



**Skill India**  
कौशल भारत - कुशल भारत



Directorate General of Training



**Centurion**  
UNIVERSITY

*Shaping lives...  
... Empowering Communities*

# STUDENT PROSPECTUS

## B. Voc Program in Advanced Technologies

National Skill Training Institute, Bhubaneswar

In Partnership With

Centurion University of Technology & Management



[www.gramtarang.in](http://www.gramtarang.in)

Implementation Partner  
**Gram Tarang Employability  
Training Services**



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## ABOUT CENTURION UNIVERSITY

### Vision

- Provision of quality, globally accredited academic programmes in technology and management.
- Provision of globally accredited employability training for less endowed segments of the population.
- Promotion of entrepreneurial culture and enterprise in the target areas.
- Facilitating improved market access to goods and financial services to the target population.
- Promotion of lighthouse project interventions in the target area.

### Mission

- A globally accredited human resource center of excellence catalyzing "sustainable livelihoods" in the "less developed markets across the globe"

### Orientation of University

The focus and orientation of the University is LIVE.

- **Learning:** Hands on. Experience based and Practice oriented.
- **Ideas:** Make a difference through appropriate and relevant innovation and actionable research.
- **Value:** Shaping Lives and Empowering Communities and creating Nano – Mini and Micro enterprises.
- **Experience:** Quantifiable. Sustainable. Scalable and Replicable while striving to create a sense of ultimate delight among all stakeholders.

### Contact for Admission

9146082647 | 9370519569



# About the B. Voc Program

B. Voc. program, a skill development based higher degree, has been provisioned to be offered as a part of college/university education with its complete equivalence to any other Bachelor degree as evidenced by the permeable in the notification from UGC, MHRD, GoI, (D.O.No.F.2-7 I20r 4(CC/NVEQF)/Misc. 3 August 2016.

[https://www.ugc.ac.in/pdfnews/7966971\\_UCG-letter-reg-B.Voc.pdf](https://www.ugc.ac.in/pdfnews/7966971_UCG-letter-reg-B.Voc.pdf)

"Bachelor of Vocation (B.Voc.), a Bachelor level degree specified by UGC under section 22(3) of UGC Act, 1956 and notified in official Gazette of India dated 19th January, 2013 be recognized at par with the other Bachelor level degrees for competitive exams conducted by Union/State Public Service Commission, Staff Selection Commission or other such bodies where the eligibility criteria is "Bachelor Degree in any discipline"

Directorate General of Training (DGT), MSDE, GOI in collaboration with CUTM, Odisha, NAAC-A grade University and gazette notified as Odisha's only Skills University is offering PLACEMENT ASSURED 3 Years (full time) B. Voc. program in Precision Manufacturing Technology and Automotive Technology. The curriculum has been designed to ensure the courses to be in line with National Skill Qualification Framework (NSQF) and constitutes a total of 180 credits i.e.; 72 Theory, 108 Practice (48 On Workshop/Lab and 60 On Job Training/Internship).

## SPECIALIZATION

Precision Manufacturing Technology

Automobile Technology

### Eligibility Criteria:

**Minimum Eligibility:** NCVT ITI Pass (In relevant 2 year Trade as per table below) with +2 or Equivalent from a Govt. State or Central Board with Mathematics as subject.

Specialization	Batch Capacity	Entry Type	Eligibility (Trades)
Voc. in Precision Manufacturing Technology	40	Regular (3 Yrs)	NCVT ITI (Fitter, Welder, Turner, Machinist, Draughtsman, Tool & Die Maker, Mechanic (Machine Tool Maintenance), Sheet Metal Worker, Carpenter) and +2 or Equivalent
Voc. in Automobile Technology	40	Regular (3 Yrs)	NCVT ITI (Fitter, Welder, Turner, Sheet Metal Worker, Mechanic (Motor Vehicle), Mechanic (Refrigeration and Air-Conditioning) and +2 or Equivalent





