.
Systemic Bacteriology	CUTM1713	2020	Conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body: Employbility/ Skill
Applied microbiology	CUTM1717	2020	Microbiology in diagnostics, hospitals and community: Employbility/ Enterpreunership/ Skill
Medical Parasitology and Mycology	CUTM1716	2020	Identification of pathogenic parasite and fungus in disease diagnosis and treatment: Skill dev./ Employbility
Immunology & Virology	CUTM1719	2020	Immunological investigations and viral diagnosis: Skill dev. & Employbility
Clinical Bacteriology	CUTM1722	2020	Diagnosis of bacteria from infective regions of the body: Skill dev. & Employbility
Mini Project	CUTM1754	2020	Research paper publication/ case study/ clinical study/ community service/ survey: Skill dev and Employbility
Project	CUTM1756	2020	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
Internship	CUTM1755	2020	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Blood Banking	CUTM1725	2020	Perform phlebotomy and related donor room activity in blood bank: Skill dev and Employbility
Medical Microbiology	CUTM1724	2020	Demonstrate practical skills in the use of tools, technologies and methods common to microbiology, and apply the scientific method and hypothesis testing in the design and execution of experiments: Skill dev. & Employbility
Immunology & Parasitology	CUTM1728	2020	To diagnose the immunological investigations and parasites: Skill dev. & Employbility

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Advanced Hematology	CUTM1727	2020	Compare and contrast hematology values under normal and abnormal conditions: Skill dev. & Employbility & Enterpreunership
Medical Law and Ethics	CUTM1734	2021	Apply local, state, and federal standards and regulations for the control and use of health information: Skill
Introduction to Quality and Patient safety	CUTM1753	2021	Understand policy related to managing lab and infection control:Employbility/ Skill/ Enterpreunership
Medical Laboratory Management	CUTM1751	2021	Recognize the role of clinical laboratory scientist in the assurance of quality health care:Employbility, Skill Dev, Entreprenurship
Basic Computer and Information Science	CUTM1742	2021	Understand the difference between an operating system and an application program, and what each is used for in a computer: Employbility/ Skill
Basics of Nursing	CUTM1815	2020	Understand the basics of Nursing Processes, first Aid and Emergencies, and OT Organization, health & hygiene: Employbility, Skill Dev
Introduction to anesthesia and OT Technology	CUTM1816	2020	Understanding the importance of anesthesia,Machine breathing system,Oxygen Therapy,Face Masks & Airway Laryngoscopes: Employbility, Skill Dev
Medical Instrumentation and Techniques	CUTM1730	2020	handling instruments required in Medical Laboratory set up: Skill dev. & Employbility & Enterpreunership
Immunology	CUTM1736	2020	Understanding the concept of Innate & adaptive immune system; performing serological analysis: Skill dev. & Employbility & Enterpreunership
Molecular Biology	CUTM1737	2020	Basic techniques applicable in Molecular Biology: Skill dev/ Employbility
Hematology	CUTM1731	2020	Differentiate various laboratory test findings with their associated clinical

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			conditions: Employbility/ Enterpreunership/ Skill dev
Systemic Virology & Mycology	CUTM1735	2020	Understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body: Employbility/ Skill
Analytical Biochemistry	CUTM1738	2020	Learning various tests carried out for biochemical analysis & Hormone investigations: Skill dev. & Employbility & Enterpreunership
Diagnostic Bacteriology	CUTM1747	2020	Lab diagnosis for Enteric infection, Respiratory tract Infection, Oral & Stomach infection, Urinary tract infections: Employbility/ Skill
Diagnostic Mycology	CUTM1745	2020	Understanding pathogenic fungi and the mechanisms by which they cause disease in the human body: Skill dev and Employbility
Diagnostic Virology	CUTM1743	2020	Collection, transportation, processing and storage of Virus: Skill dev and Employbility
Diagnostic Parasitology	CUTM1744	2020	Collectionand identification of Parasites: Skill dev and Employbility
