

# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

(UGC-AUTONOMOUS)

*(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)*

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[www.mits.ac.in](http://www.mits.ac.in)



## ACADEMIC REGULATIONS

(R23)

For the students admitted into

**B.Tech. Regular Four Year Degree Programme from the Academic Year 2023-24  
and**

**B.Tech. Lateral Entry Scheme from the Academic Year 2024-25**



## Academic Regulations (R23) for B. Tech (Regular-Full time)

(Effective for the students admitted into I year from the Academic Year **2023-24** onwards)

### 1. Award of the Degree

- (a) Award of the B.Tech. Degree / B.Tech. Degree with a Minor if he/she fulfils the following:
  - (i) Pursues a course of study for not less than four academic years and not more than eight academic years. However, for the students availing Gap year facility this period shall be extended by two years at the most and these two years would in addition to the maximum period permitted for graduation (Eight years).
  - (ii) Registers for 160 credits and secures all 160 credits.
- (b) **Award of B.Tech. degree with Honors** if he/she fulfils the following:
  - (i) Student secures additional 15 credits fulfilling all the requisites of a B.Tech. program i.e., 160 credits.
  - (ii) Registering for Honors is optional.
  - (iii) Honors is to be completed simultaneously with B.Tech. programme.

2. Students, who fail to fulfil all the academic requirements for the award of the degree within eight academic years from the year of their admission, shall forfeit their seat in B.Tech. course and their admission stands cancelled. This clause shall be read along with clause 1 a) i).

### 3. Admissions

Admission to the B. Tech Program shall be made subject to the eligibility, qualifications and specialization prescribed by the A.P. State Government/University from time to time. Admissions shall be made either based on the merit rank obtained by the student in the common entrance examination conducted by the A.P. Government/University or any other order of merit approved by the A.P. Government/University, subject to reservations as prescribed by the Government/University from time to time.

### 4. Program related terms

**Credit:** A unit by which the course work is measured. It determines the number of hours of instruction required per week. One credit is equivalent to one hour of teaching (Lecture/Tutorial) or two hours of practical work/field work per week.

#### Credit Definition:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
1 Hr. Practical (P) per week	0.5 credit
2 Hrs. Practical (Lab) per week	1 credit

- a) **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- b) **Choice Based Credit System (CBCS):** The CBCS provides a choice for students to select from the prescribed courses.

## 5. Semester/Credits:

- i) A semester comprises 90 working days and an academic year is divided into two semesters.
- ii) The summer term is for eight weeks during summer vacation. Internship/ apprenticeship / work-based vocational education and training can be carried out during the summer term, especially by students who wish to exit after two semesters or four semesters of study.
- iii) Regular courses may also be completed well in advance through MOOCs satisfying prerequisites.

## 6. Structure of the Undergraduate Programme

All courses offered for the undergraduate program (B. Tech.) are broadly classified as follows:

S.No.	Category	Breakup of Credits (Total 160)	Percentage of total credits	AICTE Recommendation (%)
1.	Humanities and Social Science including Management (HM)	13	8%	8 - 9%
2.	Basic Sciences (BS)	20	13%	12 - 16%
3.	Engineering Sciences (ES)	23.5	14%	10 - 18%
4.	Professional Core (PC)	54.5	34%	30 - 36%
5.	Electives – Professional (PE) & Open (OE); Domain Specific Skill Enhancement Courses (SEC)	33	21%	19 - 23%
6.	Internships & Project work (PR)	16	10%	8 - 9%
7.	Mandatory Courses (MC)	Non-Credit	Non-Credit	-

## 7. Course Classification:

All subjects/ courses offered for the undergraduate programme in Engineering & Technology (B.Tech. degree programmes) are broadly classified as follows:

S.No.	Broad Course Classification	Course Category	Description
1.	Foundation Courses	Foundation courses	Includes Mathematics, Physics and Chemistry; fundamental engineering courses; humanities, social sciences and management courses
2.	Core Courses	Professional Core Courses (PC)	Includes subjects related to the parent discipline/department/branch of Engineering
3.	Elective Courses	Professional Elective Courses	Includes elective subjects related to the parent discipline/department/ branch of Engineering
		Open Elective Courses (OE)	Elective subjects which include interdisciplinary subjects or subjects in an area outside the parent discipline/ department/ branch of Engineering
		Domain specific skill enhancement	interdisciplinary/job-oriented/domain courses which are relevant to the industry
4.	Project & Internships	Project	B.Tech. Project or Major Project
		Internships	Summer Internships – Community based and Industry Internships; Industry oriented Full Semester Internship
5.	Audit Courses	Mandatory non- credit	Covering subjects of developing desired attitude among the learners

## 8. Programme Pattern

- Total duration of the B. Tech (Regular) Programme is four academic years.
- Each academic year of study is divided into two semesters.
- Minimum number of instruction days in each semester is 90 days.
- There shall be mandatory student induction program for fresher's, with a three- week duration before the commencement of first semester. Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations etc., are included as per the guidelines issued by AICTE.
- Health/wellness/yoga/sports and NSS /NSS /Scouts & Guides / Community service activities are made mandatory as credit courses for all the under graduate students.
- Courses like Environmental Sciences, Indian Constitution, Technical Paper Writing & IPR are offered as non-credit mandatory courses for all the undergraduate students.

