

## **B.Sc. (Hons) Agriculture Degree Programme Regulations**



**Centurion**  
UNIVERSITY

**M.S. Swaminathan School of Agriculture**

**Centurion University of Technology and Management**

Alluri Nagar, P.O. - R Sitapur, Via- Uppalada, Paralakhemundi, Dist: Gajapati – 761211, Odisha, India

**[www.cutm.ac.in](http://www.cutm.ac.in)**

**July 2017**

## List of Contents

Sl. No.	Description	Page
1	Scope	3
2	Definitions	3
	2.1 Duration of B.Sc. (Hons) Agriculture	3
	2.2 Academic Year	3
	2.3 Semester	3
	2.4 Credit Hours	3
	2.5 Course	3
	2.6 Academic Calendar	3
3	Admission	3
4	Admission and Registration	4
	4.1 Fees and Documents for Registration	4
	4.2 Provisional Registration	4
	4.3 Provisional Registration of Continuing Students	4
	4.4 Late Registration	4
	4.5 University Registration Card	5
	4.6 Course Wise Registration	5
5	Students Advisory System	5
6	Courses in the Programme	5
7	Number and Duration of Classes	6
8	Attendance	6
9	Examination	6
	9.1 Internal Examination	6
	9.2 Semester Final Examination	6
	9.3 Supplementary Examination	6
	9.4 Examination on Demand	7
	9.5 Evaluation	7
	9.6 RAWE and AELP	7
	9.7 Duration of Examinations	7
10	Grading System	8
	10.1 Credit Points of A Course	9
	10.2 Grade Point Average	9
	10.3 Overall Grade Point Average	9
11	Classification of Successful Students	9
12	Declaration of Result	9
13	Eligibility for Award of Degree Certificate	10

**Regulations Governing B.Sc. (Hons) Agriculture  
Programme of  
M. S. Swaminathan School of Agriculture  
Centurion University of Technology and Management  
From 2017-18 Academic Year**

## **1. Scope**

The provisions indicated in this document shall be applicable for governing the B.Sc. (Hons) Agriculture course study and students admitted from 2017-18 Academic Year leading to the award of B.Sc. (Hons) Agriculture Degree from M. S. Swaminathan School of Agriculture (MSSSoA), Centurion University of Technology and Management, Odisha.

## **2. Definitions**

### **2.1 Duration of B.Sc. (Hons) Agriculture**

The Duration of B.Sc. (Hons) Agriculture programme is 4 academic years. The student has to complete this degree programme in a maximum duration of 8 academic years.

### **2.2 Academic Year**

Each academic year is divided into two semesters. The 1<sup>st</sup> (autumn) semester is during the months of July to December and 2<sup>nd</sup> (spring) semester is during months of January to June.

### **2.3 Semester**

The duration of each semester shall be at least 100 days of instruction, excluding semester examinations.

### **2.4 Credit Hours**

Each credit hour represents one hour lecture or two hours of laboratory work or three hours of field work in the farm per week in a semester. It is also known as semester credit.

### **2.5 Course**

A course is a unit of instruction segment of subject matter (as specified in the course catalogue) to be covered in a semester. Each course has a specific code, title and credits.

### **2.6 Academic Calendar**

Each year, the University shall draw out a calendar of academic and associated activities, which shall be adhered to. Details of curricula and syllabi shall be as decided by the Academic Council with provision for modification from time to time as per the needs of specializations concerned. It will be available in the University website.

## **3. Admission**

In order to be eligible for admission into B.Sc. (Hons) Agriculture, a student should have passed +2 Science examinations with Physics, Chemistry and Biology or Mathematics with following percent of marks in aggregate.

- i. General Candidates: 50%
- ii. SC and ST: 40%

#### **4. Admission and Registration**

**4.1 Fees and Documents for Registration:** In order to be registered as a student of the university a candidate selected for admission into B.Sc. (Hons) Agriculture has to pay the fee prescribed by the University as mentioned below and furnish the following documents at the time of admission.

- i. Admission fees, Academic fees, Examination fees, Hostel fees, Transport fees, fee for Food and any other fee as may be decided by the University.
- ii. Original Rank card/ Score card of State/National/Indian Council of Agricultural Research (ICAR) Entrance examination.
- iii. 10<sup>th</sup> Class Board Certificate and Mark sheet.
- iv. Higher Secondary Certificate and Mark sheet
- v. Original College Leaving Certificate (CLC)/Transfer Certificate (TC)
- vi. Original Migration Certificate
- vii. Caste Certificate
- viii. Original Conduct Certificate
- ix. Income Certificate
- x. Residential Certificate
- xi. Medical Fitness Certificate
- xii. Blood Group Certificate
- xiii. Six coloured passport size photographs
- xiv. Original money receipt

#### **4.2 Provisional Registration**

**4.2.1** A candidate who for any reason is unable to submit any of the documents required under clause 4.1 may, with special permission of the Registrar, be admitted and registered provisionally on payment of the prescribed fees, subject to production of the wanting documents/certificates within a stipulated period, failing which admission will be cancelled. A candidate who could not submit the migration certificate at the time of admission must submit the same before appearing the final semester examination, failing which he/she will not be allowed to appear the examination.

**4.2.2** A candidate selected for admission, failing to register in the prescribed date, shall forfeit his/her seat and such seats shall be offered to other candidates in the waiting list of subsequent dates of admission and notified in the admission notice.

#### **4.3 Provisional Registration of Continuing Students**

A continuing student who cannot register on the prescribed date due to illness or other unavoidable circumstances for which sufficient proof will be given to the satisfaction of the Dean, may obtain provisional registration by paying the required fees by posts on or before the prescribed date of registration. Such a student shall have to complete other aspects of registration within one week from the date of registration, failing which his/ her provisional registration shall be cancelled and all fees paid by him/her shall be forfeited.

#### **4.4 Late Registration**

A continuing student who does not register on the scheduled date of registration shall be required to pay a late registration fee at the rate of Rs.100 per day of late. Late registration as per regulation

shall not be permitted after seven working days from the scheduled date of registration for any semester. However, University may in very special cases, permit late registration within 15 days on payment of fine of Rs 2000/- in addition to the late registration fee as per regulation.

#### **4.5 University Registration Card**

A student is issued University registration card after admission process. University registration number continues to be his/her registration number for all examinations during his/her tenure of study. This card is also essential for attending classes in college and appearing in examinations. This is the most important document and the student must take care of it. Duplicate university registration card will be issued only after recommendation by the Dean of the school on paying the prescribed fees.

#### **4.6 Course wise Registration**

**a.** All registrations for a course shall be done within the stipulated period from the list of courses notified from year to year or laid down in the semester calendar under the authority of the Academic Council. The date of registration as notified or laid in the semester calendar shall not be changed under any circumstances without approval of the Academic Council.

**b.** Prior to registration, the student should have cleared all fees and arrears due to University, Department, Hostel, Library, etc.

#### **5. Students Advisory System**

**5.1** The newly admitted as well as continuing students shall present themselves before the Deans/HOD of the respective departments in the beginning of each semester on date as prescribed in the prospectus, semester calendar or notified separately, for orientation and advice. The Dean shall assign the students group to different staff Advisors (Mentors).

**5.2.** The Advisor should discuss regarding course curriculum and other regulations in detail with the student group.

The Advisor (Mentor) shall have periodical meeting with the students and advise them towards maintaining good academic standards. One period per week may be allotted for such meeting. The advisor should bring to the notice of the concerned Dean, the problems of the students that require special measure.

#### **6. Course in the Programme**

**6.1** Each subject prescribed in a degree course shall be formulated into some discrete courses and spread over the number of semesters prescribed for the degree. Each course bears a number (course code) and carries a certain number of credit hours depending on the weightage given to that course in the curriculum.

**6.2** All Core Courses and certain number of Elective Courses prescribed for a degree program, shall be compulsory for the students of the degree program.

**6.3** A Course Catalogue for degree program shall be prepared and will be made available in the University website.

## **7. Number and duration of classes**

- i. The number of classes in a course per week shall be equal to the number of credit hours, allotted for that course.
- ii. The duration of the lecture class shall not be less than 60 minutes.
- iii. The duration of practical class shall be 2 hours for Lab and 3 hours for Field.
- iv. A theory class shall ordinarily consist of 60-65 students.
- v. A practical class shall ordinarily consist of 30-35 students.

## **8. Attendance**

**8.1.** A student is eligible to appear in a semester examination provided he/she attends at least 75% of classes in each and every subject. In case the student fails to have 75% attendance, he/she will not be allowed to appear for that particular subject or laboratory.

The attendance is considered from the date of commencement of classes as per academic calendar of the University. The schedule of classes is notified through a timetable before the beginning of the classes in a semester.

**8.2.** A student who is absent for short periods on health ground or due to participation in cultural, sports, other academic/official assignments in the interest of institution/ University / Government with prior written permission of the head of the institution / college is permitted a maximum of additional concession of 10% in attendance in aggregate both in theory and practical subjects in a semester.

If a student admitted in to first year of B.Sc. (Hons) Agriculture course does not register the courses of semester of that year, he/she should register and study with the students of the next admission batch.

**8.3.** The minimum attendance for rural agriculture work experience (RAWWE) programme and agricultural experimental learning programme (AELP) is 85% and student has to follow the guidelines prescribed for the programmes.

## **9. Examination**

### **9.1 Internal Examination**

The University has a continuous evaluation system for each theory, sessional, design, practical and project. For the purpose the university holds the following examinations.

Internal Midterm Examination: Two  
Internal Practical: Continuous Evaluation

### **9.2 Semester Final Examination**

Semester final examination for each course is conducted by the University at the end of each semester for theory and practical. This is an external examination.

### **9.3 Supplementary Examination**

A student failed in a particular course (having back paper), can appear this examination in a particular semester, if the concerned course is offered in that semester.

## 9.4 Examination on Demand (EOD)

EOD will be conducted for the benefit of students who have backlogs from previous semesters on a pre-announced schedule.

## 9.5 Evaluation

The performance evaluation of the student in a course shall be undertaken through various kinds of examinations and assessment of laboratory records, class work, projects and other instruments.

The marks to be allotted between the theory and practical work shall be in the proportion of their respective credit hours. In the allocation of marks for the course, every credit will be evaluated for 50 marks (theory/ practical) which may finally be converted to 100 marks for award of grade.