Applied Hematology	CUTM1749	2020	Understanding of Haemopoietic disorders and their laboratory diagnosis : Skill dev. & Employbility & Enterpreunership
Immunopathology	CUTM1750	2020	organization and functioning of the immune system, their diagnostic tests described on immunological techniques: Skill dev and Employbility
Parasitology	CUTM1748	2020	Identification of pathogenic parasite in disease diagnosis and treatment: Skill dev. And Employbility
Mycology & Virology	CUTM1752	2020	Plan and execute investigations relating to fungi to virus: Skill dev and Employbility
MATHEMATICS	CUTM1761	2020	represent linear systems by matrices and solve them for unknown variables: Skill
RADIOGRAPHIC TECHNIQUE -1	CUTM1767	2020	Position the tube; give instructions to the patient; assist radiologist in various procedures: Employbility / Skill

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
BASIC OF MAGNETIC RESONANCE IMAGING	CUTM1776	2020	Understand patient positioning during the MRI procedure of different organ system to obtain well defined images for proper diagnosis of MRI films and images: Employbility/ Skill
PHYSICAL OPTICS	CUTM1784	2020	Predict the distribution of light under various conditions: Employbbility/ Skill
VISUAL OPTICS I	CUTM1786	2020	Predict the basic properties of the images formed on the retina by the optics of the eye: Employbility/ Skill
OPTOMETRIC OPTICS I	CUTM1787	2020	Ophthalmic prism knowledge –effects, units, base-apex notation, compounding and resolving prisms: Entrepreneurship/ Skill
CLINICAL EXAMINATION OF VISUAL SYSTEM LAB	CUTM1790	2020	Knowledge on the purpose of each test, its indications and contraindications and will be able to perform various clinical tests: Enterpreunership/ Employbility/ Skill
VISUAL OPTICS II	CUTM1791	2020	Theoretical knowledge and practical skill on visual acuity measurement, objective and subjective clinical refraction: Employbility/ Skill
OPTOMETRIC OPTICS II & DISPENSING OPTICS	CUTM1792	2020	Facial measurements - Interpupillary distance measurement and measuring heights (single vision, multifocal, progressives); Lens verification and axis marking and fitting of all lens types; Final checking of finished spectacle with frame adjustments: Employbility/ Enterpreunership/ Skill
CONTACT LENSES II	CUTM1795	2020	Special cases CL fitting; Identify and manage the adverse effects of contact lens: Employbility/ Skill
BINOCULAR VISION I	CUTM1796	2020	Depth perception; Binocular optical defects; Basic binocular evaluation: Employbility/ Skill
LOW VISION AND REHABILITATION	CUTM1797	2020	Optical, Non-Optical, Electronic, and Assistive devices; Training for Low Vision

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			subjects with Low vision devices; Referrals and follow-up: Employbility/ Skill
BASIC & OCULAR PHARMACOLOGY	CUTM1798	2020	Commonly used ocular drugs, mechanism, indications, contraindications, drug dosage and adverse effects: Employbility/ Skill
PEDIATRIC & GERIATRIC OPTOMETRY	CUTM1800	2020	Be able to dispense spectacles with proper instructions; Adequately gained knowledge on common ocular diseases: Employbility/ Skill
OCCUPATIONAL OPTOMETRY	CUTM1802	2020	To be able to prescribe suitable corrective lenses and eye protective wear: Employbility/ Enterpreunership/ Skill
LAW AND OPTOMETRY	CUTM1805	2020	Universal consensus that legal and ethical considerations are inherent and inseparable parts of good medical practice across the whole spectrum: Skill
PUBLIC HEALTH & COMMUNITY OPTOMETRY	CUTM1804	2020	Organize health education programmes in the community; Vision screening for various eye diseases in the community and for different age groups: Employbility/ Skill
OPTOMETRIC INSTRUMENTS	CUTM1803	2020	Gain theoretical knowledge and basic practical skill in handling the advanced instruments: Employbility/ Enterpreunership/ Skill
PROJECT	CUTM1809	2020	Working on a disease/ disorder specific assignment to fill the research gap in the specific area: Skill dev & Employbility
INTERNSHIP	CUTM1810	2020	Dealing with patient, analysis and interpretation of diseases: Skill dev. & Employbility & Enterpreunership