- vii. Design Thinking for Innovation & Tinkering Labs are made mandatory as credit courses for all the undergraduate students.
- viii. Increased flexibility for students through an increase in the elective component of the curriculum, with 05 Professional Elective courses and 04 Open Elective courses.
- ix. Professional Elective Courses, include the elective courses relevant to the chosen specialization/branch. Proper choice of professional elective courses can lead to students specializing in emerging areas within the chosen field of study.
- x. A pool of interdisciplinary/job-oriented/domain skill courses which are relevant to the industry are integrated into the curriculum of all disciplines. There shall be 05 skill-enhancement courses offered during III to VII semesters. Among the five skill courses, four courses shall focus on the basic and advanced skills related to the domain/interdisciplinary courses and the other shall be a soft skills course.
- xi. Students shall undergo mandatory summer internships, for a minimum of eight weeks duration at the end of second and third year of the programme. The internship at the end of second year shall be community oriented and industry internship at the end of third year.
- xii. There shall also be mandatory full internship in the final semester of the programme along with the project work.
- xiii. Undergraduate degree with Honors is introduced by the Institution for the students having good academic record.
- xiv. Each college shall take measures to implement Virtual Labs (<https://www.vlab.co.in>) which provide remote access to labs in various disciplines of Engineering and will help student in learning basic and advanced concept through remote experimentation. Student shall be made to work on virtual lab experiments during the regular labs.
- xv. Each college shall assign a faculty advisor/mentor after admission to a group of students from same department to provide guidance in courses registration/career growth/placements/opportunities for higher studies/GATE/other competitive exams etc.
- xvi. Preferably 25% of course work for the theory courses in every semester shall be conducted in the blended mode of learning.
- xvii. Courses like Environmental Science, Gender Sensitization, Technical Paper Writing & IPR are offered as non-credit mandatory courses for all the undergraduate students.
- xviii. A mandatory one-week workshop in domain specific after the end of V semester and it will be reflected in 6th semester for zero credits.
- xix. It is mandatory for every student to undertake a minimum of one industrial visit during any semester between the 5th and 8th semesters.
- xx. Department should conduct one domain specific expert lecture in every semester from 5th semester onwards.
- xxi. A Department wise Domain Specific Workshop shall be conducted after completion of III Year B. Tech I Semester. The Workshop details will be reflected in III Year B. Tech II Semester Marks Memo with 0 Credits. An examination for 50 marks shall be conducted on the last day of the Workshop. The student must secure a minimum of 40% (20 marks out of 50 marks) to be eligible for the certificate. Students who do not meet the minimum requirement shall appear for supplementary examination in the subsequent Semester.

## **9. Evaluation Process**

The performance of a student in each semester shall be evaluated subject wise with a Maximum of 100 marks for theory and 100 marks for practical subject. Summer Internships shall be evaluated for 50 marks, Full Internship & Project work in final

semester shall be evaluated for 200 marks, and mandatory courses with no credits shall be evaluated for only 30 internal marks.

A student has to secure not less than 35% of marks in the end examination and a minimum of 40% of marks in the sum total of the mid semester and end examination marks taken together for the theory, practical, design, drawing subject or project etc. In case of a mandatory course, he/she should secure 40% of the total marks.

### **Theory Courses**

<b>Assessment Method</b>	<b>Marks</b>
Continuous Internal Assessment	30
Semester End Examination	70
<b>Total</b>	<b>100</b>

- i) For theory subject, the distribution shall be 30 marks for Internal Evaluation and 70 marks for the End-Examination.
- ii) For practical subject, the distribution shall be 30 marks for Internal Evaluation and 70 marks for the End- Examination.
- iii) If any course contains two different branch subjects, the syllabus shall be written in two parts with 3 units each (Part-A and Part-B) and external examination question paper shall be set with two parts each for 35 marks.
- iv) If any subject is having both theory and practical components, they will be evaluated separately as theory subject and practical subject. However, they will be given same subject code with an extension of ‘T’ for theory subject and ‘P’ for practical subject.

#### **a) Continuous Internal Evaluation**

- i) The total internal weightage for theory courses is 30 marks with the following distribution.
  - a. 24 marks for Mid-term tests.
  - b. 6 marks for Assignments.

For all theory courses including mandatory courses there shall be two mid-term tests in each semester. The duration of mid-term test shall be 1 hour and 30 minutes. Student shall answer six short answer questions of one mark each and three (out of five) long answer questions of 6 marks each. First mid-term test shall be conducted for I, II units of syllabus and second mid-term shall be conducted for III, IV & V units. Final Mid-term marks shall be arrived by considering 80% weightage for the best mid-term test and 20% weightage for the other. In case any student is unable to appear for both mid-term tests for genuine reasons (for example; medical grounds, tragedy in his/her family), the Principal at his discretion on the recommendation of Head of the department and concerned faculty may permit to re-conduct only the 2nd mid-term test.

- ii) The 6 marks allotted to assignments in each theory course shall be based on evaluation of two assignments (3marks each), on topics relevant to that particular course. The first assignment is to be submitted before I mid-term test and the second assignment is to be submitted before II mid-term test.
- iii) However for combination courses having two parts like Basic Civil and Mechanical engineering, Basic Electrical and Electronics engineering etc, the pattern of the mid-term test. While Mid-term test - 1 will cover the entire syllabi of one part and Mid-term test 2 will cover the entire syllabi of the other part.