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# About NSTI



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सत्यमेव जयते

**भारत सरकार**

**कौशल विकास और उद्यमिता मंत्रालय**  
**प्रशिक्षण महानिदेशालय**  
**राष्ट्रीय कौशल प्रशिक्षण संस्थान**



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**GOVERNMENT OF INDIA**  
**MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP**  
**Directorate General of Training**  
**NATIONAL SKILL TRAINING INSTITUTE (NSTI)**  
(formerly Advanced Training Institute)

National Skill Training Institute (NSTI) is one of the premier institutes run by the by the Directorate General of Training (DGT), Ministry of Skill Development and Entrepreneurship, Govt.of India.

It was initially set up by the Directorate General of Employment and Training (DGE&T), Ministry of Employment and Labour, Govt. of India in the year 1963 with the main objective of imparting training to the instructor of ITIs in the country.



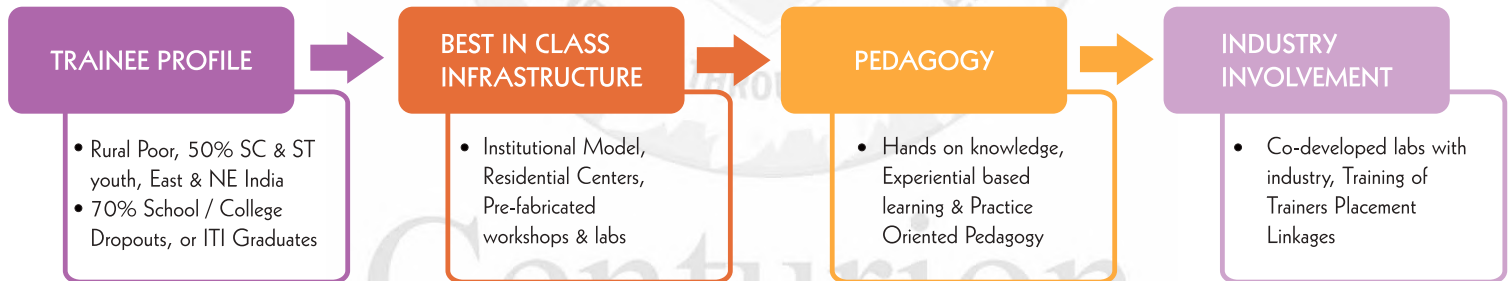
The mission and vision of NSTI Bhubaneswar is to create impact in quality training & upgrading skills of the industrial workforce in emerging areas. Another important objective of NSTI is continually making efforts to bridge the gap between industry & academics and to enhance the employability skills of craftsman to enhance the credibility of certification for Craft Instructor Training and to facilitate placement through its placement cell.

# About Centurion University

Centurion University of Technology & Management (CUTM), a NAAC A Grade & UGC Sec 12b notified private state university of Odisha and AP is modeled on the Technical & Further Education system of Australia. It has a School of Engineering, School of Management, School of Basic Sciences, MS Swaminathan School of Agricultural Sciences and a School of vocational Education & Training which are spread across 5 constituent campuses mostly in remote, tribal districts like Paralakhemundi, Rayagada, Bolangir, Bhubaneswar & Vishakhapatnam with a total campus area of over 300 acres with over 10,000 students in its under graduate, post graduate programs, doctorate & vocational programs.



The University has a major focus in skill development and was one of the first ever partners of NSDC in 2010 when it created an entrepreneurial outreach, Gram Tarang Employability Training Services Pvt. Ltd. (GTET) to scale up the skilling vertical. Since 2006, the group has trained 125,000 youth across ~ 40 centers in Odisha, AP, Telangana, Jharkhand, Assam and Punjab and is working towards an overall mission of making **100,000 youth employable annually**. The pedagogical focus has been on hands on, experiential based learning through strong industry involvement & live production environments which has ensured a placement rate of over 80% for its vocational trainees into jobs across the country in more than 120 companies.



