

**AMRITA SAI INSTITUTE OF SCIENCE AND TECHNOLOGY**  
**(AUTONOMOUS)**

**AICTE approved, NAAC accredited, ISO 9001 – 2015 certified Institution**  
**& Permanent affiliation to JNTUK Kakinada**

**ACADEMIC REGULATIONS (AR22)**



For

**B.Tech FOUR YEAR DEGREE COURSE**

**(Applicable for the batches admitted from 2022-23)**

**Sponsored by**

**AMRITA SAI EDUCATIONAL IMPROVEMENT TRUST**

# ACADEMIC REGULATIONS (AR20) FOR B. TECH. (REGULAR/LATERAL)

## INTRODUCTION:

All the academic UG programs of the institute are governed by the rules and regulation of Amrita Sai Institute of Science & Technology, Paritala. These rules and regulations are applicable to all the students to this institute from academic year **2022-23** onwards for Regular and **2023-24** onwards for Lateral Entry Scheme.

## 1. PROGRAMS OFFERED:

The college is offering B.Tech Degree program in the following disciplines with English medium of Instruction.

SNO	BRANCH	CODE
01	Civil Engineering	CE
02	Electrical and Electronics Engineering	EE
03	Mechanical Engineering	ME
04	Electronics and Communication Engineering	EC
05	Computer Science and Engineering	CS
06	CSE (DATA SCIENCE)	CSD
07	CSE (BIG DATA ANALYTICS)	CBA
08	CSE (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)	CSM
09	CSE (IOT & CYBER SECURITY INCLUDING BLOCK CHAIN TECHNOLOGY)	CIC

## 2. ELIGIBILITY CRITERIA FOR ADMISSION:

The eligibility criteria for admission into first year of B.Tech. programs shall be as mentioned below:

- The Candidate shall be an Indian National.
- The Candidate should have passed the qualifying examination Intermediate with Mathematics, Physics and Chemistry as optional subjects or any equivalent examination recognized by JNTUK, Kakinada on the date of admission.
- Seats in each program in the college are classified into CATEGORY-A (70% of intake), and CATEGORY-B (30% of intake) besides Lateral Entry.
  - **CATEGORY- A Seats:**  
These seats will be filled by the Convener, EAMCET admissions conducted by Government of Andhra Pradesh.
  - **CATEGORY- B Seats:**  
These seats will be filled by the college as per the guidelines of Andhra Pradesh State Council of Higher Education.
  - **CATEGORY – Lateral Entry Seats:**  
Additional seats of 10% of the sanctioned intake in each branch shall be filled up in the third semester directly based on the rank secured by the candidates in Engineering Common Entrance Test (ECET- FDH) in accordance with the instructions received from the Convener, ECET and Government of Andhra Pradesh.

# BASIC STRUCTURE FOR ENGINEERING BRANCHES

## SEMESTER I (FIRST YEAR)

SNo	Category	Hours per week			Credits
		L	T	P	
1	Basic Science course	3	0	0	3
2	Basic Science course	3	0	0	3
3	Humanities and Social science	3	0	0	3
4	Engineering Science Courses	1	0	4	3
5	Engineering Science Courses	3	0	0	3
6	Humanities and Social science LAB	0	0	3	1.5
7	Basic Science course (LAB)	0	0	3	1.5
8	Engineering Science Courses (LAB)	0	0	3	1.5
<b>TOTAL CREDITS</b>					<b>19.5</b>

Category	CREDITS
Basic Science course	7.5
Engineering Science Courses	7.5
Humanities and social science	4
<b>TOTAL CREDITS</b>	<b>19.5</b>

## SEMESTER II (FIRST YEAR)

SNo	Category	Hours per week			Credits
		L	T	P	
1	Basic Science courses	3	0	0	3
2	Basic Science courses	3	0	0	3
3	Engineering Science Courses	3	0	0	3
4	Engineering Science Courses	3	0	0	3
5	Engineering Science Courses	1	0	4	3
6	Engineering Science Courses (LAB)	0	0	3	1.5
7	Basic Science course (LAB)	0	0	3	1.5
8	Engineering Science Courses (LAB)	0	0	3	1.5
	Mandatory course (AICTE suggested)	2	0	0	0
<b>TOTAL CREDITS</b>					<b>19.5</b>