The proportion of marks for the end-semester final (external) theory and mid-semester (internal) theory examinations shall be 60:40 respectively. Marks for the practical shall be based on continuous evaluation of practical classes and a final practical examination will be conducted by external which shall include a viva-voce examination. The practical marks allotment between external and internal are 50:50 ratio (Table 1).

**Table 1: Distribution of Marks for Theory and Practical Examinations**

Sl. No.	Type of Course	Credits (Marks allotted)	Theory		Practical		Total	Total for 100
			Mid-term (Internal)	End-term (Final) (External)	Internal	External		
1	Theory + Practical	2+1 (100+50)	40	60	25	25	150	100
2	Theory	2+0 (100+0)	40	60	-	-	100	100
3	Practical	0+1 (0+100)	-	-	50	50	100	100

In order to pass in a course, a student should secure minimum of 50% marks in theory (in case of subjects having only theory component), 50% marks in practical (in case of subjects having only practical component), 50% marks aggregate in both theory and practical examinations put together (in case of subjects having both theory and practical components). If a student does not achieve this he/she has to reappear for the final examination in theory/practical or both as the case may be, when next conducted, for such course(s).

## 9.6 Student READY (Rural and Entrepreneurship Awareness Development Yojana) programme (ELP+RAWE) 40 (0+40)

Some of the important components of student ready programme are Experiential Learning (EL),i. Rural agricultural Work Experience and in Plant Training (IPT).

A student has to register 40 credits for Student READY Programme in final year. The Student READY programme includes Experiential Learning Programme (ELP) 20 (0+20) and Rural Agricultural Work Experience and Agro-industrial Attachment (RAWE &AIA) 20(0+20). The rules/ guide lines as prescribed in manual shall be followed which is available in university website.

## 9.7 Duration of Examinations and General Features

The duration of examination will be as follows

- a. Individual mid-term theory examination: 1hr
- b. Individual practical examination: 2hr
- c. End semester theory examination: 2 to 3hr
- d. End semester practical examination: 2 to 3hr

**9.7.1** The schedule of classes shall be notified through a timetable before the beginning of the classes in the semester. Attendance records will be compiled at the time of each midterm examination and the students with poor attendance will be informed through notification. The guardian shall be informed through a letter/email regarding the short of attendance of the students before he/she is debarred from appearing the University examination.

**9.7.2** A student shall be admitted to any examination in a subject only if he/she has registered for that subject and paid necessary registration and examination fees at the beginning of the semester.

**9.7.3** Students, detained from appearing at the end-semester examination due to shortage of attendance, have to register for course once again and appear at the subsequent examination to pass. Such students can also register in short term (summer) with fee as decided by University and complete the course requirements for appearing the examination at the end of short term.

**9.7.4** A student shall be allowed in a semester examination only after he/she is issued an admit card for the relevant examination by the MSSSoA.

**9.7.5** Students who have been found to indulge in malpractice during examination will be awarded "M" grade in that subject. The University may take any additional disciplinary action at its discretion. Such candidates will be allowed to appear in subsequent examinations based only on the decision of the university.

**9.7.6** A student who is absent in either external theory or external practical or both of any course will be awarded 'S' grade. He/she will be allowed to appear in those courses in subsequent supplementary examination/EOD after permission from the authorities and with due fee.

**9.7.7** A student may register with a fee to appear in a supplementary examination/EOD for a paper which he/she has already failed. However, such facility is available only for the external final examination.

**9.7.8** In case of failure in a theory paper, internal marks will be carried forward and the student has to reappear in external theory only.

**9.7.9** In case of failure in internal practical, the candidate is given the chance to improve his/her marks by undertaking additional work/experiments as prescribed by the Department/School.

## **10. Grading System**

### **10.1 Grade point of a course**

It is the value obtained by dividing the percentage of marks secured in a course by 10. The grade point is expressed on a 10 point scale up to 1 decimal.

Ex: Grade of a student who secured 86 =  $86/10 = 8.6$



## 10.2. Credit point of a course

It is the product of credit hours and grade point obtained by a student in a course.

## 10.3. Grade point average (GPA)

It is the quotient of the total credit points of all courses at the end of the semester divided by the total credit hours taken by him/her in that semester. The grading is done on a 10 point scale .The GPA is to be rounded up to one decimal place.

## 10.3. Overall grade point average (OGPA)

It is quotient of cumulative credit points obtained by a student in all the courses taken by him/ her from the beginning of 1<sup>st</sup> semester of the degree course divided by the total credit hours of all the courses which he/she had completed up to the end or a specified semester from the first semester. It will be rounded up to two digits after decimal.

## 11. Classification of successful candidates

The successful candidates after completion of graduation requirements who secured an OGPA of 5.00 or more in the 10 point scale shall be classified as under:

Category	OGPA
Pass	5.000 to 5.999
Second class	6.000 to 6.999
First class	7.00 to 7.999
Fist class with distinction	8.00 and above

$\% \text{ of marks} = \text{OGPA} \times 100/10$

## 12. Declaration of result

**12.1** In order to pass a course, a candidate must secure at least pass grade as defined in grading system (grade points) in each of the final theory and practical examination.

**12.2** The promotional status between two consecutive semesters and two consecutive levels / year shall be indicated on the semester grade sheet.

**12.3** The GPA of the semester shall be updated after the candidate clears the subjects, in which he/ she has failed, in a subsequent examination.

**12.4** The University shall publish list of all successful candidates of each of the semester examinations within the date prescribed in academic calendar.

**12.5** The overall performance of successful candidate for the award of a degree shall be based as the combined results of all examinations of the concerned programme.

**12.6** Gold medal will be awarded to the student who has secured the highest OGPA for that batch. However, the student is eligible for gold medal if only he/ she has passed each subject in the first attempt itself.

**13. Eligibility for award of degree certificate.**

A candidate will be eligible for the award of B.Sc. (Hons) Agriculture degree if he/she satisfies the following conditions.

- a) Passed all subjects and OGPA not less than 5.0.
- b) Passed in CSR activities (i.e., NCC/NSS/Games /Sports etc.) during study period
- c) Earned a satisfactory performance report in RAWEP/AELP and internship programmes.
- d) Has no due to the University, Library, Hostels, Transportation, etc.
- e) Has no disciplinary action pending against him/her.

**B.Sc. (Hons) Agriculture Curriculum**  
**Semester- wise distribution of courses**

<b>I Semester</b>		<b>L-P-P</b>	<b>Course No</b>
1.	Fundamentals of Agronomy	3 (2+1+0)	ASAG1101
2.	Fundamentals of Genetics	3(2+1+0)	ASPG1101
3.	Fundamentals of Soil Science	3(2+1+0)	ASAC1101
4.	Agricultural Economics & Trade/Statistical Method	3(3+0+0)/2(1+1+0)	ASEC1101/ ASAS1101
5.	Agricultural Heritage*/Comprehension & Communication Skills in English	1(1+0+0)/2 (1+1+0)	ASAH1101/ ASEL1101
6.	Fundamentals of Horticulture	2(1+1+0)	ASHO1101
7.	Fundamentals of Plant Pathology	3(2+1+0)	ASPP1101
8.	Rural Sociology & Educational Psychology	2 (1+1+0)	ASEE1102
9.	Soil and Water Conservation Engineering	2(1+1+0)	ASAE1101
10.	Job Readiness	3 credit	CUTM1182
11.	Introductory Biology*/Elementary Mathematics*	2(1+1+0)/ 2(2+0+0)*	ASIB1101/A SEM1101
	NSS/NCC/Physical Education & Yoga Practices**	2 (0+2)**	ASPE1101
<b>TOTAL</b>		<b>22(14+8+)/13+9+0)</b>	
<b>*R: Remedial course; **NC: Non-gradual courses</b>			
<b>II Semester</b>		<b>L-P-P</b>	<b>Course No</b>
1.	Fundamentals of Crop Physiology	3(2+1+0)	ASPH1201
2.	Introduction to Forestry	2(1+1+0)	ASIF1201
3.	Introductory Agro meteorology and climate change	2(1+1+0)	ASAG1202
4.	Agricultural Microbiology	2(1+1+0)	ASAM1201
5.	Statistical Method/ Agricultural Economics & Trade	2(1+1+0)/3(3+0+0)	ASAS1101/ ASEC11 01
6.	Comprehension & Communication Skills in English/Agricultural Heritage*	2 (1+1+0)/1(1+0+0)	ASEL1101/ ASAH1101
7.	Irrigation water management	2(1+1+0)	ASAG1206
8.	Production Technology for Vegetables and Spices	2 (1+0+1)	ASHO1203
9.	Fundamentals of Entomology –I (Insect Morphology and Taxonomy)	3(2+1+0)	ASEN1201
10.	Fundamentals of Agricultural Extension Education	3(2+1+0)	ASEE1201
11.	Farm Machinery and Power	2 (1+1+0)	ASAE1202
12.	Job Readiness	3 credit	CUTM1182
	NSS/NCC/Physical Education & Yoga Practices**	2 (0+2+0)**	ASPE1101

<b>Total</b>		<b>25(15+9+1/16+8+1)</b>	
<b>III Semester</b>		<b>L-P-P</b>	<b>Course No</b>
1.	Crop Production Technology – I ( <i>Cereals, millets and pulses</i> ) <i>Kharif crops</i>	3 (2+0+1)	ASAG2103
2.	Fundamentals of Plant Breeding	3 (2+1+0)	ASPG2103
3.	Agricultural Finance and Cooperation/Agricultural Marketing & Prices	2 (1+1+0)	ASEC2102/A SEC2103
4.	Fundamentals of Entomology- II (Insect ecology and concepts of IPM)	2(1+1+0)	ASEN2102
5.	Weed management	2 (1+1+0)	ASAG2105
6.	Fundamentals of Plant Biochemistry	3(2+1+0)	ASBC2101
7.	Production technology of fruits and plantation crops	2(1+0+1)	ASHO2102
8.	Agricultural Informatics	2(1+1+0)	ASAI2101
9.	Live stock and poultry management	3(2+1+0)	ASAP2101
10.	Communication skills and personality development	2(1+1+0)	ASEE2104
11.	Job Readiness	3 credit	CUTM1182
	Human Values & Ethics (Non-gradual)	1(1+0+0)**	ASHV2101
<b>Total</b>		<b>24(15+7+2)</b>	
<b>IV Semester</b>		<b>L-P-P</b>	<b>Course No</b>
1.	Crop Production Technology –II ( <i>Oil seeds, fiber, sugar, tobacco, and fodder Crops</i> ) <i>Rabi crops</i>	3(2+0+1)	ASAG2204
2.	Production Technology for Ornamental Crops, MAP and Landscaping	2(1+0+1)	ASHO2204
3.	Renewable Energy and Green Technology	2(1+1+0)	ASAE2203
4.	Manures, Fertilizers and Soil Fertility Management	3(2+1+0)	ASAC2202
5.	Agricultural Marketing & Prices/ Agricultural Finance and Cooperation	2 (1+1+0)	ASEC2103/A SEC2102
6.	Fundamentals of Plant Biotechnology	2(1+1+0)	ASPB2201
7.	Rain-fed Agriculture & Watershed Management	2 (1+1+0)	ASAG2211
8.	Principles of seed technology	3(2+1+0)	ASPG2202
9.	Diseases of Field and Horticultural Crops and their Management –I	3 (2+1+0)	ASPP2202
10.	Job Readiness	3 credit	CUTM1182
<b>Total</b>		<b>22(14+6+2)</b>	