Centurion - Gram Tarang have established a unique model of skills integration into higher education & mainstreaming of school & college dropouts through work integrated skill training & apprenticeships (WISTA) after the vocational students are placed. This is achieved through co-development of industry spec labs & workshops with leading players in five sectors of focus (Automotive, Apparel & Textiles, Energy, Hospitality & Healthcare) like Ashok Leyland, Yamaha, Hyundai, Volvo Eicher, Godrej & Boyce, Schneider Electric, Gap, K Mohan & Cotton Blossom, Café Coffee Day etc. Gram Tarang was awarded as the Best Skill Provider in India for FY 11-12 by NSDC and also recognized as top skill provider by FICCI for 3 consecutive years at the global skills summits in 2012, 2013 & 2014. The Bhubaneswar center won the best center award at NSDC partner meet in 2014. The Centurion – Gram Tarang model has also been quoted as a best practice in the UN General Assembly note on Higher Education and has been recognized as a best practice by Niti Aayog, E&Y and the Ministry of Skill Development & Entrepreneurship.



**Shaping Lives...empowering communities !**



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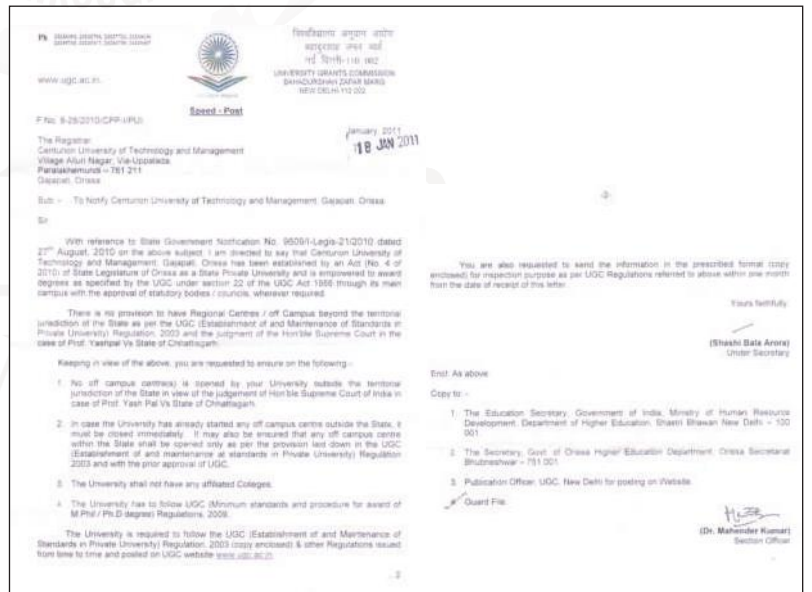
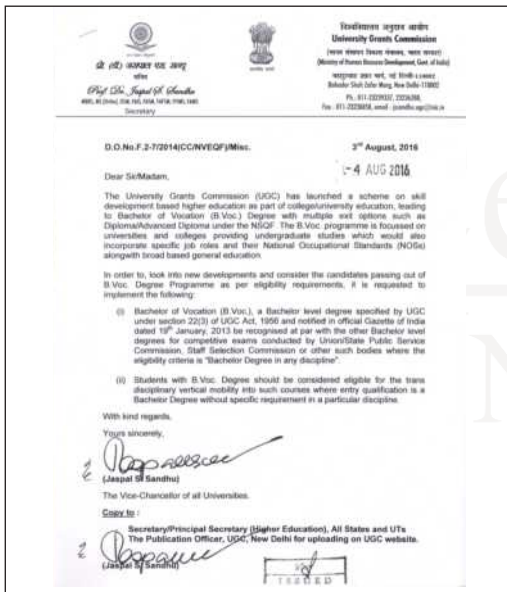
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GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