**b) End Examination Evaluation:**

End examination of theory subjects shall have the following pattern:

- i) There shall be 6 questions and all questions are compulsory.
- ii) Question I shall contain 10 compulsory short answer questions for a total of 10 marks such that each question carries 1 mark.
- iii) There shall be 2 short answer questions from each unit.
  - a) In each of the questions from 2 to 6, there shall be either/or type questions of 12 marks each. Student shall answer any one of them.
- iv) The questions from 2 to 6 shall be set by covering one unit of the syllabus for each question.

End examination of theory subjects consisting of two parts of different subjects, Example: Basic Electrical & Electronics Engineering shall have the following pattern:

- i) Question paper shall be in two parts viz., Part A and Part B with equal weight age of 35 marks each.
- ii) In each part, question 1 shall contain 5 compulsory short answer questions for a total of 5 marks such that each question carries 1 mark.
- iii) In each part, questions from 2 to 4, there shall be either/or type questions of 10 marks each. Student shall answer any one of them.
- iv) The questions from 2 to 4 shall be set by covering one unit of the syllabus for each question.

**Practical Courses**

Assessment Method	Marks
Continuous Internal Assessment	30
Semester End Examination	70
<b>Total</b>	<b>100</b>

- b) For practical courses, there shall be a continuous evaluation during the semester for 30 sessional marks and end examination shall be for 70 marks.
- c) The 30 sessional marks shall be evaluated as follows;
  - i) Observation and viva: 10 marks
  - ii) Record work: 10 marks
  - iii) One model test: 10 marks. (During the last laboratory class)
- d) The end examination shall be evaluated for 70 marks, conducted by the concerned laboratory teacher and a senior expert in the subject from the same department.
  - iv) Procedure: 20 marks
  - v) Experimental work & Results: 40 marks
  - vi) Viva voce: 10 marks.

In a practical subject consisting of two parts (Eg: Basic Electrical & Electronics Engineering Lab), the end examination shall be conducted for 70 marks as a single laboratory in 3 hours.

The 30 sessional marks shall be evaluated as follows;

- i) Observation and viva: 10 marks (Average mark of both Part-A and B)
  - ii) Record work: 10 marks (Average mark of both Part-A and B)
  - iii) One model test in either of Part-A/Part-B: 10 marks. (During the last laboratory class)
- e) For the subject having design and/or drawing, such as Engineering Drawing, the distribution of marks shall be 30 for mid semester evaluation and 70 for end examination.

<b>Assessment Method</b>	<b>Marks</b>
Continuous Internal Assessment	30
Semester End Examination	70
<b>Total</b>	<b>100</b>

Day-to-day work shall be evaluated for 10 marks by the concerned subject teacher based on the reports/submissions prepared in the class. And there shall be two midterm examinations in a semester for duration of 2 hours each for 20 marks with weight age of 80% to better mid marks and 20% for the other. While the Mid- term -1 paper shall contain 2 either or type questions of equal weight age of 10 marks from unit-I & 2, the Mid-term -2 paper shall contain 3 either or type questions of 7, 7, and 6 marks from unit-3, 4, 5 respectively. There shall be no objective paper in mid semester examination. The sum of day- to-day evaluation and the mid semester marks will be the final sessional marks for the subject.

The end examination pattern for Engineering Graphics, shall consists of 5 questions, either/or type, of 14 marks each. There shall be no objective type questions in the end examination. However, the end examination pattern for other subjects related to design/drawing, multiple branches, etc is mentioned along with the syllabus.

- f) There shall be no external examination for mandatory courses with zero credits. However, attendance shall be considered while calculating aggregate attendance and student shall be declared to have passed the mandatory course only when he/she secures 40% or more in the internal examinations. In case, the student fails, a re-examination shall be conducted for failed candidates as and when offered in the subsequent semesters. The CIE assessment pattern shall be similar to other regular theory courses.
- g) The laboratory records and mid semester test papers shall be preserved for a minimum of 3 years in the respective institutions as per the University norms and shall be produced to the Committees of the University as and when the same are asked for.
- h) For courses such as NSS/NCC/Scouts & Guides/Community Service/ Health and Wellness, Yoga and Sports are evaluated for a total of 100 marks. All the 100 marks are evaluated through CIA.



A student can select 6 activities of his/her choice with a minimum of 01 activity per Unit. Each activity shall be evaluated by the concerned teacher for 15 marks, totaling to 90 marks. A student shall be evaluated by the concerned teacher for 10 marks by conducting viva voce on the subject. A minimum of 40marks out of 100 is considered as pass.