Human Anatomy and Physiology I– Theory	BPHT1101	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Analysis I – Theory	BPHT1102	2017	Skill-Employability-Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Pharmaceutics I – Theory	BPHT1103	2017	Skill- Employability- Entrepreneurship - Understand the impact of pharmaceutical solutions in a global, economic, environmental, and societal context
Pharmaceutical Inorganic Chemistry – Theory	BPHT1104	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Communication skills – Theory *	BPHT1105	2017	Skill- Students can improve their coomunication Skill
Human Anatomy and Physiology – Practical	BPHL1101	2017	Skill-allows Students to verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Analysis I – Practical	BPHL1102	2017	Skill- Employability- Students can assay ,preparaed and standarized various Heavy metals and Chemicals
Pharmaceutics I – Practical	BPHL1103	2017	Skill- Employability- Students can prepare various Pharmaceutical dosage form
Pharmaceutical Inorganic Chemistry – Practical	BPHL1104	2017	Skill- Students can perform purity test on drugs or chemicals
Communication skills – Practical*	BPHL1105	2017	Skill- Students can improve their coomunication Skill
Remedial Biology – Practical*	BPHL1106	2017	Skill- Students can learn about structure and functional system of plant and animal kingdom
Human Anatomy and Physiology II – Theory	BPHT1201	2017	Skill-Employability- Hand on practice on various clinical aspects of human physiology and also able to perform different types of experiments
Pharmaceutical Organic Chemistry I – Theory	BPHT1202	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Pathophysiology – Theory	BPHT1204	2017	Skill-Employability-student get to know about various communicable diseases and pathophysiology along with all thetechniques for screening test .
Computer Applications in Pharmacy – Theory *	BPHT1205	2017	Skill-Employability-Buiding compitancy in programme coding, various softwares, simulation techniques, statistical application etc.
Human Anatomy and Physiology II –Practical	BPHL1201	2017	Skill- allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings
Pharmaceutical Organic Chemistry I– Practical	BPHL1202	2017	Skill-Students can do qualitative analysis and synthesis of Organic Compound
Biochemistry – Practical	BPHL1203	2017	Skill- Students can demostrate different Biochemical Test
Computer Applications in Pharmacy – Practical*	BPHL1204	2017	Skill-Allows students to details with Database, Database Management system, computer application in clinical studies and use of databases
Pharmaceutical Organic Chemistry II – Theory	BPHT2101	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Physical Pharmaceutics I – Theory	BPHT2102	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmaceutical Microbiology – Theory	BPHT2103	2017	Skill- Employability- Carried out sterility testing, microbiological standardization of Pharmaceuticals and perform cell culture technology and its applications in pharmaceutical industries
Pharmaceutical Engineering – Theory	BPHT2104	2017	Skill -Employability- Enterprenurship- students can able to unterstand and perform unit operations, material handling techniques, screening test and plant lay out

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			design for optimum use of resources used in Pharmaceutical industries
Pharmaceutical Organic Chemistry II – Practical	BPHL2101	2017	Skill-Stuents can do qualitative analysis and synthesis of Organic Compound
Physical Pharmaceutics I – Practical	BPHL2102	2017	Skill- Allows student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmaceutical Microbiology – Practical	BPHL2103	2017	Skill- Allows students to study of all categories of microorganisims especially for the production of alchol antibiotics, vaccines, vitamins enzymes etc.
Pharmaceutical Engineering –Practical	BPHL2104	2017	Skill- Students can get fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry
Pharmaceutical Organic Chemistry III– Theory	BPHT2201	2017	Skill-Employability- synthesis, characterization of synthetic formulation and solve complex pharmaceutical problems in research and development sector.