मानव संसाधन  
Ministry of Human Resource  
Development  
Government of India



NAPS	DGT, Flexi MoU	AICTE, NEEM	UGC, Bvoc	Higher Education Dept.	Skill Development & Technical Education Dept.
<ul style="list-style-type: none"> <li>Approved TPA under National Apprenticeship Promotion Scheme</li> </ul>	<ul style="list-style-type: none"> <li>MoU signed for implementation of Flexi MoU</li> </ul>	<ul style="list-style-type: none"> <li>Approved Facilitator under National Employability Enhancement Mission</li> </ul>	<ul style="list-style-type: none"> <li>Approved under Deen Dayal Upadhyaya Kayushal Kendra for Bvoc Implementation</li> </ul>	<ul style="list-style-type: none"> <li>Enacted &amp; UGC Notified State University with NAAC A Grade accreditation</li> </ul>	<ul style="list-style-type: none"> <li>Diploma programs approved as per act with approval from Skill Development &amp; Technical Education Dept.</li> </ul>







# B. Voc. in Precision Manufacturing Technology

## Syllabus

### Year - 1

#### Level 5 (Semester - I)

Course	Course Type	Credit	Equivalent Hours	Marks
Manufacturing Technology-I	Theory	3	3	100
Material Science and Material	Theory	3	3	100
Communicative English	Theory	3	3	100
Metrology and Computer Aided Inspection	Theory	3	3	100
Mechanical Workshop Practice-I	Practice	3	3	100
Metrology and Computer Aided Inspection Lab.	Practice	3	3	100
Employability Skills-I	Practice	2	2	100
Tool Design Drawing	Practice	3	3	100
On Job Training-I	Project/Internship	7	14	100
<b>Total</b>		<b>30</b>	<b>37</b>	<b>900</b>

#### Level 5 (Semester - II)

Course	Course Type	Credit	Equivalent Hours	Marks
Advances in Materials Processing	Theory	3	3	100
Manufacturing Technology-I	Theory	3	3	100
Total Quality Management	Theory	3	3	100
Industrial Management	Theory	3	3	100
Assembly Drawing in CAD	Practice	3	3	100
Computer Application and Networks	Practice	2	2	100
Mechanical Workshop Practice-II	Practice	3	3	100
On Job Training-II	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>



# B. Voc. in Precision Manufacturing Technology

## Syllabus

Year - 2

### Level 6 (Semester - I)

Course	Course Type	Credit	Equivalent Hours	Marks
Selection of Cutting tools & Cutting Fluids	Theory	3	3	100
Non Conventional Manufacturing Process	Theory	3	3	100
Sensors and Motion Control Drives	Theory	3	3	100
Jigs and Fixture Design	Theory	3	3	100
Non Conventional Manufacturing Lab.	Practice	3	3	100
Jigs and Fixture design Lab	Practice	2	3	100
Sensors and Motion Control Drives Lab	Practice	3	2	100
On Job Training-III	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>

### Level 6 (Semester - II)

Course	Course Type	Credit	Equivalent Hours	Marks
Advanced Machining Technology	Theory	3	3	100
Electrical Machines	Theory	3	3	100
Mechatronics and Modern Control	Theory	3	3	100
Electrical Machines Lab.	Practice	3	3	100
CNC Turning Lab.	Practice	3	3	100
Employability Skills-II	Practice	2	2	100
Mechatronics and Modern Control Lab	Practice	3	3	100
On Job Training-IV	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>





# B. Voc. in Precision Manufacturing Technology

## Syllabus

Year - 3

### Level 7 (Semester - I)

Course	Course Type	Credit	Equivalent Hours	Marks
Internet of Things and Industry 4.0	Theory	3	3	100
Computer Aided Manufacturing (CAM)	Theory	3	3	100
Entrepreneurship Management	Theory	3	3	100
Tool and Die Design	Theory	3	3	
CNC Milling Lab.	Practice	3	3	100
Tool and Die Design Lab	Practice	2	2	100
CAM Lab.	Practice	3	3	100
On Job Training-V	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>