<b>V Semester</b>	<b>L-P-P</b>	<b>Course No</b>
-------------------	--------------	------------------

1.	Entrepreneurship Development and Business Communication	2 (1+1+0)	ASEE3103
2.	Problematic Soils and their Management	2 (1+1+0)	ASAC3103
3.	Pests of field Crops and Stored Grain and their Management	3 (2+1+0)	ASEN3103
4.	Diseases of Field and Horticultural Crops and their Management-II	3 (2+1+0)	ASPP3103
5.	Crop Improvement-I ( <i>Cereals, millets, pulses and oil seeds etc</i> )( <i>Kharif crops</i> )	2 (1+0+1)	ASPG3104
6.	Principles of food science and nutrition	2 (2+0+0)	ASFS3101
7.	Geoinformatics and Nano-technology for Precision Farming	2 (1+1+0)	ASAG3110
8.	Practical Crop Production – I ( <i>Kharif crops</i> )	2 (0+0+2)	ASAG3108
9.	Environmental studies and disaster management	3(2+1+0)	ASES3101
10.	Domain course	3 credit	
<b>Total</b>		<b>21(12+6+3)+3</b>	
<b>VI Semester</b>		<b>L-P-P</b>	<b>Course No</b>
1.	Farming System & Organic farming for Sustainable Agriculture	3(2+0+1)	ASAG3207
2.	Practical crop production II (Rabi crops)	2 (0+0+2)	ASAG3209
3.	Post-harvest Management and Value Addition of Fruits and Vegetables	2 (1+1+0)	ASHO3205
4.	Pests of horticultural crops and their management and Beneficial Insects	3 (2+1+0)	ASEN3204
5.	Crop Improvement-II ( <i>fibre, sugar, starches, narcotics, Vegetables, fruits, and flowers</i> )	2 (1+0+1)	ASPG3205
6.	Principles of Integrated Pest and Disease Management (50% Entomology and 50% Pathology)	2(1+1+0)	ASPP3204
7.	Protected cultivation and post harvest technologies	2(1+1+0)	ASAE3204
8.	Intellectual Property Rights	1(1+0+0)	ASIP3201
9.	Production Economics & Farm Management	2 (1+1+0)	ASEC3204
10.	Domain course	6 credits	
<b>Total</b>		<b>19 (10 +5+4)+6</b>	

## Domain courses for B.Sc.(Hons) agriculture

Code	Domain	Credit	T+P+P
OFCU2230	Organic Farming	29	3+15+11
AQCU2250	Intensive Aquaculture	29	3+15+11
SPCU2260	Seed Production using Manual and Molecular Methods	29	3+15+11
GECU2270	Genetic Engineering & Genomics	29	3+15+11
NTCU2029	Nutraceuticals	29	3+9+17
AGCU2290	SMART Agriculture	29	3+15+11
PHCU2300	Protected Horticulture	29	3+15+11
FPCU2310	Food Processing	29	3+15+11
ABCU2320	Agri Business Management	23	2+0+21
FSCU2330	Commodity and Food Storage	29	3+15+11
DPCU2025	Dairy Processing and Development	28	3+15+10

### Job Readiness (0-3-0)

**Course I:** IELTS - Reading, Listening, Speaking and Writing

**Course II:** IELTS Verbal

**Course III:** Quantitative Aptitude

**Course IV:** Logical Reasoning

**Course I: IELTS - Reading, Listening, Speaking and Writing**

#### Module I: IELTS Reading

- Skimming and Scanning
- Sentence Completion
- Choose the Correct options ( A, B, C, D)
- Locating the Specific Information
- Assessment on Reading Skill

#### Module II: IELTS Listening

- Notes/ Form/Table completion
- Label the Map/Passage, Multiple Choice Questions
- Complete the Sentences, Listening to Find Information
- Assessment on Listening Skills

#### Module III: IELTS Speaking

- Speaking about yourself, your family, your work and your interests
- Introduction & Interview
- Topic Discussion (e.g., Environment, Covid 19, Job)
- Assessment on Speaking Skills

#### **Module IV: IELTS Writing**

- Summarising the chart, table or graph
- Comparing and contrasting graphs and tables
- Describing maps & diagrams
- Agreeing & disagreeing
- Expressing a personal view & opinion
- Assessment on Writing Skill
- CV Writing (2nd year)
- Letter Writing
- Email Writing(2nd year)
- Getting Started –writing an introduction

#### **Course II: IELTS Verbal**

##### **Module I: Grammar (4 Hrs.)**

- Articles
- Prepositions
- Subject-Verb
- Spotting Errors
- Sentence Correction

##### **Module II: Vocabulary (5 Hrs.)**

- Synonyms
- Antonyms
- Contextual Vocabulary

##### **Module III: Reading Comprehension (3 Hrs.)**

- Paragraph/ Sentence Completion
- Jumbled Sentences/ Jumbled Paragraph
- Reading Comprehension

##### **Module IV: Verbal Analogies (3 Hrs.)**

#### **Course III: Quantitative Aptitude**

##### **Module I: Number System & Operation (14 Hrs.)**

- Speed Math-1 : Multiplication tricks, Square, cube, square root, Cube root tricks
- Speed Math-2 : Speed Calculations
- Number System-01 : Operation on Numbers, Classification of Numbers, Tests of Divisibility, Unit Digit Calculation
- Number System-02 : Arithmetic Progression, Geometric Progression, Factors & Factorials, Trailing Zeroes, Remainder Theorem

- HCF & LCM : Concepts, short tricks, question discussion
- Average : Concepts, short tricks, question discussion
- Assessments

### **Module II: Basic Arithmetic (16 Hrs.)**

- Percentage-01 : Basics of Percentage, Effective percentage, shortcuts
- Percentage-02 : Advanced questions and discussions
- Profit & Loss-01 : Basics and advanced questions of Profit & Loss and shortcuts
- Profit & Loss-02 : MRP, Discount, Successive discount
- Ratio & Proportion : Types of ratios, Basics & Advanced Question
- Age : Concepts & Shortcuts
- Partnership : Concepts & Shortcuts
- Mixture & Alligation : Rule of Alligation, Basics & Advanced question, Short tricks
- Assessments

### **Module III: Time & Analysis (17 Hrs.)**

- Time, Speed, Distance : Concepts, Problems based on relations, Average speed, Stoppage time
- Trains : Relative Speed & All types of train problems
- Boats & Streams : Basics, Upstream, Downstream & Shortcuts
- Race : All concepts & Shortcuts
- Time & Work : Efficiency, wages, alternative day, chain rule
- Pipes & Cistern : Positive & Negative work
- Simple Interest : Concepts & Shortcuts on Simple Interest & Instalments
- Compound Interest : Concepts & Shortcuts on Simple Interest & Instalments
- Logarithm : All Formulae, concepts & Shortcuts
- Assessments

### **Module IV: Advanced Arithmetic (16 Hrs.)**

- Equation : Linear & Quadratic
- Permutation : All concepts & Shortcuts on factorial, fundamental principles of counting
- Combination : All concepts & Shortcuts on Selection (Groups/teams)
- Probability: Terms related to Probability, Event, Theorems related Probability, Conditional Probability. Shortcuts on coins, dices, balls, cards, etc
- Data Interpretation : (Bar/Pi-Chart /Line) graph
- Mensuration : Area & Volume
- Height & Distance : Lines of Sight, Horizontal line, Angle of Elevation, Angle of Depression
- Assessments

### **Course IV: Logical Reasoning**

#### **Module I: Verbal Reasoning-I (14 Hrs.)**

- Series-1 : Number series (Missing & Wrong)
- Series-2 : Letter, Alpha numeric, Miscellaneous series
- Coding & Decoding : Letter Coding, Number coding, Message coding, Substitution coding, Conditional coding



- Word Problem : Analogy, Odd man out, word formation, letter pair
- Logical Thinking : Brain Riddles
- Assessments

### **Module II: Verbal Reasoning-II (14 Hrs.)**

- Order & Ranking : Ranking & Sequence
- Direction Sense Test : Shortest Distance, Angular movement concept and Dusk & Dawn
- Clock : Concepts of Angle, Reflex angle, Right angle Opposite, Coincide and Incorrect clock
- Calendar : All concepts & Shortcuts
- Blood Relation : Jumbled-up descriptions, coded relations, Relation Puzzles
- Assessments

### **Module III: Non Verbal Reasoning (14 Hrs.)**

- Cubes & Dices
- Cubes & Cuboids
- Embedded Figure & Figure series
- Figure Puzzle & Figure grouping
- Figure Counting
- Mirror & Water Image
- Paper Cutting & Paper folding
- Assessments

### **Module IV: Advanced Reasoning (16 Hrs.)**

- Sitting Arrangement : Circular, Square, Rectangular, Linear, Triangular
- Puzzle : Box, Floor, Month, Day
- Advanced Puzzle : 3 variable
- Logical Venn Diagram
- Syllogism
- Statement & Conclusion
- Data Sufficiency
- Assessments

## **VII Semester**

Rural Agricultural Work Experience and Agro-industrial Attachment (RAWA & AIA)

Sl No.	Activities	No. of weeks	Credit hours
1	General orientation & On campus training by different faculties	1	14
2	Village attachment	8	
	Unit attachment in Univ./ College. KVK/ Research Station Attachment	5	
3	Plant clinic	2	02
	Agro-Industrial Attachment(respective	3	04

	domain related industry)		
4	Project Report Preparation, Presentation and Evaluation	1	
	Total weeks for RAWE & AIA	20	20

\*Agro- Industrial Attachment: The students would be attached with the agro-industries (respective domain related industry) for a period of 3 weeks to get an experience of the industrial environment and working.