Physical Pharmaceutics II – Theory	BPHT2203	2017	Skill- Employability- formulate and solve complex pharmaceutical problems in formulation development
Pharmacology I – Theory	BPHT2204	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry I– Theory	BPHT2205	2017	Skill - Students can do identification and evaluation, phytochemicals present in them and their medicinal properties
Medicinal Chemistry I – Practical	BPHL2201	2017	Skill - Students can get fundamental knowledge on the structure,

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
			chemistry and synthesis of each class of drug
Physical Pharmaceutics II – Practical	BPHL2202	2017	Skill-student get to know better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
Pharmacology I – Practical	BPHL2203	2017	Skill -Student can Observe the effect of drugs on animals by simulated experiments
Pharmacognosy and Phytochemistry I – Practical	BPHL2204	2017	Skill-Extraction and isolation of plant product ,determination of chemical parameter of plant product with molecular modeling and geometrical optimization
Industrial Pharmacy– I Theory	BPHT3102	2017	Skill-Employability-Entrepreneurship-students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Pharmacology II – Theory	BPHT3103	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Pharmacognosy and Phytochemistry II– Theory	BPHT3104	2017	Skill-Emloyability-Isolate, Identify, Analyze, screen and ensure quality as ell as quantity of drugs/pharmaceuticals and also able to design phytopharmaceutical schemes of crude drugs estimation
Industrial Pharmacy I – Practical	BPHL3101	2017	Skill- Students can Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality
Pharmacology II – Practical	BPHL3102	2017	Skill- Students can demonstrate isolation of different organs/tissues from the laboratory animals by simulated experiments

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Pharmacognosy and Phytochemistry II – Practical	BPHL3103	2017	Skill- Students can carryout isolation and identification of phytoconstituents
Pharmacology III – Theory	BPHT3202	2017	skill-Employability- student get to know about correlation of pharmacology with other bio medical sciences, mechanism of action, drug interaction, design and conduct pharmacological screening experiments.
Herbal Drug Technology – Theory	BPHT3203	2017	Skill-Employability- students get to know basic principles of traditional medicinal systems with method of preparation and standardization of ayurvedic formulations
Biopharmaceutics and Pharmacokinetics – Theory	BPHT3204	2017	Skill- Employability- student get to know about pharmacokinetic and pharmacodynamic parameters of different dosage form and use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession
Quality Assurance – Theory	BPHT3206	2017	Skill-Employability- students get to know about the validation, confirmation of test product substance and able to analyze, screen and ensure quality of drugs/pharmaceuticals.
Medicinal chemistry III – Practical	BPHL3201	2017	Skill- Students can do chemical synthesis of selected drugs
Pharmacology III – Practical	BPHL3202	2017	Skill- Students can demonstrate the various receptor actions using isolated tissue preparation
Herbal Drug Technology – Practical	BPHL3203	2017	Skill- Students can preparae herbal cosmetics, natural sweeteners, nutraceuticals
Instrumental Methods of Analysis – Theory	BPHT4101	2017	Skill-Employability- Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession.

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Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Industrial Pharmacy –II Theory	BPHT4102	2017	Skill-Employability-Entrepreneurship-students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Pharmacy Practice – Theory	BPHT4103	2017	Skill-Emlpoyability-Enterprenurship-Understanding of professional and ethical responsibility, Manage contemporary pharmaceutical projects, Function effectively as a leader and member of multidisciplinary teams.
Novel Drug Delivery System – Theory	BPHT4104	2017	Skill-Employability-To Design and develop process to meet desired needs in formulation and evaluation of various drug delivery system.
Instrumental Methods of Analysis – Practical	BPHL4101	2017	Skill- Students can perform quantitative & qualitative analysis of drugs using various analytical instruments
Practice School*	BPHL4102	2017	Employability- Skill- Enterprenership Sudents get to know about practice work for any subjective topics, Engage in life-long learning.