### Level 7 (Semester - II)

Course	Course Type	Credit	Equivalent Hours	Marks
Robotics and Machine Vision	Theory	3	3	100
Plant Layout and Automated Material Handling	Theory			
PLC and Industrial Automation	Practice	5	5	100
Additive Manufacturing Technology (3D Printing) Lab.	Practice	3	3	100
Maintenance of Machines Lab.	Practice	3	3	100
Employability Skills-III	Practice	2	2	100
On Job Training-VI	Project/Internship	16	32	100
<b>Total</b>		<b>30</b>	<b>46</b>	<b>700</b>



# B. Voc. in Automobile Technology

## Syllabus

### Year - 1

#### Level 5 (Semester - I)

Course	Course Type	Credit	Equivalent Hours	Marks
Manufacturing Technology-I	Theory	3	3	100
Material Science and Material	Theory	3	3	100
Communicative English	Theory	3	3	100
Industrial Management	Theory	3	3	100
Computer Application & Networks	Practice	3	3	100
Employability Skills-II	Practice	2	2	100
Mechanical Workshop Practice-I	Practice	3	3	100
Metrology and Measuring Instrument Lab	Practice	2	2	100
On Job Training-I	Project/Internship	8	16	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>900</b>

#### Level 5 (Semester – II)

Course	Course Type	Credit	Equivalent Hours	Marks
Automobile Chassis and Transmission	Theory	3	3	100
Manufacturing Technology -II	Theory	3	3	100
Total Quality Management	Theory	2	2	100
Automobile Body Building Engineering	Theory	3	3	100
Automobile Drawing and Designing	Practice	3	3	100
Automobile Chassis and Transmission Lab.	Practice	2	2	100
Mechanical Workshop Practice -II	Practice	3	3	100
On Job Training-II	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>



# B. Voc. in Automobile Technology

## Syllabus

### Year - 2

Level 6 (Semester – I)				
Course	Course Type	Credit	Equivalent Hours	Marks
Two and Three Wheelers Technology	Theory	3	3	100
Automobile Electrical Equipment	Theory	3	3	100
Modern Electric & Hybrid Vehicles	Theory	3	3	100
Garage Organization & Transport Management	Theory	3	3	100
Automobile Workshop I	Practice	3	3	100
Assembly Drawing in CAD	Practice	3	3	100
Electric & Hybrid Vehicles Lab	Practice	2	2	100
On Job Training III	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>

Level 6 (Semester – II)				
Course	Course Type	Credit	Equivalent Hours	Marks
Auto Body Repair, Denting & Painting	Theory	3	3	100
Automobile Engine Systems	Theory	3	3	100
Automobile Electrical System	Theory	3	3	100
Vehicle Performance and Testing	Theory	3	3	100
Auto Body Repair, Denting & Painting Workshop	Practice	3	3	100
Employability Skills -II	Practice	2	2	100
Vehicle Performance and Testing Lab.	Practice	3	3	100
On Job Training IV	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>



# B. Voc. in Automobile Technology

## Syllabus

### Year - 3

#### Level 7 (Semester – I)

Course	Course Type	Credit	Equivalent Hours	Marks
Automotive System Design	Theory	3	3	100
Automotive Refrigeration and Air Conditioning	Theory	3	3	100
Automobile Maintenance Service & Repairs	Theory	3	3	100
Entrepreneurship Management	Theory	3	3	100
Automobile Workshop-II	Practice	3	3	100
Automotive RAC Lab	Practice	2	2	100
Automotive System Design Lab	Practice	3	3	100
On Job Training-V	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>

#### Level 7 (Semester – II)

Course	Course Type	Credit	Equivalent Hours	Marks
Auto NVH	Theory	3	3	100
Offroad Vehicles	Theory	3	3	100
Autotronics	Theory	3	3	100
Alternative Fuel & Emission Control	Theory	3	3	100
Automobile WorkshopII	Practice	3	3	100
Autotronics Lab.	Practice	3	3	100
Employability Skills -III	Practice	2	2	100
On Job Training VI	Project/Internship	10	20	100
<b>Total</b>		<b>30</b>	<b>40</b>	<b>800</b>





# Examination Evaluation

Each course unit shall be of 100 percentage points.