\*Educational tour will be conducted in break between IV & V Semester or VI & VII Semester

### **RAWE Component-I**

#### Village Attachment Training Programme

Sl. No.	Activity	Duration
1	Orientation and Survey of Village	1 week
2	Agronomical Interventions	1 week
3	Plant Protection Interventions	1 week
4	Soil Improvement Interventions (Soil sampling and testing)	1 week
5	Fruit and Vegetable production interventions	1 week
	Food Processing and Storage interventions	
	Animal Production Interventions	1 week
	Extension and Transfer of Technology activities	1 week

### **RAWE Component –II**

#### Agro Industrial Attachment

\*Students shall be placed in Agro-and Cottage industries and Commodities Boards(respective domain related industry) for 03 weeks.

\*Industries include Seed/Sapling production, Pesticides-insecticides, Post harvest-processing value addition, Agri-finance institutions, etc.(respective domain related industry)

#### Activities and Tasks during Agro-Industrial Attachment Programme

- \*Acquaintance with industry and staff
- \*Study of structure, functioning, objective and mandates of the industry
- \*Study of various processing units and hands-on trainings under supervision of industry staff
- Ethics of industry
- Employment generated by the industry
- Contribution of the industry promoting environment
- Learning business network including outlets of the industry
- Skill development in all crucial tasks of the industry
- Documentation of the activities and task performed by the students
- Performance evaluation, appraisal and ranking of students

#### Modules for Skill Development and Entrepreneurship

A student has to select a track (domain) of 29 credits including 9 credits of electives which are

offered from 4<sup>th</sup> semester onwards. The student has to continue it with the track (domain) in VIII semester. Further, A student has to register 20 credits opting for Tracks consisting of three track course practicals (0+09) credits and 0+11 credits in production by using the technology in the VIII semester.

**Track/ Domain courses for B.Sc.(Hons) agriculture.  
For VIII semester**

Course Code	Name of the Domain	Credits	T-P-P
	<b>Organic Farming</b>	<b>29</b>	<b>3+15+11</b>
CUOF2230	Organic Farming	3	1+2+0
CUOF2231	Certification and Inspection Systems in Organic Farming in India	3	1+2+0
CUOF2232	Biopesticides and Biofertilizers	3	1+2+0
CUOF2233	Organic Production- Field Crops	3	0+3+0
CUOF2234	Organic Production- Horticultural Crops	3	0+3+0
CUOF2235	Biofertilizer and Biopesticide Production Technology	3	0+3+0
CUOF2236	AELP Project	11	0+0+11
	<b>Dairy Processing and Development</b>	<b>28</b>	<b>3+15+10</b>
CUDP2240	Milk Processing in Dairy Industry	3	1+2+0
CUDP2241	Dairy Starters in Fermented Milk Products	3	1+2+0
CUDP2242	Quality Assurance in Dairy Industry	3	1+2+0
CUDP2243	Dairy Products Development	3	0+3+0
CUDP2244	Synbiotic Dairy Foods	3	0+3+0
CUDP2245	Quality Analysis of Milk and Milk Products	3	0+3+0
CUDP2246	Project/Industrial internship	10	0+0+10
	<b>Intensive Aquaculture</b>	<b>29</b>	<b>3+15+11</b>
CUAQ2250	Intensive Fish Rearing	3	1+2+0
CUAQ2251	Ornamental Fish Farming	3	1+2+0
CUAQ2252	Biofloc Aquaculture	3	1+2+0
CUAQ2253	Framing of SOPs for Intensive fish culture and ornamental fish culture	3	0+3+0
CUAQ2254	Health Management in Aquaculture	3	0+3+0
CUAQ2255	Feed Management in Aquaculture	3	0+3+0
CUAQ2256	Aquaculture rearing	11	0+0+11

	<b>Seed Production using Manual and Molecular Methods</b>	<b>29</b>	<b>3+15+11</b>
CUSP2260	Breeding methods: conventional and molecular approach	3	1+2+0
CUSP2261	Seed production of vegetable and cereals crops	3	1+2+0
CUSP2262	Seed certification	3	1+2+0
CUSP2263	Hybridization techniques	3	0+3+0
CUSP2264	Vegetable Seed production	3	0+3+0
CUSP2265	Cultivar purity and seed quality testing	3	0+3+0
CUSP2266	AELP Project	11	0+0+11
	<b>Genetic Engineering &amp; Genomics</b>	<b>29</b>	<b>3+15+11</b>
CUGE2270	Computational Biology	3	1+2+0
CUGE2271	Genetic Engineering and its applications	3	1+2+0
CUGE2272	Plant Molecular Biology	3	1+2+0
CUGE2273	Molecular Genomics	3	0+3+0
CUGE2274	Plant Tissue Culture Technologies	3	0+3+0
CUGE2275	Techniques in Molecular Biology	3	0+3+0
CUGE2276	AELP Project	11	0+0+11
	<b>Nutraceuticals</b>	<b>29</b>	<b>3+9+17</b>
CUNU2280	Introduction to Nutraceutical	3	1+2+0
CUNU2281	Functional Food	3	1+2+0
CUNU2282	Nutrigenetics	3	1+2+0
CUNU2283	Development of Personalized Food and Medicine	3	0+1+2
CUNU2284	Development of Biopesticides and Biofertilizers	3	0+1+2
CUNU2285	Development of Immune Boosters	3	0+1+2
CUNU2286	AELP Project	11	0+0+11
	<b>SMART Agriculture</b>	<b>29</b>	<b>3+15+11</b>
CUAG2290	Applied hi-tech horticulture	3	1+2+0
CUAG2291	Protected cultivation of vegetable crops	3	1+2+0
CUAG2292	High-tech fruit culture	3	1+2+0
CUAG2293	Management of high-value cut-flowers	3	0+3+0
CUAG2294	Management of crops in hydroponics	3	0+3+0
CUAG2295	Use of smart tools for precision crop management	3	0+3+0
CUAG2296	AELP Project/Industrial internship	11	0+0+11
	<b>Protected Horticulture</b>	<b>29</b>	<b>3+15+11</b>
CUPH2300	Applied hi-tech horticulture	3	1+2+0
CUPH2301	Protected cultivation of vegetable crops	3	1+2+0
CUPH2302	High tech fruit culture	3	1+2+0

CUPH2303	Production technology of cut flowers & loose flowers	3	0+3+0
CUPH2304	Protected floriculture	3	0+3+0
CUPH2305	Production management of medicinal and aromatic crops	3	0+3+0
CUPH2306	AELP Project	11	0+0+11
	<b>Food Processing</b>	<b>29</b>	<b>3+15+11</b>
CUFP2310	Processing Technology of Cereals and Millets	3	1+2+0
CUFP2311	Processing Technology of Legumes and Oilseeds	3	1+2+0
CUFP2312	Processing Technology of Fruits, Vegetables, Spices and Condiments	3	1+2+0
CUFP2313	Product Development and Packaging Technologies	3	0+3+0
CUFP2314	Food Standards and Regulations and HACCP Systems	3	0+3+0
CUFP2315	Sensory Evaluation and Nutritional Labelling of Foods	3	0+3+0
CUFP2316	AELP Project/Industrial internship	11	0+0+11
	<b>Agri Business Management</b>	<b>23</b>	<b>2+0+21</b>
CUAB2320	Agri Food Markets and Value Chain Analysis	3	1+0+2
CUAB2321	Agri Input Marketing	3	1+0+2
CUAB2322	Rural Haat and Market Analysis	2	0+0+2
CUAB2323	Community Owned and Managed Agri Businesses	2	0+0+2
CUAB2324	Agri Warehouse Management	2	0+0+2
CUAB2325	Sales and Distribution of Agrifood Products (Internship at LMDC)	11	0+0+11
	<b>Commodity and Food Storage</b>	<b>29</b>	<b>3+15+11</b>
CUFS2330	Storage Entomology	3	1+2+0
CUFS2331	Seed pathology	3	1+2+0
CUFS2332	Post-harvest biochemistry and physiology of crops	3	1+2+0
CUFS2333	Recent trends in post-harvest technology	3	0+3+0
CUFS2334	Pest management techniques in storage	3	0+3+0
CUFS2335	Post-harvest storage of fruits and vegetables	3	0+3+0
CUFS2336	AELP Project	11	0+0+11

As per V Dean's committee suggestion, the A ELP modules were developed in the track mode where in a student will learn in one subject and develop expertise.

Evaluation for track I as that of practical courses mode.

Evaluation of Experiential Learning Programme/ HOT Track II

Sl no.	Parameter	Max marks
1	Project Planning and Writing	10
2	Presentation	10
3	Regularity	10
4	Monthly Assessment	10
5	Output delivery	10
6	Technical Skill Development	10
7	Entrepreneurship Skills	10
8	Business networking skills	10
9	Report Writing Skills	10
10	Final Presentation	10
	Total	100

## **M.Sc.(Ag.) Degree programme regulations**



**Centurion**  
**UNIVERSITY**

M.S. Swaminathan School of Agriculture  
**Centurion University of Technology and  
Management**

Alluri Nagar,P.O. - R Sitapur, Via- Uppalada, Paralakhemundi, Dist: Gajapati –  
761211, Odisha, India

**2017**

## Contents

Item no	Content	Page no.
1	Scope	
1	Definitions	1
2	Admissions and regulations	1
3	Qualifications for admission	2
4	Students advisory system	3
5	Course programme	4
6	Attendance	8
7	Examination and student evaluation	8
8	Academic status and scholastic Probation (Promotion)	12
9	Grading	13
10	Classification of successful candidates	14
11	Authorities to approve the results and issue of pass certificates, transcripts etc.	14
12	Award of degree	14
13.	Guide lines to prevent unethical practices in publication of articles	15
14	Schedule of submissions	16



**M.S. Swaminathan School of Agriculture  
Centurion University of Technology and Management**

**1. Scope**

The regulations made here shall be called M.S.Swaminathan School of Agriculture, Centurion University of Technology and Management, 2017 governing the M.Sc. Agriculture course study for the award of Master of Science in Agriculture -M.Sc. (Ag) degree in the following subjects.

1. Agronomy
2. Agricultural Economics
3. Entomology
4. Agricultural Extension and Communication
5. Genetics and plant breeding
6. Horticulture
7. Plant pathology
8. Soil Science and Agricultural Chemistry
9. Molecular biology and Biotechnology

Major Fields of study shall be as decided by the academic council of CUTM from time to time. These will be listed in the prospectus every year for admission into PG courses.