## **10. Skill Enhancement Courses**

- i) There shall be five skill-enhancement courses offered during III to VII semesters.
- ii) Out of the five skill courses two shall be skill-enhancement courses from the same domain. Of the remaining three skill courses, one shall be a soft skill course and the remaining two shall be skill-advanced courses from the same domain/Interdisciplinary/Job oriented.
- iii) The course shall carry 100 marks and shall be evaluated through continuous assessments during the semester for 30 sessional marks and end examination shall be for 70 marks. For all skill enhancement courses in One theory lecture and Two practical hours type the assessment shall be as follows;  
Internal assessment shall be for 30 marks with the following distribution;
  - a) 14 marks: There shall be two Mid-Term Tests of 14 marks each. Mid-Term Test-I shall be conducted for Units I & II. Mid-Term Test-II shall be conducted for Units III, IV & V. Question paper shall be set for three questions of 7 marks each. Out of these three questions, a student needs to answer any two. The final Mid-Term Test mark shall be arrived by taking 80% of the better one and 20% of the other.
  - b) 6 marks: Two assignments evaluated for 3 marks each.
  - c) 10 marks: Day to day work.
- iv) The End Semester Examination shall be purely in practical mode. The weightage is for 70 marks and it shall be jointly conducted and evaluated by two internal examiners who are appointed by the Principal. End Semester Examination Question paper shall have the below pattern;
  - a) 60 marks: 3 questions (either-or choice) with the below pattern;
    - Question-1 for 20 marks, Internal choice between UNIT-I and Unit-II.
    - Question-2 for 20 marks, Internal choice only in UNIT-III.
    - Question-3 for 20 marks, Internal choice between UNIT-IV and Unit-V.
  - b) 10 Marks: Viva-voce
- v) iv) The Head of the Department shall identify a faculty member as coordinator for the course. A committee consisting of the Head of the Department, coordinator and a senior Faculty member nominated by the Head of the Department shall monitor the evaluation process. The marks/grades shall be assigned to the students by the above committee based on their performance.
- vi) The student shall be given an option to choose either the skill courses being offered by the college or to choose a certificate course being offered by industries/Professional bodies or any other accredited bodies. If a student chooses to take a Certificate Course offered by external agencies, the credits shall be awarded to the student upon producing the Course Completion Certificate from the agency. A committee shall be formed at the level of the college to evaluate the grades/marks given for a course by external agencies and convert to the equivalent marks/grades.

- vii) The recommended courses offered by external agencies, conversions and appropriate grades/marks are to be approved by the Principal based on the recommendations of the respective department Heads and Dean/Vice principal (academics) Institution at the beginning of the semester. vii) If a student prefers to take a certificate course offered by external agency, the department shall mark attendance of the student for the remaining courses in that semester excluding the skill course in all the calculations of mandatory attendance requirements upon producing a valid certificate as approved by the Institution.

## **11. Massive Open Online Courses (MOOCs):**

A Student has to pursue and complete one course compulsorily through MOOCs approved by the Institution. A student can pursue courses other than core through MOOCs and it is mandatory to complete one course successfully through MOOCs for awarding the degree. A student is not permitted to register and pursue core courses through MOOCs.

A student shall register for the course (Minimum of either 8 weeks or 12 weeks) offered through MOOCs with the approval of Head of the Department. The Head of the Department shall appoint one mentor to monitor the student's progression. The student needs to earn a certificate by passing the exam. The student shall be awarded the credits assigned in the curriculum only by submission of the certificate. Examination fee, if any, will be borne by the student.

Students who have qualified in the proctored examinations conducted through MOOCs platform can apply for credit transfer as specified and are exempted from appearing internal as well as external examination (for the specified equivalent credit course only). Necessary amendments in rules and regulations regarding adoption of MOOC courses would be proposed from time to time.

## **12. Credit Transfer Policy**

Adoption of MOOCs is mandatory, to enable Blended model of teaching-learning as also envisaged in the NEP 2020. As per University Grants Commission (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016, the University shall allow up to a maximum of 20% of the total courses being offered in a particular programme i.e., maximum of 32 credits through MOOCs platform.

- i) The Institution shall offer credit mobility for MOOCs and give the equivalent credit weight age to the students for the credits earned through online learning courses.
- ii) Student registration for the MOOCs shall be only through the respective department of the institution, it is mandatory for the student to share necessary information with the department.
- iii) Credit transfer policy will be applicable to the Professional & Open Elective courses only.
- iv) The concerned department shall identify the courses permitted for credit transfer.
- v) The Institution shall notify at the beginning of semester the list of the online learning courses eligible for credit transfer.
- vi) The institution shall designate a faculty member as a Mentor for each course to

guide the students from registration till completion of the credit course.

- vii) The Institution shall ensure no overlap of MOOC exams with that of the Institution examination schedule. In case of delay in results, the Institution will re-issue the marks sheet for such students.
- viii) Student pursuing courses under MOOCs shall acquire the required credits only after successful completion of the course and submitting a certificate issued by the competent authority along with the percentage of marks and grades.
- ix) The respective department head shall submit the following to the examination section:
  - a) List of students who have passed MOOC courses in the current semester along with the certificate of completion.
  - b) Undertaking form filled by the students for credit transfer.
- x) The Institution shall resolve any issues that may arise in the implementation of this policy from time to time and shall review its credit transfer policy in the light of periodic changes brought by UGC, SWAYAM, NPTEL and state government.
- xi) A student should secure at least 40% of the marks through assignments and quizzes on the SWAYAM/ SWAYAM plus platform to be eligible for the end-semester examination. The end semester exam may be conducted by the National Testing Agency (NTA), the National Programme on Technology Enhanced Learning (NPTEL), or the Institute during the Regular End-Semester Examinations.
- xii) Students should earn a certificate by passing the SWAYAM/ SWAYAM plus examination and submit the same to the Institute to receive the credits as specified in the curriculum. Examination fees, if applicable, shall be borne by the student.
- xiii) Pass marks and grading will be as per the JNTUA academic regulations. No relaxation is permitted. Credits will be awarded only after submission of the completion certificate.
- xiv) Students who opt for the proctored exam conducted by SWAYAM/ SWAYAM plus and fail / unable to appear in SWAYAM/ SWAYAM plus exams conducted by NTA/NPTEL may write the Institute-conducted exam during the next subsequent semesters.
- xv) Students who qualify in the proctored SWAYAM/ SWAYAM plus exams are eligible for direct credit transfer and are exempted from both internal and external assessments for the equivalent Institute course. In case of delays in result declaration by NTA/NPTEL, the Institute shall issue revised marks memos once results are available.
- xvi) Evaluation shall comprise 70% weightage for the end-semester examination and 30% for assignments and quizzes conducted by the SWAYAM/ SWAYAM plus course coordinator.