Sl. No.	Type of course	Mark distribution			Total
		External Exam by University	Evidence Based Learning / Internal Record Keeping	Internal Assessment	
1.	Theory	60	-	40	100
2.	Practice Course	-	50	50	100
3.	Work Experience	-	100	-	100

The University recommends a continuous evaluation system for each theory, practical items.

## 1. Theory Paper Evaluation:

A theory paper will have 100 percentage points. The weightage for three class tests and the end semester examinations will be as follows:

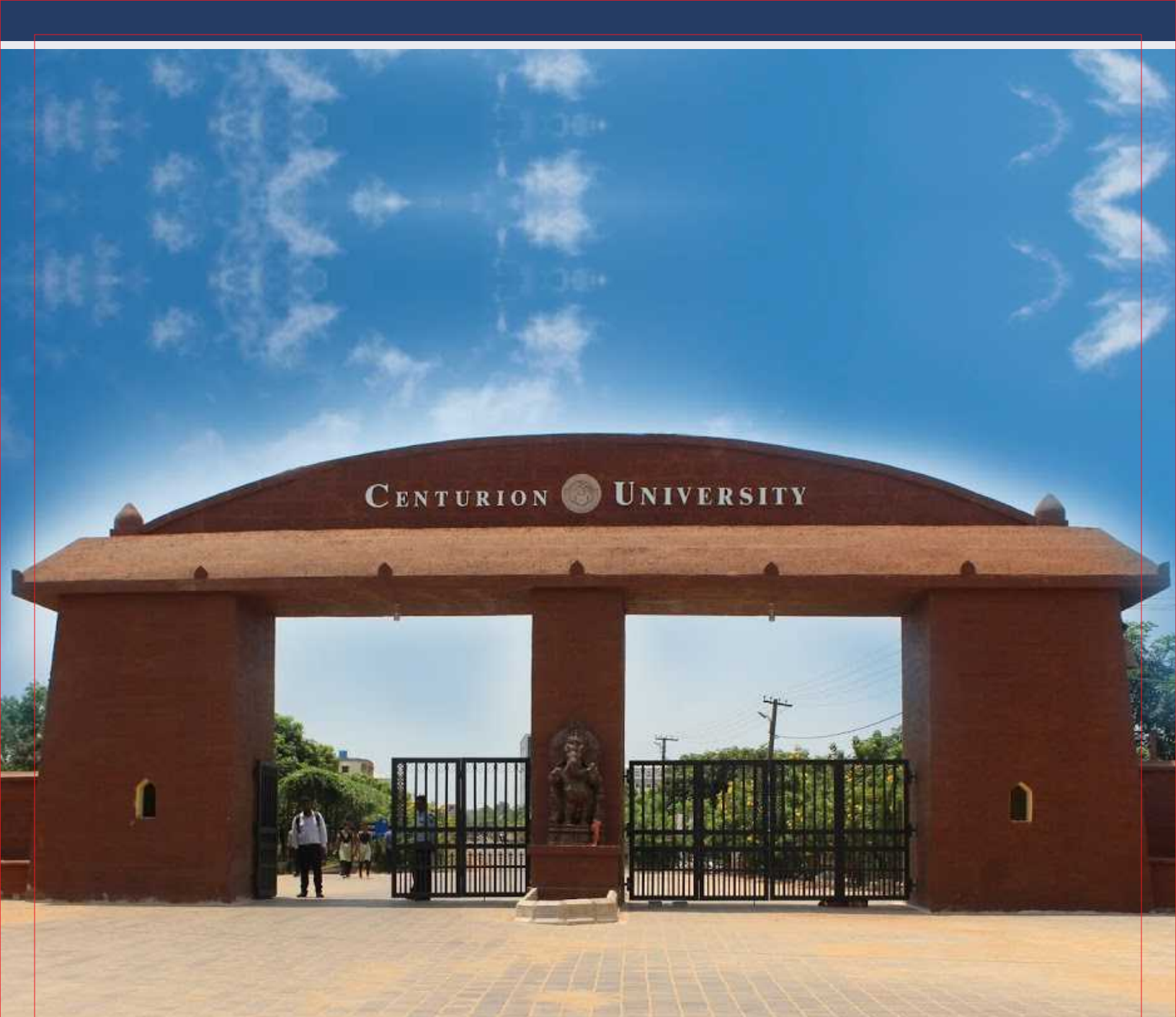
- Internal - I of one hour duration = 10 percentage points.
- Internal - II of one hour duration = 10 percentage points.
- Internal - III of one hour duration = 10 percentage points.
- Assignments / quiz / viva-voce / attendance = 10 percentage points.
- End Semester External Examination of three hours duration = 60 percentage points.
- Total = 100 percentage points.