**2. Definitions:**

**2.1. Duration of the course:**

The minimum residential requirements and the maximum time limit for completing the M.Sc.(Ag.) programme (from the date of admission) shall be 4 semesters and 4 years respectively.

**2.1 Academic year:** Means an academic year of the University, which shall ordinarily be from June to April (Except in the case of year of admission) and which shall consist of two semesters.

**2.1. Course:** Means a unit of instruction or segment of subject matter (as specified in the course catalogue) to be covered in a semester, having a specific number, title and credits.

**2.2. Academic year:**

Each academic year is divided into two semesters. The 1<sup>st</sup> (autumn) semester is during the months of July –December and 2<sup>nd</sup> (spring) semester is during months of January – June.

### **2.3. Semester**

Means an academic term consisting of not less than 21 weeks equivalent to 85/100 working days, except in the year of admission.

### **2.4. Credit hour, semester credit or Credit:**

Each credit hour representing one hour lecture or two to three hours of laboratory or field practical each week in a semester; for a short semester in the year of admission, the number of classes shall be increased proportionately.

### **2.5. Course:**

A course is a unit of instruction, segment of subject matter (as specified in the course catalogue) to be covered in a semester. Each course has a code, title and credits.

### **2.6. Academic calendar:**

Each year, the University shall draw out a calendar of academic and associated activities, which shall be added to the same in non-negotiable. Details of curricula and syllabi shall be as decided by the Academic council with provision for modification from time to time as per the needs of specializations concerned. It will be available in the University website.

## **3. Admission and registration:**

### **3.1. Qualifications:**

The qualifications which shall be possessed by the candidate seeking admission to the post graduate degree courses shall be such as may be prescribed from time to time by the academic council.

### **3.2. Admission application:**

Application for admission shall be made in the form prescribed obtainable from the registrar of the University or from the University website after the notification is issued to this effect. The admissions shall be regulated and made in accordance with the rules and regulations in force.

### **3.3. Semester Fee:**

The fee for applications, semester fee, special fee and other fee, if any may be prescribed by the University. The payment of semester fee as well as all other arrears due to the department and the hostel shall precede registration of courses at the beginning of every semester. The registration of courses shall be allowed on the production of no dues certificate by the student to the student's advisor. In case the student has pressing financial problem, he/she may get special permission from the Dean.

### **3.4. Late registration:**

During the second and the subsequent semesters, PG students may be permitted to register with late fee up to 10 working days commencing from the next day of registration. The attendance will, however, be reckoned from the day of instruction commences as per the academic calendar.

#### **4. Students Advisory system:**

##### **4.1. Advisory committee:**

An Advisor from the major field (Chair person) shall be assigned to each PG student by the Head of Department. In addition, there shall also be an advisory Committee for each student, which shall be appointed by the Dean on recommendation of the advisor through the head of department. The advisory committee shall consist of two members of the faculty guides representing the major field and one representing the minor field of master's degree. One of the two members of the committee representing the major field shall be the major advisor, who shall also be the chair person of the student's advisory board. The Dean may however add if he so chooses, one or more members, to the committee. The student's advisory committee shall guide the student in the choice of courses in the major and minor field, in the selection of research problem for thesis and in all other matters relating to students' academic activities. Proposals for the formation of the students' advisory committees (in accordance with the proforma prescribed) shall be submitted to the Dean within six weeks from the commencement of the first semester. After the approval of the advisory committee is intimated, the programme of studies (in accordance with the proforma prescribed) shall be submitted by end of the first semester.

In case of project work, the Advisory Committee shall include two internal members and one external member from the organization where the student takes up project work. The name of external member shall be submitted along with the synopsis / project proposal at the end of 3<sup>rd</sup> semester.

##### **4.2. Change of Advisory committee:**

If the chair person of the advisory Committee of the student has got the plan of research work on prescribed format approved, he/she may be allowed to guide the student irrespective of where he/ she is located, provided he continues in Centurion University service. If the chairperson of the advisory committee of a student gives up his / her assignment by resignation, the teacher may continue to guide the student provided thesis is completed and submitted within a period of three months. Otherwise or in the event of death, the Head of Department concerned shall recommend to the Dean for suitably reconstituting the advisory committee of the student. Whenever, the chairman of the advisory Committee is away from the student for longer period, he/ she should inform the Head of the department concerned (before leaving the head quarters) about the feasibility and willingness to guide the student effectively from the new location, so that Head of the Department could recommend changes in the advisory committee, if needed.

If it is essential to continue the chair person of the advisory committee beyond three months after leaving University, approval of Vice Chancellor shall be obtained.

Co-Chairman: If the PG student and the chairman are located at far off places, a co-chairman may be nominated by the Head of the Department in consultation with the chairman to monitor the progress of research at the actual place of work.

Whenever the member of the student's advisory committee is away from duty for more than three months or leaves the University, the Head of Department shall recommend to the Dean to substitute the members of the students' Advisory committee. Such substitute arrangement shall be made immediately and the new member shall continue even after the return of the original member. No last minute substitution in the Advisory committee of a student shall be made for conducting examination, except in special cases and with the prior permission of the Dean.

If the major advisor (Chair person) is unable to conduct oral / qualifying examination because of long leave due to illness or any other reason, the Dean can nominate another member of the advisory committee to act as major advisor.

#### **4.3. Eligibility of Teachers:**

The eligibility criteria for accreditation of teachers to guide and teach M.Sc.(Ag.) students shall be as follows.

All Professors, Deans, Directors, Associate professor (with Ph.D. degree who have completed 3 years of service after securing Ph.D. degree) are eligible to teach and guide M.Sc. (Ag.) students.

Teachers in Assoc. prof. / Asst. Professor Cadre with Ph.D. can teach M.Sc. (Ag.) courses.

Asst. Professors with Ph.D. degree or 5 years of experience in teaching /research /extension after obtaining M.Sc. (Ag) level degree are eligible to teach and guide masters degree students.

#### **Number of students:**

Normally, not more than 4 students shall be guided by any teacher at any one time. Students who completed research credits shall not be counted.

#### **Authority of approval:**

The teachers of Centurion University who fulfill eligibility criteria are eligible to teach and guide PG students (as chairperson of the advisory committee). If relaxation in criteria is required due to shortage of qualified teachers etc., then the proposal for approval by HOD may be sent to Dean. The Dean will approve one or two teachers from same or related department based on the recommendations of Head of Department.

### **5. Course programme**

#### **5.1. Credit Requirements:**

5.1.1. The minimum requirements for M.Sc. Ag degree shall be as follows:

Course credit hour required	35
Research credit hours	20

The requirement of total courses credit shall consist of courses both in the major and minor fields. In each field specialization, the set of core courses required to be taken by all the students in the department concerned shall be as prescribed by the academic council from time to time. The core courses may consist of courses in major and supporting fields. No change, addition or deletion in the prescribed core courses is permissible without the approval of academic council. Of the total course requirement, the core programme of courses shall be at least half of the minimum number of credits required to be completed (i.e. 18 credits).

### 5.1.2. Minimum credit requirement:

For candidates admitted from 2017-18 onwards, the credit requirements shall be as follows.

<b>Subjects</b>	<b>Master's programme</b>
Major	20
Minor	09
Supporting	05
Seminar	01
Research	20
<b>Total credit</b>	<b>55</b>
Compulsory Non – Credit Course	06
Common Examination	<b>Satisfactory / Unsatisfactory</b>

**Major subject-** Department in which the students take admission

**Minor subject** - Closely related to student's major subjects

**Supporting subject** - The subject not related to major subject. It could be any subject considered relevant for student's research work.

**Non- Credit Compulsory** -Six courses are of General nature and are compulsory for Master's Programme.

Head of department shall identify 9 credits from one or more minor subjects for M.Sc.

The performance in noncredit compulsory courses will be evaluated as followed like other courses. However, it's grade point will not be included in OGPA calculation.

### 5.1.3: Credit Load per Semester:

A full time PG student shall not register for more than 15 credit hours of course and / or research work in a semester. For enabling marginal adjustments, the student may register one extra credit, i.e. 15 + 1 credit hour. In-service candidates of CUTM may register 10 research credits while on duty. During the first two semesters of admission, M.Sc. (Ag.) students shall

register for a minimum of 10 course credits excluding research and put in minimum attendance prescribed (75%) and shall also maintain minimum GPA / OGPA as prescribed under the relevant regulations.

**Note:** Failure to register courses / research during consecutive semester shall be deemed as discontinuation.

#### **5.1.4. Withdrawal or change of courses**

A M.Sc. (Ag.) student shall normally register only for the load which he/ she can carry efficiently. The chairman of the student's advisory committee shall, as far as possible, discourage the student from carrying a greater load even though a maximum of 15 credits are prescribed for each semester.

**5.1.5.** The dean of the School may permit a student to withdraw (temporarily) from a course within six weeks or change a course (temporarily) within two weeks from the date of commencement of that semester, under intimation to the university (the student shall study such courses later. For permanent change in appropriate application format, approval of dean is required).

For addition of courses, it has to be submitted in proper form to the Dean, the approval of Dean should be obtained before the end of 2<sup>nd</sup> semester. For substitution / deletion of course, the approval of Dean shall be obtained within 15 days of the commencement of 3<sup>rd</sup> semester of study. Courses registered without the approval of dean shall be treated as audit course and Grade shall not be computed for such courses.

#### **5.1.6. Transfer of credit of course and research earned at an approved institution.**

Student may be permitted to transfer credit earned at other agricultural universities / institutions on the specific recommendation of the advisory committee of the student and approval of the Dean. The maximum number of credit that can be shown transferred shall not exceed 10. Those courses should not have been studied earlier than 4 years from the date of admission of the student to the programme at this university. Such transfer of credit shall be determined by a committee constituted by the Dean, which shall examine the course / subjects already studied by the student, the examination passed and the syllabi thereof and also conduct a proficiency test, where it may be considered necessary.

Credit to be transferred should not, however, have been used for obtaining a degree/ diploma elsewhere. Transferred credits shall not also be used for computing the overall grade point average.

#### **5.1.7. Seminar:**

A student of Muster's degree programme shall be required to give at least one seminar of one credit hour in the major field. If a student registers for seminar during particular semester but abstains, it shall be treated as shortage of attendance (such credit should be re-registered)

## **5.2. Research / Project work:**

### **5.2.1. Identification of research problem:**

The students are to be allotted to eligible faculty as major advisor to guide them for their research work and submission of thesis. The research problem has to be identified by the major advisor and head of department and based on the student's interest. The major advisor will form the advisory committee.