**Note:** Students shall be permitted to register for MOOCs offered through online platforms approved by the Institution from time to time.

**13. Academic Bank of Credits (ABC)**

The University has implemented Academic Bank of Credits (ABC) to promote flexibility in curriculum as per NEP 2020 to

- i. provide option of mobility for learners across the universities of their choice
- ii. provide option to gain the credits through MOOCs from approved digital platforms.
- iii. facilitate award of certificate/diploma/degree in line with the accumulated credits in ABC
- iv. execute Multiple Entry and Exit system with credit count, credit transfer and credit acceptance from students' account.

**14. Mandatory Internships****Summer Internships :**

Two summer internships either onsite or virtual each with a minimum of 08 weeks duration, done at the end of second and third years, respectively are mandatory. It shall be completed in collaboration with local industries, Govt. Organizations, construction agencies, Power projects, software MNCs or any industries in the areas of concerned specialization of the Undergraduate program. One of the two summer internships at the end of second year (Community Service Project) shall be society oriented and shall be completed in collaboration with government organizations/NGOs & others. The other internship at the end of third year is Industry Internship and shall be completed in collaboration with Industries. The student shall register for the internship as per course structure after commencement of academic year. The guidelines issued by the APSCHE / University shall be followed for carrying out and evaluation of Community Service Project and Industry Internship.

Evaluation of the summer internships shall be through the departmental committee. A student will be required to submit a summer internship report to the concerned department and appear for an oral presentation before the departmental committee comprising of Head of the Department, supervisor of the internship and a senior faculty member of the department. A certificate of successful completion from industry shall be included in the report. The report and the oral presentation shall carry

50% weight age each. It shall be evaluated for 50 external marks. There shall be no internal marks for Summer Internship. A student shall secure minimum 40% of marks for successful completion. In case, if a student fails, he/she shall reappear as and when semester supplementary examinations are conducted by the Institution.

**Full Semester Internship and Project work:**

In the final semester, the student should mandatorily register and undergo internship (onsite/virtual) and in parallel he/she should work on a project with well-defined objectives. At the end of the semester the candidate shall submit an internship completion certificate and a project report. A student shall also be permitted to submit project report on the work carried out during the internship.

The project report shall be evaluated with an external examiner. The total marks for project work 200 marks and distribution shall be 60 marks for internal and 140 marks for external evaluation. The supervisor assesses the student for 30 marks (Report: 15 marks, Seminar: 15 marks). At the end of the semester, all projects shall be showcased

at the department for the benefit of all students and staff and the same is to be evaluated by the departmental Project Review Committee consisting of supervisor, a senior faculty and HOD for 30 marks. The external evaluation of Project Work is a Viva-Voce Examination conducted in the presence of internal examiner and external examiner appointed by the Institution and is evaluated for 140 marks.

The college shall facilitate and monitor the student internship programs. Completion of internships is mandatory, if any student fails to complete internship, he/she will not be eligible for the award of degree. In such cases, the student shall repeat and complete the internship.

### **15. Guidelines for offering a Minor**

To promote interdisciplinary knowledge among the students, the students admitted into B.Tech. in a major stream/branch are eligible to obtain degree in Minor in another stream.

- i) Minor tracks shall be offered for 18 credits over and above 160 credits.
- ii) 05 theory courses of 3 credits each, practical courses of 1.5 credits each or a Project for 3 credits, for Minors.
- iii) Specialization tracks are to be mentioned for Minor tracks.
- iv) The Minor in a discipline will be mentioned in the degree certificate as Bachelor of Technology in XXX with Minor in YYY. For example, Bachelor of Technology in Computer Science & Engineering with Minor in Electronics & Communication Engineering.

### **16. Guidelines for offering Honors**

The objective of introducing B.Tech. (Hons.) is to facilitate the students to choose additionally the specialized courses of their choice and build their competence in a specialized area in the UG level. The programme is a best choice for academically excellent students having good academic record and interest towards higher studies and research.

- i) Honors is introduced in the curriculum of all B. Tech. programs offering a major degree and is applicable to all B. Tech (Regular and Lateral Entry) students admitted in Engineering & Technology.
- ii) A student shall earn additional 18 credits for award of B.Tech.(Honors) degree from same branch/department/discipline registered for major degree. This is in addition to the credits essential for obtaining the Undergraduate degree in Major Discipline (i.e., 160 credits).
  - a) Honor tracks shall be offered for 18 credits over and above 160 credits.
  - b) 05 theory courses of 3 credits each, practical courses of 1.5 credits each or a Project for 3 credits, for Honors.
  - c) Specialization tracks are to be mentioned for Honor tracks
- iii) A student is permitted to register for Honors in IV semester after the results of III Semester are declared and students may be allowed to take maximum two subjects per semester pertaining to the Honors from V Semester onwards.
- iv) The concerned Principal of the college shall arrange separate class work and timetable of the courses offered under Honors program.