Biostatistics and Research Methodology	BPHT4201	2017	Skill- students get to know the appropriate statistical methods required for a particular research design and able to design and conduct experiments, as well as to carry out problem analysis data interpretation
Social and Preventive Pharmacy	BPHT4202	2017	Skill-Employability-students get to know different preventive measures in pharmacy, Understanding of professional and ethical responsibility.
Pharmaceutical Regulatory Science	BPHT4204	2017	Skill-Employability-students get to know about different regulatory bodies, Engage in life-long learning.
Cosmetic Science	BPHT4209	2017	Skill-Employability- Students get to know the advanced current technology used for manufacturing the cosmetics at lab scale and industry scale

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Project Work	BPHP4201	2017	Skill-Emploability-Enterpreurship-Students get to know about plan of work related to the subjective topics and question answer discussion.
Modern Pharmaceutical Analytical Technique	CUTM2000	2021	Skill-Employability- Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession.
Pharmaceutical Formulation Development	CUTM2001	2021	Skill-Employability-Entrepreneurship-students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Novel drug delivery systems	CUTM2002	2021	Skill-Employability-To Design and develop process to meet desired needs in formulation and evaluation of various drug delivery system.
Intellectual Property Rights	CUTM2003	2021	Skill-Employability-students get to know about different regulatory bodies, Engage in life-long learning.
Industrial Pharmacy Practical I	CUTM2004	2021	Skill-Students can Manufacture various dosage form
Seminar/Assignment	CUTM2005	2021	Skill-Improve the communication Skills
Advanced Biopharmaceutics and Pharmacokinetics	CUTM2006	2021	Skill- Employability- student get to know about pharmacokinetic and pharmacodynamic parameters of different dosage form.
Scale up and Technology Transfer	CUTM2007	2021	Skill-Employability- student can get to designto impart knowledge and skills necessary to train the students to be on scale up, technology transfer process and industrial safety issues
Pharmaceutical Production Technology	CUTM2008	2021	Skill- Employability- students can designed to impart knowledge and skills necessary to train the students to be on par with the routine of Industrial activities in Production

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Entrepreneurship Management	CUTM2009	2021	Skill-Entrepreneurship-designed to impart knowledge and skills necessary to train the students on entrepreneurship management.
Industrial Pharmacy Practical II	CUTM2010	2021	Skill-Students can able to know the different Equipments used in Pharmaindustry
Seminar/Assignment	CUTM2011	2021	Skill-Improve the communication Skills
Modern Pharmaceutical Analytical Technique	CUTM1583	2021	Skill-Employability- Use the techniques, skills, and modern pharmaceutical instruments and tools necessary for pharmacy profession.
Drug Delivery System	CUTM1584	2021	Skill-Employability-To Design and develop process to meet desired needs in formulation and evaluation of various drug delivery system.
Modern Pharmaceutics	CUTM1585	2021	Skill-Employability-Entrepreneurship-students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Regulatory Affairs	CUTM1586	2021	Skill-Students can know the different drug regulatory process
Pharmaceutics Practical I	CUTM1587	2021	Skill-Employability-Entrepreneurship-students get to design and develop process to meet desired needs within realistic constraints to formulate and solve complex pharmaceutical problems.
Molecular Pharmaceutics (Nano Tech and Targeted DDS)	CUTM1589	2021	Skill-Employability-students can designe to impart knowledge on the area of advances in novel drug delivery systems
Advanced Biopharmaceutics & Pharmacokinetics	CUTM1590	2021	Skill- Employability- student get to know about pharmacokinetic and pharmacodynamic parameters of different dosage form.

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Computer Aided Drug Delivery System	CUTM1591	2021	Skill-Employability -students get to know about the different drug desigining softwares, application of simulation techniques, bioinformatics, molecular docking tools.