5.2.2. Synopsis of thesis problem of students should be finalized by the students Advisory Committee, in the second semester. It should then be submitted to the Dean in prescribed format through Head of department for approval by end of 2<sup>nd</sup> semester. A synopsis seminar shall be delivered by the student in presence of all members of advisory committee and teachers of the concerned department. Title of research work and treatments shall be thoroughly discussed. Major 'advisor shall issue a certificate to this effect. Major advisor of a student, shall submit proposal regarding subject of thesis and title through Head of the department and respective Dean for approval.

The time gap between submission of synopsis on thesis work done and thesis shall be one semester for M.Sc. students. Normally, the work on thesis problem shall not commence before the approval is communicated by Dean. The students who have registered research credits should submit a report on the progress of research which will be evaluated by the advisory committee and submit to dean through head of department at the end of concerned semester. Only the research credits which were satisfactorily completed shall be incorporated in GPA report. If progress is not satisfactory, research credits should be reregistered proportionately. If all the research credits are completed, it is deemed that the entire thesis work is completed.

For any change in approved synopsis / title, the proposal should be submitted to the Dean for approval.

### **5.2.3. Conduct of Research Work:**

Post graduate students should necessarily complete the post graduate programme in the college where they joined. However, they can conduct the research work elsewhere (other locations recognized by the university for this purpose) with the prior permission of the University.

5.2.4. As soon as the thesis work is completed and data etc. have been processed, student will deliver a thesis seminar. If teachers or other students suggest any improvement in the presentation and interpretation of results, the same may be incorporated with the approval of the major advisor.

5.2.5. A student shall submit his/her thesis for M.Sc. (Ag.) Degree after he/she has completed his/her course work requirement, the required number of research credits and has passed the qualifying examination successfully. The thesis shall be type written and temporarily bound as specified and submitted in quadruplicate along with a "no dues certificate" and a certificate in the prescribed proforma by the advisor.

Six copies of thesis abstracts of about 150-200 words shall be submitted (two copies for the department, one for the dean's office and three for university) along with bound copy certificate. M.Sc. (Ag.) students should submit two CDs of thesis (one each to library and one to Head of Department) along with bound copies of thesis.

A student while submitting the thesis for M.Sc.(Ag.) degree shall submit one research paper for publication and enclose a proof from the editor of the journal, along with the thesis.

5.2.6. In M.Sc. (Ag.) thesis, students must demonstrate familiarity with the tools of research, scholarship in their major field and ability to present the results of their investigation effectively.

5.2.7. After approval by the advisory committee, the thesis submitted by the student shall be sent to an external examiner for evaluation who shall be required to send a detailed report on the thesis preferably within three weeks to the dean. In case, the external examiner recommends acceptance of the thesis, the report will be forwarded to the chairperson of the student's advisory committee who shall arrange for the conduct of final oral examination. The head of department shall also be a co-opted member of the final thesis oral examination committee, even if he is not a member of the student's advisory committee for the purpose of conducting the thesis final oral examination. The advisory committee while conducting this examination, shall take into account, the remarks of the external examiner and may suggest changes if any to be made in the thesis. A certificate regarding performance of the candidate in the final viva-voce examination on the thesis in the form prescribed, duly signed by all the members of the committee, shall be forwarded to dean by the chairman of the student's advisory committee through the head of the department. After the certificate is sent, the thesis shall be bound as specified after effecting changes if any by the advisory committee and it shall be submitted by the student in quadruplicate to the chair person of the student's advisory committee. Unless final thesis copies are bound by the student concerned and handed over to the chair person of the student's advisory committee, his/her final result shall not be declared.

If a student is not successful in the final oral examination, he/she shall be examined again after a period of three months.

In case if the external examiner suggests major modification to be made before acceptance, the same shall be communicated to the chair person of the student's advisory committee who shall arrange for the revision of the thesis and resubmission, after a period of three months. It shall be considered in the same manner as in the original submission and the thesis shall be forwarded to the same examiner for re-evaluation. However, if for any reason, the examiner concerned is not available to re-evaluate the thesis either due to relocation or for other reasons, in such a rare instance, the Dean is authorised to forward the thesis to an alternate examiner for re-evaluation. In such instances, the modified version of thesis along with the comments made by the first



examiner shall be forwarded by the Dean to the alternate examiner for re-evaluating the thesis.

If the student who has been directed to resubmit the thesis after carrying out the corrections indicated by the external examiner, has to submit within six months from the date of issue of orders by the university. M.Sc.(Ag.) student should appear for the final thesis viva-voce examination and submit a certificate of having submitted bound copies of thesis within a maximum period of six months from the date of issue of orders by the university.

**Note:** If the external examiner recommends resubmission of thesis after 3 months, the candidates should resubmit thesis within six months thereafter i.e., Between 3 and 9 months from the date of issue of orders by the university.

5.2.8. Student may be permitted to carry on their research work at institutions/Research stations under this university other than those imparting institutions or at other institutions and under persons recognized for the purpose.

#### **5.2.9. In-service Candidates of CUTM:**

CUTM employees studying M.Sc.(Ag.) courses, after completing the course work at the school as regular students, may be permitted to resume duty and continue the thesis work in colleges as approved by the Academic Council subject to the following conditions, namely;

1. Their posting to the college shall be administratively feasible and work does not interfere with their normal duties;
2. They shall attain the preliminary or comprehensive examinations at the college.

#### **6.Attendance:**

6.1. Ordinarily the student is required to attend all the classes in a course. Absence up to 25% of the total classes can, however, be condoned by the teacher on valid grounds. If any student falls short of 75% attendance, he/she shall not be permitted to appear for semester final examination and 'S' grade be awarded in that course and the fact be recorded in his/her semester report / transcript.

A student who is absent for short periods on health ground or due to participation in cultural, sports, other academic/official assignments in the interest of institution/ University / Government with prior written permission of the head of the institution / college is permitted a maximum of additional concession of 10% in attendance in aggregate both in theory and practical subjects in a semester.

6.2. Notwithstanding anything in clause (1), the minimum limit of attendance prescribed shall be reckoned for theory and practical separately.

6.3. If a full time student is absent for the registered courses including research credits or falls short of attendance in the registered courses including research credits, he/she should re-register such course / research credits.

## 7. Examination and Student Evaluation

**7.1.** The evaluation of the student in a course shall be based on his/ her performance in various kinds of examinations, records, class work and other types of exercises.

During the semester, teacher in charge of a course shall hold a number of different kinds of tests and also assign, to the student's laboratory, library or field work. The students may also have to participate in seminars and submit term papers or similar exercises. Taking into consideration, the performance of the students in all the different kinds of tests and other exercises, the teacher shall allot a grade at the end of the semester. The test may consist of one hour examinations and final examinations each test, term paper and examination, laboratory and other assignments, seminar etc. will carry weightage. Each course may be evaluated @ 50 marks for each credit (theory/ practical) which may finally be converted to 100 for awarding grade. The marks to be allotted between the theory and practical work shall be in the proportion of their respective credit hours. For eg. A course having 2 theory and 1 practical credits, the weightage for theory and practical examinations may be as follows:

Theory		Practical	
Exam	Marks	Exam	Marks
Assignment/ term papers/ seminar etc. (Internal)	20	Record and class work (Internal)	25
Mid-term examination (Two) (Internal)	30	Final examination (External)	25
Semester final examination of 2 to 3 hr duration (External)	50	-	-
Total	100	Total	50

In order to pass in a course, a M.Sc.(Ag.) student should secure a minimum of 55% of marks in theory (in case of subjects having only theory component), 55% marks in practical (in case of subjects having only practical component), 55% marks aggregate in both theory and practical examinations put together (in case of subjects having both theory and practical components)

**7.2** The **schedule** for mid-term examination and semester final examination shall be indicated in the Academic calendar of each semester test/ examinations to be conducted on the dates as prescribed therein. The examination schedules shall conform to the following programme, namely:

- i. Mid-term examinations after about 50 days from the commencement of the semester and second one after completion of syllabus. The average of the two tests will be taken in to consideration.
- ii. Semester Final examination at the end of the semester.

**7.3** It shall be the responsibility of the Head of the Department to ensure proper conduct of examinations in all the courses offered in the department.

**7.4.** The Dean / Head of Departments shall constantly exercise supervision and control to see that the syllabus listed under each course is adequately covered and assessment of student is done strictly in accordance with the regulations.

**7.5.** All answer scripts shall be shown to the students by the teachers as soon as evaluation is completed.

**7.6.** Students registration for a particular for a particular course shall take all the examinations conducted during the period of the course, viz. hourly and final semester examination both in theory and practical. If a student is genuinely prevented from taking examination as in the case of serious illness or accident or any other case, a special re-examination may be arranged by the teacher concerned in consultation with Head of the Department. This repeat examination shall be held within two weeks from the date of examination for all the students who have missed that hourly examination.

**7.7.** In the case of students deputed to represent the university in inter-collegiate or inter –university meets in N.C.C /N.S.S due consideration shall be given in regards to missed tests/ examination so that the students may not suffer while on absence on university directive .In all such cases, make –up examination/test (except semester final examination) given for the missed examination/tests(except semester final examination) within two weeks of the return of the students. The name of the student deputed for such meets may be intimated in advanced to the teacher concerned through the Head of the Department.

**7.8** A M.Sc. (Ag.)Student getting a grade less than 5.50/10.00 in any course will be deemed to have failed in that course and that he/she should necessarily secure better grade with 5.50 and above. However, he /she may not be required to study the course by repetition but he/she may appear for all the test and examinations including semester final examination in that course when conducted next according to regular schedule in the department concerned. However, all the examination in the failed core course be conducted even though the said course is not offered in next semester. Whenever EOD / supplementary exam in a core course is conducted, the students of other Departments, who have registered for such course and for whom it is non-core course may also be permitted for the examination. In case of students, who have successfully completed all courses except failed course, the Dean may permit re-examination during final semester (4<sup>th</sup> semester for M.Sc. students) or any subsequent semester in consultation with the concerned teacher and the Head of the Department.

### **7.9. Supplementary Examination**

A student failed in a particular course (having back paper), can appear this examination in a particular semester, if the concerned course is offered in that semester.

#### **7.10. Examination on Demand (EOD)**

EOD will be conducted for the benefit of students who have backlogs from previous semesters on a pre-announced schedule.