- v) Courses that are used to fulfil the student's primary major may not be double counted towards the Honors. Courses with content substantially equivalent to courses in the student's primary Major may not be counted towards the Honors.
- vi) Students can complete the courses offered under Honors either in the college or in online platforms like SWAYAM with a minimum duration of 12 weeks for a 3-credit course and 8 weeks duration for a 2-credit course satisfying the criteria for credit mobility. If the courses under Honors are offered in conventional mode, then the teaching and evaluation procedure shall be similar to regular B. Tech courses.
- vii) The attendance for the registered courses under Honors and regular courses offered for Major degree in a semester are to be considered separately.
- viii) A student shall maintain an attendance of 75% in all registered courses under Honors to be eligible for attending semester end examinations.
- ix) A student registered for Honors shall pass in all subjects that constitute the requirement for the Honors degree program. No class/division (i.e., second class, first class and distinction, etc.) shall be awarded for Honors degree programme.
- x) If a student drops or is terminated from the Honors program, the additional credits so far earned cannot be converted into open or core electives; they will remain extra. However, such students will receive a separate grade sheet mentioning the additional courses completed by them.
- xi) The Honors will be mentioned in the degree certificate as Bachelor of Technology (Honors) in XYZ. For example, B.Tech. (Honors) in Mechanical Engineering.

**Enrolment into Honors:**

- i) Students of a Department/Discipline are eligible to opt for Honors program offered by the same Department/Discipline
- ii) The enrolment of student into Honors is based on the CGPA obtained in the major degree program. CGPA shall be taken up to III semester in case of regular entry students and only III semester in case of lateral entry students. Students having 7 CGPA without any backlog subjects will be permitted to register for Honors.
- iii) If a student is detained due to lack of attendance either in Major or in Honors, registration shall be cancelled.
- iv) Transfer of credits from Honors to regular B. Tech degree and vice-versa shall not be permitted.
- v) Honors is to be completed simultaneously with a Major degree program.
- vi) If a student fails in any Honors course, he / she shall be permitted to appear for a supplementary examination through MOOCs (Swayam NPTEL) or through offline Mode. However, the student must complete all Honors courses within a regular period of study. Failure to do so will result in automatic cancellation of the student's registration for the Honors Program

**Registration for Honors:**

- i) The eligible and interested students shall apply through the HOD of his/her parent department. The whole process should be completed within one week before the start of every semester. Selected students shall be permitted to register the courses under Honors.
- ii) The selected students shall submit their willingness to the principal through his/her parent department offering Honors. The parent department shall maintain the record of student pursuing the Honors.
- iii) The students enrolled in the Honors courses will be monitored continuously. An

advisor/mentor from parent department shall be assigned to a group of students to monitor the progress.

- iv) There is no fee for registration of subjects for Honors program offered in offline at the respective institutions.

### **17. Attendance Requirements:**

- i) A student shall be eligible to appear for the End semester examinations if he/she acquires a minimum of 40% attendance in each subject and 75% of attendance in aggregate of all the subjects. b) Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester may be granted by the College Academic Committee.
- ii) Shortage of Attendance below 65% in aggregate shall in NO CASE be condoned.
- iii) A stipulated fee shall be payable towards condonation of shortage of attendance to the Institution.
- iv) Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examination of that class and their registration shall stand cancelled.
- v) A student will not be promoted to the next semester unless he satisfies the attendance requirements of the present semester. They may seek readmission for that semester from the date of commencement of class work.
- vi) If any candidate fulfils the attendance requirement in the present semester, he shall not be eligible for readmission into the same class.
- vii) If the learning is carried out in blended mode (both offline & online), then the total attendance of the student shall be calculated considering the offline and online attendance of the student.
- viii) For induction programme attendance shall be maintained as per AICTE norms.

### **18. Promotion Rules:**

The following academic requirements must be satisfied in addition to the attendance requirements mentioned in section 16.

- i) A student shall be promoted from first year to second year if he/she fulfils the minimum attendance requirement as per Institution norms.
- ii) A student will be promoted from II to III year if he/she fulfils the academic requirement of securing 40% of the credits (any **decimal** fraction should be **rounded off** to **lower** digit) up to in the subjects that have been studied up to III semester.
- iii) A student shall be promoted from III year to IV year if he/she fulfils the academic requirements of securing 40% of the credits (any **decimal** fraction should be **rounded off** to **lower** digit) in the subjects that have been studied up to V semester.

And in case a student is detained for want of credits for a particular academic year by ii) & iii) above, the student may make up the credits through supplementary examinations and only after securing the required credits he/she shall be permitted to join in the V semester or VII semester respectively as the case may be.

- iv) When a student is detained due to lack of credits/shortage of attendance he/she may be re-admitted when the semester is offered after fulfilment of academic regulations. In such case, he/she shall be in the academic regulations into which he/she is readmitted.

## **19. Grading:**

As a measure of the student's performance, a 10-point Absolute Grading System using the following Letter Grades and corresponding percentage of marks shall be followed:

After each course is evaluated for 100 marks, the marks obtained in each course will be converted to a corresponding letter grade as given below, depending on the range in which the marks obtained by the student fall.