Cosmetic and Cosmeceuticals	CUTM1592	2021	Skill-Employability- Students get to know the advanced current technology used for manufacturing the cosmetics at lab scale and industry scale
Pharmaceutics Practical II	CUTM1593	2021	Skill-Employability-Students can design and develop various drug delivery system
Seminar/Assignment	CUTM1594	2021	Skill-Improve the communication Skills
Software Engineering	CUTM1605	2021	Skill And Employability(Developed knowledge to develop SRS for appication, which helps students in their job)
Digital Painting	CUTM3115	2021	Skill-Design and development of desktop publishing
Apparel Production & Marketing	CUTM3029	2017	Employability/Skill - Practice and Project
Line Stitching Supervising	CUTM3030	2017	Employability/Skill - Practice and Project
Apparel Production	CUTM3031	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Light Motor Vehicle Driving	CUTM3032	2017	Employability/Skill - Practice and Project
Fork Lift Operation	CUTM3033	2017	Employability/Skill - Practice and Project
Heavy Vehicle Technology	CUTM3034	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Two Wheeler Service Technology	CUTM3035	2017	Employability/Skill - Practice and Project
Four Wheeler Service Technology	CUTM3036	2017	Employability/Skill - Practice and Project
E-Vehicle Assembly and Service Technology	CUTM3037	2017	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Robotics	CUTM3038	2017	Employability/Skill - Practice and Project
Poultry Farming	CUTM3039	2017	Employability/ Entrepreneurship/Skill
CNC Programming (CAM)	CUTM3040	2017	Employability/Skill - Practice and Project
Design Supervising Wooden and Modular Furniture	CUTM3041	2017	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Composite Manufacturing	CUTM3042	2018	Employability/Skill - Practice and Project
3D Modelling and Printing	CUTM3043	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Precast Concrete Manufacturing	CUTM3045	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Fabrication	CUTM3046	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Hi-Tech Surveying	CUTM3047	2018	Employability/Skill - Practice and Project
Internet of Things	CUTM3048	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Mechatronics System Design	CUTM3049	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nanotechnology	CUTM3051	2018	Employability/Skill - Practice and Project
Drone Piloting	CUTM3052	2018	Employability/Skill - Practice and Project
Camera Operation	CUTM3053	2018	Employability/Skill - Practice and Project
Editor	CUTM3054	2018	Employability/ Entrepreneurship/Skill - Practice and Project
Desktop Publishing	CUTM3055	2018	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Introduction to Blender and Unity tools	CUTM3056	2018	Employability/Skill - Practice and Project
Refraction Technology	CUTM3057	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Emergency Medical Technology	CUTM3058	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Medical Lab Technology	CUTM3059	2019	Employability/Skill - Practice and Project
Operating Theatre Technology	CUTM3060	2019	Employability/Skill - Practice and Project
Radiology Technology	CUTM3061	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Phlebotomy Technology	CUTM3062	2019	Employability/Skill - Practice and Project
First Aid Service	CUTM3063	2019	Employability/Skill - Practice and Project
General Duty Assistance Service	CUTM3064	2019	Employability/Skill - Practice and Project
X- ray Technology	CUTM3065	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Retail Sales	CUTM3067	2019	Employability/ Entrepreneurship/Skill - Practice and Project
Basketball	CUTM3068	2019	Employability/Skill - Practice and Project
Gym Fitness	CUTM3069	2019	Employability/Skill - Practice and Project
Swimming	CUTM3070	2019	Employability/Skill - Practice and Project
Yoga & Meditation	CUTM3072	2019	Employability/Skill - Practice and Project
Solar PV Installation	CUTM3073	2019	Employability/Skill - Practice and Project
Solar Lighting Technology	CUTM3074	2019	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Solar PV Microgrid System	CUTM3076	2019	Employability/Skill - Practice and Project
Solar PV Driven Equipment O/M & Assembly	CUTM3077	2019	Employability/Skill - Practice and Project