A candidate is deemed to clear (pass) a theory paper if he / she secures minimum 'P' grade in the End Semester Examinations and the three class tests along with Assignment/quiz/viva-voce/attendance taken together (i.e out of 100) based on "NORMALISED GRADING SYSTEM".

## 2. Work Experience Evaluation:

- Each of Practice paper will carry 100 percentage points.
- A student has to secure minimum of 50 percentage points to pass each paper.
- Each Practical work is to be completed during allotted hours in the class itself.
- No practice work can be done at home / hostel.
- The college may arrange a compensatory Practical/Sessional class for a student who misses an experiment on medical grounds, if it is satisfied of the reasons for absenc





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### Bhubaneswar Campus

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### Paralakhemundi Campus

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### Vishakhapatnam Campus

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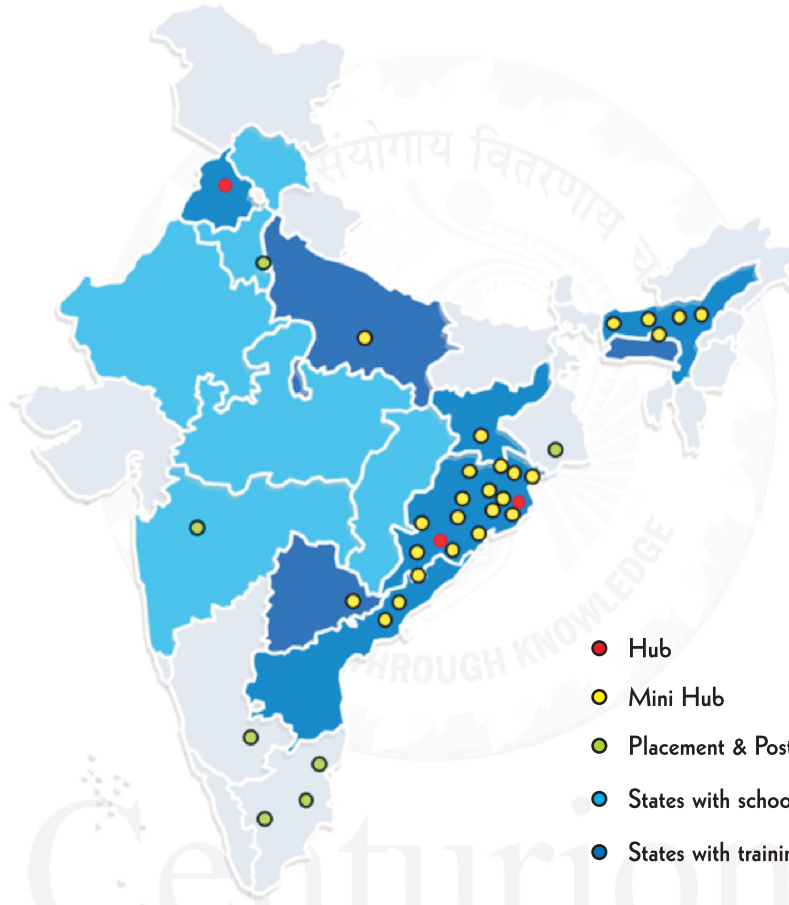
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