### **Structure of Grading of Academic Performance**

Range in which the marks in the subject fall	Grade	Grade points
		Assigned
90 & above	S(Superior)	10
80 - 89	A(Excellent)	9
70 - 79	B(Very Good)	8
60 - 69	C (Good)	7
50 - 59	D (Average)	6
40 - 49	E (Pass)	5
< 40	F (Fail)	0
Absent	Ab (Absent)	0

- A student obtaining Grade 'F' or Grade 'Ab' in a subject shall be considered failed and will be required to reappear for that subject when it is offered the next supplementary examination.
- For non-credit audit courses, only "P" (Pass) or "F" (Fail) shall be indicated and will not be counted for the computation of SGPA/CGPA/Percentage.

Computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

The Semester Grade Point Average (SGPA) is the ratio of sum of the product of the number of credits with the grade point scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.,

$$SGPA = \frac{\sum(C_i \times G_i)}{\sum C_i}$$



Where,  $C_i$  is the number of credits of the  $i^{\text{th}}$  subject and  $G_i$  is the grade point scored by the student in the  $i^{\text{th}}$  course.

The Cumulative Grade Point Average (CGPA) will be computed in the same manner considering all the courses undergone by a student over all the semesters of a Program, i.e.,

$$\text{CGPA} = \frac{\sum(C_i \times S_i)}{\sum C_i}$$

Where “ $S_i$ ” is the SGPA of the  $i^{\text{th}}$  semester and  $C_i$  is the total number of credits up to that semester.

Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

While computing the SGPA the subjects in which the student is awarded Zero grade points will also be included.

Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.

Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by the letters S, A, B, C, D and F.

### Award of Class:

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. Tech. Degree, he/she shall be placed in one of the following four classes:

Class Awarded	CGPA Secured
First Class with Distinction	$\geq 7.5$ & $\leq 10.0$
First Class	$\geq 6.5$ & $< 7.5$
Second Class	$\geq 5.5$ & $< 6.5$
Pass Class	$\geq 5.0$ & $< 5.5$

**CGPA to Percentage conversion Formula = (CGPA – 0.5) x 10**

### 20. With-holding of Results

If the candidate has any dues not paid to the Institution or if any case of indiscipline or malpractice is pending against him/her, the result of the candidate shall be withheld in such cases.

### 21. Multiple Entry / Exit Option

#### (a) Exit Policy:

The students can choose to exit the four-year programme at the end of First/Second/Third year.

#### i) UG Certificate in (Field of study/discipline) –

Programme duration: First year (first two semesters) of the undergraduate programme, 40 credits followed by an additional exit 10-credit bridge course(s) lasting two months, including at least 6- credit job-specific internship/

apprenticeship that would help the candidates acquire job-ready competencies required to enter the workforce.

ii) **UG Diploma (in Field of study/discipline) –**

Programme duration: First two years (first four semesters) of the undergraduate programme, 80 credits followed by an additional exit 10-credit bridge course(s) lasting two months, including at least 6- credit job-specific internship/apprenticeship that would help the candidates acquire job-ready competencies required to enter the workforce.

iii) **Bachelor of Science (in Field of study/discipline) i.e., B.Sc. Engineering in (Field of study/discipline)-**

Programme duration: First three years (first six semesters) of the undergraduate programme, 120 credits.

**(b) Entry Policy:**

Modalities on multiple entry by the student into the B.Tech. programme will be Provided in due course of time.

**Note:** The Universities shall resolve any issues that may arise in the implementation of Multiple Entry and Exit policies from time to time and shall review the policies in the light of periodic changes brought by UGC, AICTE and State government.

**22. Gap Year Concept:**

Gap year concept for Student Entrepreneur in Residence is introduced and outstanding students who wish to pursue entrepreneurship / become entrepreneur are allowed to take a break of one year at any time after II year to pursue full-time entrepreneurship programme/to establish start-ups. This period may be extended to two years at the most and these two years would not be counted for the time for the maximum time for graduation. The principal of the respective college shall forward such proposals submitted by the students to the University. An evaluation committee constituted by the University shall evaluate the proposal submitted by the student and the committee shall decide whether to permit the student(s) to avail the Gap Year or not

**23. Transitory Regulations**

Discontinued, detained, or failed candidates are eligible for readmission as and when the semester is offered after fulfilment of academic regulations. Candidates who have been detained for want of attendance or not fulfilled academic requirements or who have failed after having undergone the course in earlier regulations or have discontinued and wish to continue the course are eligible for admission into the unfinished semester from the date of commencement of class work with the same or equivalent subjects as and when subjects are offered, subject to Section 2 and they will follow the academic regulations into which they are readmitted.

Candidates who are permitted to avail Gap Year shall be eligible for re-joining into the succeeding year of their B. Tech from the date of commencement of class work, subject to Section 2 and they will follow the academic regulations into which they are readmitted.

**24. Minimum Instruction Days for a Semester:**

The minimum instruction days including exams for each semester shall be 90 days.

**25. Medium of Instruction:**

The medium of instruction of the entire B. Tech undergraduate programme in Engineering & Technology (including examinations and project reports) will be in English only.

**26. Student Transfers:**

Student transfers shall be as per the guidelines issued by the Government of Andhra Pradesh and the Universities from time to time.