Solar Thermal Engineering	CUTM3078	2019	Employability/Skill - Practice and Project
Introduction to Quantum Computing	CUTM3079	2020	Employability/Skill - Practice and Project
Organic Farming	CUTM3081	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Mushroom Farming	CUTM3082	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Hydroponics Technology	CUTM3083	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Poultry Farming	CUTM3084	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Dairy Farming	CUTM3085	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Vermicomposting Farming	CUTM3086	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Transformer Manufacturing, Repairing and Maintenance	CUTM3087	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Electrical Installation	CUTM3089	2020	Employability/Skill - Practice and Project
Repair and Maintenance of Home Appliances	CUTM3090	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Refrigeration and air conditioning	CUTM3091	2020	Employability/Skill - Practice and Project
Super critical Co2 plant operation	CUTM3092	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Business Plan Preparation	CUTM3095	2020	Employability/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
Composite fabrication practice	CUTM3098	2020	Employability/Skill - Practice and Project
Powder coating practice	CUTM3099	2020	Employability/Skill - Practice and Project
Farm appliances operation	CUTM3100	2020	Employability/Skill - Practice and Project
Bio fertilisers preparation	CUTM3103	2020	Employability/ Entrepreneurship/Skill - Practice and Project
PCB designing & fabrication	CUTM3104	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Block Chain Technology	CUTM3105	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Nutraceuticals	CUTM3106	2020	Employability/Skill - Practice and Project
Introduction to NLP	CUTM3107	2020	Employability/Skill - Practice and Project
Introduction to Computational Biology	CUTM3108	2020	Employability/Skill - Practice and Project
Product Life Cycle Management through Gate process	CUTM3109	2020	Employability/Skill - Practice and Project
New material development with Biovia	CUTM3110	2020	Employability/Skill - Practice and Project
Spectral image processing using Python	CUTM3111	2020	Employability/Skill - Practice and Project
Satellite data processing	CUTM3112	2020	Employability/Skill - Practice and Project
Working with Graphene and carbon fibre	CUTM3113	2020	Employability/Skill - Practice and Project
Adobe Tools and Illustrations	CUTM3114	2020	Employability/ Entrepreneurship/Skill - Practice and Project
Computer Installation and Maintenance	CUTM3120	2020	Employability/ Entrepreneurship/Skill - Practice and Project

Name of the Course	Course Code	Year of introduction	Activities/Content with direct bearing on Skill development
3D Game Art	CUTM3121	2021	Employability/Skill - Practice and Project
Drug Design using Biovia Discovery Studio	CUTM3122	2021	Employability/ Entrepreneurship/Skill - Practice and Project
Opthalmic Lens and spectacle manufacturing Techniques	CUTM3123	2021	Employability/ Entrepreneurship/Skill - Practice and Project
Medical Diagnostic Techniques_	CUTM3124	2021	Employability/ Entrepreneurship/Skill - Practice and Project
Introduction to Aquaponics	CUTM3125	2021	Employability/Skill - Practice and Project
Polyhouse Automation	CUTM3126	2021	Employability/ Entrepreneurship/Skill - Practice and Project
Development of Processor (Shakti)	CUTM3127	2021	Employability/Skill - Practice and Project
Spectroscopy	CUTM3128	2021	Employability/Skill - Practice and Project
Extraction Technologies	CUTM3129	2021	Employability/Skill - Practice and Project
Gamified DIY kits using Lasers	CUTM3130	2021	Employability/Skill - Practice and Project
VR Assets Development	CUTM3131	2021	Employability/ Entrepreneurship/Skill - Practice and Project
GIS and Remote Sensing: Applications in Participatory Natural Resource Management	CUTM3133	2021	Employability/Skill - Practice and Project
GIS and Remote Sensing: Application Development	CUTM3134	2021	Employability/Skill - Practice and Project
3D Modelling and Printing	CUTM3135	2021	Employability/ Entrepreneurship/Skill - Practice and Project
Brew Master	CUTM3142	2021	Employability/ Entrepreneurship/Skill - Practice and Project