Category	CREDITS
Basic Science course	7.5
Engineering Science Courses	12
<b>TOTAL CREDITS</b>	<b>19.5</b>

### **SEMESTER III (SECOND YEAR)**

SNo	Category	Hours per week			Credits
		L	T	P	
1	Basic Science courses	3	0	0	3
2	Professional Core Course	3	0	0	3
3	Professional Core courses	3	0	0	3
4	Professional Core courses	3	0	0	3
5	Professional Core courses	3	0	0	3
6	Professional Core courses (LAB)	0	0	3	1.5
7	Professional Core courses (LAB)	0	0	3	1.5
8	Professional Core courses (LAB)	0	0	3	1.5
	Skill oriented course*	1	0	2	2
	Mandatory course (AICTE suggested)	2	0	0	0
<b>TOTAL CREDITS</b>					<b>21.5</b>

Category	CREDITS
Basic Science course	3
Professional core Courses	16.5
Skill oriented course*	2
<b>TOTAL CREDITS</b>	<b>21.5</b>

### **SEMESTER IV (SECOND YEAR)**

SNo	Category	Hours per week			Credits
		L	T	P	
1	Engineering Science Courses	3	0	0	3
2	Basic Science Course /Prof core course	3	0	0	3
3	Professional Core courses	3	0	0	3
4	Professional Core courses	3	0	0	3
5	Humanities and Social Sciences	3	0	0	3
6	Engineering Science Courses/Prof Core (Interdisciplinary) (LAB)	0	0	3	1.5
7	Professional Core courses (LAB)	0	0	3	1.5
8	Professional Core courses (LAB)	0	0	3	1.5
	Skill oriented course*	1	0	2	2
<b>TOTAL CREDITS</b>					<b>21.5</b>
<b>Internship 2 Months (Mandatory) during summer vacation</b>					

Category	CREDITS
Basic Science Courses	3
Professional core Courses	9
Engineering Science Courses	4.5
Skill oriented course*	2
Humanities and Social Sciences	3
<b>TOTAL CREDITS</b>	<b>21.5</b>

## SEMESTER V (THIRD YEAR)

SNo	Category	Hours per week			Credits
		L	T	P	C
1	Professional Core courses	3	0	0	3
2	Professional Core courses	3	0	0	3
3	Professional Core courses	3	0	0	3
4	Open Elective Course/Job oriented elective	2	0	2	3
5	Professional Elective courses	3	0	0	3
6	Professional Core courses Lab	0	0	3	1.5
7	Professional Core courses Lab	0	0	3	1.5
	Skill advanced course/ soft skill course*	1	0	2	2
	Mandatory course (AICTE suggested)	2	0	0	0
Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)		0	0	0	1.5
<b>TOTAL CREDITS</b>					<b>21.5</b>

Category	CREDITS
Professional core Courses	12
Professional Elective courses	3
Open Elective Course/Job oriented elective	3
Skill advanced course/ soft skill course*	2
Summer Internship	1.5
<b>TOTAL CREDITS</b>	<b>21.5</b>

## SEMESTER VI (THIRD YEAR)

SNo	Category	Hours per week			Credits
		L	T	P	C
1	Professional Core courses	3	1	0	3
2	Professional Core courses	3	0	0	3
3	Professional Core courses	3	0	0	3
4	Professional Elective courses	3	0	0	3
5	Open Elective Course/Job oriented elective	2	0	2	3
6	Professional Core courses Lab	0	0	3	1.5
7	Professional Core courses Lab	0	0	3	1.5
8	Professional Core courses Lab	0	0	3	1.5
	Skill advanced course/ soft skill course*	1	0	2	2
	Mandatory course (AICTE)	2	0	0	0
<b>TOTAL CREDITS</b>					<b>21.5</b>
<b>Industrial/Research Internship (Mandatory) 2 Months during summer vacation</b>					