**27. General Instructions:**

- i. The academic regulations should be read as a whole for purpose of any interpretation.
- ii. Malpractices rules-nature and punishments are appended.
- iii. Where the words “he”, “him”, “his”, occur in the regulations, they also include “she”, “her”, “hers”, respectively.
- iv. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.
- v. The Universities may change or amend the academic regulations or syllabi at any time and the changes or amendments shall be made applicable to all the students on rolls with effect from the dates notified by the Universities.
- vi. In the case of any doubt or ambiguity in the interpretation of the guidelines given, the decision of the Vice-Chancellor / Head of the institution is final.

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## ACADEMIC REGULATIONS (R23)

### FOR B.TECH. (LATERAL ENTRY SCHEME)

*(Effective for the students admitted into II year through Lateral Entry Scheme from the Academic Year 2024-25 onwards)*

#### 1. Award of the Degree

(a) Award of the B.Tech. Degree / B.Tech. Degree with a Minor if he/she fulfils the following:

- (i) Pursues a course of study for not less than three academic years and not more than six academic years. However, for the students availing Gap year facility this period shall be extended by two years at the most and these two years would be in addition to the maximum period permitted for graduation (Six years).
- (ii) Registers for 120 credits and secures all 120 credits.

(b) Award of B.Tech. degree with Minor/Honors if he/she fulfils the following:

- (i) Student secures additional 18 credits fulfilling all the requisites of a B.Tech. program i.e., 120 credits.
- (ii) Registering for Minor/Honors is optional.
- (iii) Minor/ Honors is to be completed simultaneously with B.Tech. Programme.

2. Students, who fail to fulfil the requirement for the award of the degree within six consecutive academic years from the year of admission, shall forfeit their seat.

#### 3. Minimum Academic Requirements

The following academic requirements have to be satisfied in addition to the requirements mentioned in item no.2

- i. A student shall be deemed to have satisfied the minimum academic requirements and earned the credits allotted to each theory, practical, design, drawing subject or project if he secures not less than 35% of marks in the end examination and a minimum of 40% of marks in the sum total of the mid semester evaluation and end examination taken together.
- ii. A student shall be promoted from III year to IV year if he/she fulfils the academic requirements of securing 40% of the credits (any decimal fraction should be rounded off to lower digit) in the subjects that have been studied up to V semester.

And in case if student is already detained for want of credits for particular academic year, the student may make up the credits through supplementary exams of the above exams before the commencement of IV year I semester class work of next year.

#### 4. Course Pattern

- i) The entire course of study is three academic years on semester pattern.
- ii) A student eligible to appear for the end examination in a subject but absent at it or has failed in the end examination may appear for that subject at the next supplementary examination offered.

- iii) When a student is detained due to lack of credits/shortage of attendance the student may be re-admitted when the semester is offered after fulfilment of academic regulations, the student shall be in the academic regulations into which he/she is readmitted.

5. All other regulations as applicable for B. Tech. Four-year degree course (Regular) will hold good for B. Tech. (Lateral Entry Scheme).

### **Disciplinary Action for Malpractices / Improper Conduct in Examinations**

	<b>Nature of Malpractices/Improper conduct</b>	<b>Punishment</b>
	<b><i>If the candidate:</i></b>	
<b>1. (a)</b>	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers, blue tooth or any other form of material concerned with or related to the course of the examination (theory or practical) in which he/she is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the course of the examination)	Expulsion from the examination hall and cancellation of the performance in that course only.
<b>(b)</b>	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the examination hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that course only of all the candidates involved. In case of an outsider, he/she will be handed over to the police and a case is registered against him.
<b>2.</b>	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the course of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the courses of that Semester/year. The Hall Ticket of the candidate is to be cancelled.
<b>3.</b>	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from examination hall. The candidate is also debarred for four

		consecutive semesters from class work and all end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. The performance of the original candidate, who has been impersonated, shall be cancelled in all the courses of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining courses of that Semester/year. The candidate is also debarred for four consecutive Semesters from class work and all Semester end examinations if his involvement is established. Otherwise the candidate is debarred for two consecutive semesters from class work and all end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. However the final decision shall be taken by the Chief Superintendent based on the recommendations of a committee nominated by the Principal. If the imposter is an outsider, he/she will be handed over to the police and a case is registered against him.
<b>4.</b>	Smuggles in the Answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that course and all the other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred for two consecutive Semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
<b>5.</b>	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that course.
<b>6.</b>	Refuses to obey the orders of the any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that course and all other courses the candidate(s)

	or instigates others to walk out, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the College campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	has (have) already appeared and shall not be permitted to appear for the remaining examinations of the courses of that Semester. If candidate physically assaults the invigilator or/ officer in charge of the examination, then the candidate is also barred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
<b>7.</b>	Leaves the examination hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that course and all the other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred for two consecutive Semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
<b>8.</b>	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred and forfeits the seat.
<b>9.</b>	If student of the college, who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the colleges expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of

		that Semester/year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the College will be handed over to police and, a police case will be registered against them.
<b>10.</b>	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year.
<b>11.</b>	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that course and all other courses the candidate has appeared including practical examinations and project work of that Semester examinations depending on the recommendation of the committee.
<b>12.</b>	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the Principal for further action to award suitable punishment.	

**Note:** Whenever the performance of a student is cancelled in any course/ courses due to Malpractice, he/she has to register for the End semester examination in that particular course/s consequently and has to fulfill all the norms required for award of Degree