**7.11. Minimum & Maximum Time Limit to Complete the Course/Thesis** If a M.Sc. (Ag.) student fails to complete the graduation requirements within the maximum time limit prescribed, his /her admission shall stand cancelled. A M.Sc.(Ag.) student may submit thesis after securing 75% attendance in the final semester of study provided that research credits only are registered during that semester and that all the courses prescribed for the award of degree are successfully completed by previous semester.

The M.Sc.(Ag.) students should be on the rolls of the University duly paying the fee till the time of thesis submission. The M.Sc.(Ag.) students who fail to submit thesis after completing the residential requirement and research work, and all pay the '**Registration Fee**' and **Late Fee for Thesis**' and register for 'thesis writing 'without any credits during subsequent semester. The student may submit thesis as soon as it is ready without waiting for completion of 75% attendance.

The extension of time beyond the maximum time limit shall be allowed for one year and the candidate has to be full time student for a maximum of 1 to 2 semesters depending upon the requirement for completion and submission of thesis.

The candidates who seek extension of time should apply in the prescribed form at least 3 months before the expiry of maximum time limit through the Chairperson, the Head of the Department and the Dean concerned, so that they could be informed of the date of registration in advance for taking leave etc. The admission of all candidates who do not seek extension of time or seek extension of time after the expiry of the prescribed time limit shall be treated as cancelled. Dean may evolve a proforma and procedure for periodical evaluation of research credits for a close monitoring of the progress of thesis research.

**7.12. Temporary discontinuous and Resumption of studies:** If a M.Sc. (Ag.) student to discontinue studies temporarily or take long leave he/she may do so after completion of one semester of study from the date of admission with the approval of the dean concerned or if this is not possible, the student should seek the approval from the concerned dean within 30 calendar days from the date of discontinuation (discontinuation before completion of two semesters of study shall result in cancellation of admission).

If the students fails to seek approval of the dean concerned within 30 days of discontinued due to genuine reasons like serious illness/domestic problems,

such student may be accorded permission by the dean on payment of late fee of Rs.1000/-per month or part there of up to 5 months. The student who is permitted to temporarily discontinue studies should necessarily complete the entire requirement within the time limit prescribed.

The student with such approval may be permitted to resume studies within 4 semesters by Dean concerned under intimation to the university. If a student discontinues in the middle of a semester he/she is deemed to have discontinued from the beginning of that semester. The discontinuation is allowed only once in a P.G programme. The maximum time limit prescribed for the completion of graduation requirements, however, shall remain unchanged.

Students, who discontinue without the permission of the Dean, shall not be permitted to resume studies. The Dean shall not send proposals for readmission/ resumption of studies, if the student discontinues studies without permission.

### **7.13. Unfair means in Examination**

A student found using unfair means in the examinations shall be penalized as per the norms of the University.

## **8. Academic status**

**8.1** A student who secures 5.5 GPA in a subject can be declared as passed in that particular subject.

**8.2.** A student of Master's degree programme shall be eligible for degree after he /she successfully completes the course requirements with a minimum OGPA of 6.0 or above

### **8.3. Qualifying (comprehensive) examination**

**8.3.1.** After completion of all core courses and 75% of approved credit load, a qualifying / comprehensive examination comprising of both written and oral component may be conducted. The oral exam has to be conducted by an External examiner. In order to be eligible to appear for the comprehensive / qualifying examination, the students should have secured an OGPA of 6.00.

**8.3.2.** The Head of Department shall take action in consultation with the chairperson of the students advisory committee to conduct the qualifying examination of the student concerned after completion of 75% of course work including all core courses except seminar.

If the chair person is on long leave due to illness or any other genuine reason, the Dean can nominate another member of the advisory committee on the

recommendation of the Head of the department to act as Chairperson for conducting oral qualifying examination.

8.3.3. The written qualifying examination of M.Sc. (Ag.) shall be common and shall be held for all the students majoring in that discipline at the same time. These examinations shall be held thrice during an academic year. The manner of conducting these examinations and evaluation of answer scripts will be such as may be prescribed by the Dean.

8.3.4. The qualifying examination shall be written and oral, the written test to precede the oral and 50% shall be the minimum marks for passing the written qualifying examination. The oral examination shall be held only after the student has successfully completed the written examination.

8.3.5. The written qualifying examination for students of M.Sc.(Ag.)degree programme shall consist of one paper of three hours duration, covering suitably the subject matter of the core courses prescribed. The oral qualifying examination shall cover both core and other courses prescribed and shall be conducted by the student's advisory committee. The Head of the department shall be co-opted as a member of the examination committee for viva-voce examination.

8.3.6. The Chair person of the student's advisory committee shall be responsible for communicating the results of the qualifying examination to the Dean in the prescribed form with signatures of all the members of the committee.

8.3.7. The students' performance in the qualifying examination may be considered "satisfactory" on the unanimous recommendation of the examination committee. It shall be within the competence of the committee to indicate deficiencies in the student's course work and overall training at this stage and the committee may recommend that the student makes up these deficiencies in any suitable manner.

8.3.8. A student failing in written examination shall not be eligible for the Viva-voce examination and the viva-voce examination shall be held only after the written examination is successfully completed. If a student fails in the viva voce, the examination committee shall make specific recommendations as to whether the student is to be re-examined in the viva voce alone or in the written part also.

8.3.9. A student failing in the qualifying examination shall apply, for permission to appear for a second or third time to Dean with the recommendation of the chairman of the advisory committee. Permission to appear for a second or third time may be given, but re examination shall not take place earlier than three months after the first or second examination.

## **9. Grading**

**9.1. Credit point:** means the product of credit hours and grade point obtained by the student in a course.

**9.2. Grade point Average (GPA):** Means the quotient of the total credit points obtained by a student in various courses at the end of each semester divided by the total credit hours take by a student in that semester. The grading is done on a 10 point scale and the GPA has to be corrected to one decimal place.

**9.3. Grade point of a course:** Means the value obtained by dividing the percentage of marks earned in a course by 10, and the grade point is expressed on a 10 point scale up to one decimal place.

**9.4. Overall Grade Point Average (OGPA):** Means the quotient of cumulative credit point obtained by a student in all the courses taken by a student from the beginning of the first semester of the degree course divided by the total credit hours of all the courses, which a student had completed up to the end of a specified semester from the courses taken during the period covering more than a semester. The OGPA has to be corrected to second decimal place.

9.5. The final grading of student shall be done on a 10 point scale. The Grade point shall be obtained by dividing the total percentage of marks earned in a course by 10. The grade point shall be expressed in this scale up to one decimal place.

## **10. Classification of successful candidates**

The students of Master's degree programme shall be eligible for degree after he /she a) Successfully completes the course requirements with a minimum OGPA of 6.0 or above and b) completes the qualifying and final oral (thesis) examination satisfactorily.

The successful candidates after completion of graduation requirements who secured an OGPA of 6.00 or more in the 10 point scale shall be classified as under:

Category	OGPA
Pass and Second class	6.000 to 6.999
First class	7.00 to 7.999
Fist class with distinction	8.00 and above

$$\% \text{ of marks} = \text{OGPA} \times 100/10$$

## **11. Authorities to approve the results and issue pass certificates, Transcripts, Etc.**

The Vice chancellor shall approve the results on the recommendation of the Dean and the registrar shall issue provisional pass certificates, transcripts etc. to the successful candidates.

## **12. Award of Degree**

A degree under the seal of the university and duly signed by the officers authorized in this behalf shall be presented at convocation, to each candidate who has successfully completed the graduation requirements for the award of the degree. Diplomas of the candidates who have successfully completed graduation requirements for the award of the degree and are admitted in absentia to a degree, at convocation, shall be sent. The diploma shall set forth the name of the candidate, father's name, mother's name, degree, month and year of the successful completion of the graduation requirements etc.

## **13. Guide lines to prevent unethical practices in publication of articles etc.**

In order prevent changing the order of priority in the authorship of research publications, the following guidelines are framed as in case of other institutes for strict adherence by all the concerned, while preparing the research articles, etc. for publication or their subsequent use.

13.1. For all research papers prepared on the basis of student research, the authorship should be in the order of student, chairperson, co chair person and members of advisory committee who have put in considerable efforts in the research work.

13.2. The first author should certify that due weightage was given to all those who contributed for the research work and also clearly indicate the source of material for the research article / publication i.e. student research /scheme work etc. and the period of conduct of such research work. If any part/ whole of the article/ paper/ manual of others is used by the students / staff, acknowledgement should invariably be made with regard to its original author to give a kind of gratification to him/her.

13.3. The research papers (along with one extra copy) should be routed through the head of the department where the work was carried out. The heads of department shall maintain a record of all extra copies so received. The heads of departments shall forward the articles to the dean, after recording the following details in a register of publications which shall be shown to the superior officers during their visit.

1. Date of dispatch; 2. Title of the article/ bulletin; 3. Name of authors; 4. Source of material for publication.

All the concerned teachers/ students are requested to strictly adhere to the above instructions.

## **14. Schedule of submissions**

1. Proposal for formation of advisory committee has to be submitted within 6 weeks from the commencement of the first semester. Subsequent changes to be sent in triplicate whenever required in proper format.



2. Proposal for programme of work has to be submitted in proper format at the end of first semester. Proposal for subsequent permanent changes in programme of work has to be sent in triplicate to Dean.
3. Synopsis of research work to be carried has to be sent to dean at the end of 2<sup>nd</sup> semester. For any subsequent change in title/ programme of work has to be submitted in proper format to Dean in triplicate.
4. During III/IV semester, the chairman of the advisory committee shall submit in proper format to the Head of department for action to conduct qualifying examination. After conduct of qualifying examination (written and oral) the result should be sent to the Dean in proper format. One copy to be retained in the department.
5. Within a month from the commencement of the semester, GPA reports pertaining to the previous semester has to be obtained and kept in students file.
6. Before end of each semester, proposal for evaluation of Research credits in proper format should be submitted to Dean through chairman and Head of department.
7. Proposal for submission of thesis along with one copy of thesis (one extra copy of thesis shall be preserved in the department), 4 Colour photographs (write name and Reg no. on back side), Course completion certificate, G.P.A.Reports, Copy of degree certificate of qualifying examination and Convocation application form stating that degree will be received in person/absentia are to be sent to Dean.
8. After conduct of final via –voce examination, the result has to be communicated in proper format to Dean along with three copies of thesis and abstracts of thesis and CD with bound copy certificate. One bound copy to be presented in the department.

**Master's programme :** M.Sc. Agriculture(Agronomy)

**Course structure**

<b>Course code</b>	<b>Course title</b>	<b>Credits</b>
MAAG 1101*	Modern concepts in crop production	3+0
MAAG 1102*	Principles and practices of weed management	2+1
MAAG 1103*	Principles and practices of water management	2+1
MAAG 1204*	Agronomy of major cereals and pulses	2+1
MAAG 1205*	Agronomy of oilseed, fibre and sugar crops	2+1
MAAG 1206*	Cropping systems and sustainable agriculture	2+0
MAAG2107*	Dry land farming and watershed management	2+1
MAAG1291*	Master's seminar	0+1
MAAG2199*& MAAG2299*	Master's Research	0+20

**\*Compulsory**

Minor and supporting courses: Soil Science, Plant physiology and Statistics

<b>Course code</b>	<b>Course title</b>	<b>Credits</b>
MASA1101	Soil fertility and fertilizer use	3+1
MASA1202	Management of problem soils and waters	2+1
MAPP 1101	Physiology of growth, yield and modeling	1+1
MAST 2102	Statistical methods for applied sciences	2+1

MAST 1201	Experimental designs	2+1
-----------	----------------------	-----

Non credit compulsory courses: 6 credits (Compulsory for Master's programme in all disciplines)

Course code	Course title	Credits
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communication Skills	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

## Semester wise courses

### First Semester

Course No	Course Title	Credits (T+P)
MAAG 1101	Modern concepts in crop production	3+0
MAAG 1102	Principles and practices of weed management	2+1
MAAG 1103	Principles and practices of water management	2+1
MASA1101	Soil fertility and fertilizer use	3+1
MAPP1101	Physiology of growth, yield and modeling	1+1
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communications Skills	0+1

### Second Semester

MAAG 1204	Agronomy of major cereals and pulses	2+1
MAAG 1205	Agronomy of oilseed, fibre and sugarcane crops	2+1
MAAG 1206	Cropping systems and sustainable agriculture	2+0
MASA1202	Management of problem soils and waters	2+1
MAST 1201	Experimental designs	2+1
MAAG1291	Masters seminar	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1

### Third Semester

MAAG2107	Dry land farming and watershed management	2+1
MAST2102	Statistical methods for applied sciences	2+1
MAAG2199	Masters research	0+10
MAAR2101 (e-Course)	Agricultural research, research ethics and rural Development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

### Fourth semester

MAAG2299	Masters research	0+10
----------	------------------	------

**Master's programme :** M.Sc. Agriculture(**Horticulture -Vegetable Science**)

### Course Structure

Course code	Course title	Credits
MAVS 1101*	Production technology of cool season vegetable crops	2+1
MAVS 1102*	Production technology of warm season vegetable crops	2+1

MAVS 1103*	Breeding of vegetable crops	2+1
MAVS 1204*	Growth and development of vegetable crops	2+1
MAVS 1205*	Production technology of under exploited vegetable crops	1+1
MAVS 2106*	Seed production technology of vegetable crops	1+1
MAVS 2107*	Systematics of vegetable crops	1+1
MAVS 2108*	Fundamentals of processing of vegetables	1+1
MAVS 1291*	Master's seminar	0+1
MAVS 2199* & MAVS2299*	Master's research	0+20

\* **Compulsory**

Minor and supporting courses: Physiology, Agronomy, Genetics and plant breeding, Statistics and Molecular biology and Biotechnology

Code	Course title	Credits
MAPP1101	Physiology of growth, yield and modeling	1+1
MAFS1205	Post harvest technology for fruit crops	2+1
MAGP1103	Principles of plant breeding	2+1
MAAG1103	Principles and practices of water management	2+1
MAST 2102	Statistical methods for applied sciences	2+1

Non credit compulsory courses: 6 credits (Compulsory for Master's programme in all disciplines)

Course code	Course title	Credits
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communication Skills	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0

MADM2101 (e-Course)	Disaster management	1+0
------------------------	---------------------	-----

## Semester wise Course structure

### First Semester

MAVS1101	Production technology of cool season vegetable crops	2+1
MAVS1204	Growth and development of vegetable crops	2+1
MAVS1205	Production technology of under exploited vegetable crops	1+1
MAPP1101	Physiology of growth, yield and modeling	1+1
MAGP1103	Principles of plant breeding	2+1
MAAG1103	principles and practices of water management	2+1
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communications Skills	0+1

### Second Semester

MAVS 1103	Breeding of vegetable crops	2+1
MAVS1102	Production technology of warm season vegetable crops	2+1
MAVS2106	Seed production technology of vegetable crops	1+1
MAFS 1205	Post harvest technology for fruit crops	2+1
MAVS 1291	Masters seminar	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1

### Third Semester

MAVS 2107	Systematics of vegetable crops	1+1
MAVS2108	Fundamentals of processing of vegetables	1+1
MAST 2102	Statistical methods for applied sciences	2+1
MAVS2199	Masters research	0+10
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

#### Fourth semester

MAVS 2299	Masters research	0+10
-----------	------------------	------

**Master's programme :** M.Sc. Agriculture(**Genetics and Plant Breeding**)

#### Course structure

Course code	Course title	Credits
MAGP 1101*	Principles of genetics	2+1
MAGP 1102*	Principles of cytogenetic	2+1
MAGP 1103*	Principles of plant breeding	2+1
MAGP 1204*	Principles of quantitative genetics	2+1
MAGP2107	Heterosis breeding	2+1
MAGP1205*	Cell biology and molecular Genetics	2+1
MAGP 1206*	Biotechnology for crop improvement	2+1
MAGP 2191*	Master's Seminar	0+1
MAGP 2199*& MAGP2299*	Master's Thesis	0+20

**\*Compulsory**

Minor Departments: Plant Molecular biology and bio technology; Biochemistry; Statistics and Mathematics, Entomology, Plant pathology, Plant physiology

Supporting departments: Statistics and Mathematics, Entomology, Plant pathology, Plant physiology

Code	Course Title	Credits
------	--------------	---------

MAMB1101	Principles of biotechnology	2+1
MAMB 1102	Fundamentals of molecular biology	3+0
MAMB1205	Techniques in molecular biology I	0+3
MAST2102	Statistical methods for applied sciences	2+1
MAMB 2110	Genomics and proteomics	2+0

Non credit compulsory courses: 6 credits (Compulsory for Master's programme in all disciplines)

Course code	Course title	Credits
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communication Skills	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

### Semester- wise distribution of courses

#### First Semester

Course No	Course Title	Credits (T+P)
MAGP 1101	Principles of Genetics	2+1
MAGP1102	Principles of cytogenetics	2+1
MAGP1103	Principles of plant breeding	2+1
MAMB 1101	Principles of biotechnology	2+1
MAMB 1102	Fundamentals of molecular biology	3+0
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communications Skills	0+1



### Second Semester

MAGP1204	Principles of quantitative genetics	2+1
MAGP 1205	Cell biology and molecular Genetics	2+1
MAPB 1206	Biotechnology for crop improvement	2+1
MAMB1205	Techniques in molecular biology I	0+3
MAST2102	Statistical methods for applied sciences	2+1
MAGP2191	Masters seminar	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1

### Third Semester

MAGP 2107	Heterosis breeding	1+1
MAMB 2110	Genomics and proteomics	2+0
MAGP2199	Masters research	0+10
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

### Fourth Semester

MAGP2299	Masters research	0+10
----------	------------------	------

**Master's programme :** M.Sc. Agriculture(Agricultural Extension & Communication )

#### Course structure

Course code	Course title	Credits
MAEX1101*	Development perspectives of extension education	1+1
MAEX1102*	Development communication and information management	2+1
MAEX1103*	Diffusion and adoption of innovations	2+1
MAEX1105*	Gender sensitization for development	1+1
MAEX 1206*	Research methods in behavioral sciences	2+1
MAEX 1207*	e-Extension	2+1
MAEX 1208*	Market led extension management	1+1
MAEX 2109*	Human Resource Development	2+1

MAEX 1291*	Masters seminar	0+1
MAEX 2199*& MAEX 2299*	Masters research	0+20

**\*Compulsory**

**Minor and supporting Subjects: Agronomy, Agricultural Economics and Statistics**

Code	Course Title	Credits
MAAG 1101	Modern concepts in crop production	3+0
MAAE 1201	Agricultural Marketing & Price Analysis	2+1
MAAE 2102	Agricultural Finance and Project Management	2+1
MAST 1203	Statistical methods for social sciences	2+1
MAST 2104	Non-Parametrics	2+0
MAEX1104	Participatory methods for technology development and transfer	1+1
MAEX2110	Entrepreneurship Development and Management in Extension	2+1

\*New Minor and Supporting courses can be introduced as per the requirement of research work from time to time

Non credit compulsory courses: 6 credits (Compulsory for Master's programme in all disciplines)

Course code	Course title	Credits
MALI1101	Library and information services	0+1
MACS1101	Technical writing and communication Skills	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

### Semester- wise distribution of courses

#### First Semester

Course No	Course Title	Credits (T+P)
MAEX 1101	Development perspectives of extension education	1+1
MAEX 1102	Development communication and information management	2+1
MAEX 1103	Diffusion and adoption of innovations	2+1
MAEX 1104	Participatory methods for technology development and transfer	1+1
MAEX 1105	Gender sensitization for development	1+1
MAAG 1101	Modern concepts in crop production	3+0
MALI 1101	Library and information services	0+1
MACS 1101	Technical writing and communications Skills	0+1

#### Second Semester

MAEX1206	Research methods in behavioral sciences	2+1
MAEX 1207	e-Extension	2+1
MAEX 1208	Market led extension management	1+1
MAST 1203	Statistical methods for social sciences	2+1
MAAE 1201	Agricultural Marketing & Price Analysis	2+1
MAEX1291	Masters seminar	0+1
MAIP 1201 (e-Course)	Intellectual property and its management in agriculture	1+0
MALT1201	Basic concepts in laboratory techniques	0+1

#### Third Semester

MAEX 2109	Human Resource Development	2+1
MAEX2110	Entrepreneurship Development and Management in Extension	2+1
MAST 2104	Non-Parametrics	2+0
MAAE 2102	Agricultural Finance and Project Management	2+1
MAEX 2199	Masters research	0+5
MAAR2101 (e-Course)	Agricultural research, research ethics and rural development programmes	1+0
MADM2101 (e-Course)	Disaster management	1+0

**Fourth Semester**

MAEX 2299	Masters research	0+15
-----------	------------------	------