Category	CREDITS
Professional core courses	13.5
Professional Elective courses	3
Open Elective Course/Job oriented elective	3
Skill advanced course/ soft skill course*	2
Mandatory course (AICTE)	0
Industrial/Research Internship (Mandatory) 2 Months	-
<b>TOTAL CREDITS</b>	<b>21.5</b>

## SEMESTER VII (FOURTH YEAR)

Sno	Category	Hours per week			Credits
		L	T	P	C
1	Professional Elective courses	3	0	0	3
2	Professional Elective courses	3	0	0	3
3	Professional Elective courses	3	0	0	3
4	Open Elective Courses/ Job oriented elective	2	0	2	3
5	Open Elective Courses/ Job oriented elective	2	0	2	3
6	*Humanities and Social Science Elective	3	0	0	3
	Skill advanced course/ soft skill course*	1	0	2	2
Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester)		0	0	0	3
<b>TOTAL CREDITS</b>					<b>23</b>

Category	CREDITS
Professional Elective courses	9
Open Elective Course/Job oriented elective	6
Humanities and Social Science Elective	3
<b>Skill advanced course/ soft skill course*</b>	2
Industrial/Research Internship	3
<b>TOTAL CREDITS</b>	<b>23</b>

## SEMESTER VIII (FOURTH YEAR)

SNo	Category	Hours per week			Credits
		L	T	P	C
1	Major Project	0	0	0	12
<b>INTERNSHIP (6 MONTHS)</b>					
<b>TOTAL CREDITS</b>					<b>12</b>

# **CURRICULAR FRAMEWORK FOR B.TECH PROGRAMME**

## **1. Award of the Degree:**

A student will be declared eligible for the award of B. Tech. degree if he/she fulfills the following academic regulations:

- i. Pursues a course of study in not less than four and not more than eight academic years.
- ii. After eight academic years from the year of their admission, he/she shall forfeit their seat in B. Tech course and their admission stands cancelled.
- iii. Registers for 160 credits and must secure all the 160 credits.
- iv. A student shall be eligible for the award of B.Tech degree with Honors or Minor if he/she earns 20 credits in addition to the 160 credits. A student shall be permitted to register either for Honors or for Minor and not for both simultaneously.
- v. The medium of instruction for the entire under graduate programme in Engineering & Technology will be in **English** only.

## **2. Programme Pattern:**

- a) Total duration of the of B. Tech (Regular) Programme is four academic years
- b) Each Academic year of study is divided into **Two Semesters**.
- c) Minimum number of instruction days in each semester is 90.
- d) Grade points, based on percentage of marks awarded for each course will form the basis for calculation of SGPA (Semester Grade Point Average) and CGPA (Cumulative Grade Point Average).
- e) The total credits for the Programme is 160.
- f) Three week induction program is mandatory for all first year UG students and shall be conducted as per AICTE/UGC/APSCHE guidelines.
- g) **Student is introduced to “Choice Based Credit System (CBCS)”.**
- h) A pool of interdisciplinary and job-oriented mandatory skill courses which are relevant to the industry are integrated into the curriculum of concerned branch of engineering (total five skill courses: two basic level skill courses, one on soft skills and other two on advanced level skill courses)
- i) **A student has to register for courses in advance for semester subjected to maximum 28 credits.**
- j) All the registered credits will be considered for the calculation of final CGPA.
- k) **Each semester has - ‘Continuous Internal Evaluation (CIE)’ and ‘Semester End Examination (SEE)’. Choice Based Credit System (CBCS) as indicated by UGC and course structure as suggested by AICTE are followed.**
- l) Each department shall assign a faculty advisor/mentor after admission to each student or group of students from same department to provide guidance in courses registration/career growth/placements/opportunities for higher studies/GATE/other competitive exams etc.

## **3. Registration for courses:**

- a) **In each semester Head of the department will open registration process by offering the list of courses. All students shall mandatorily register courses which he/she wishes to pursue before starting of the semester whenever registrations are opened with the advice of Head of the Department and mentor of the student of the concerned department of the college.**
- b) **If any student wishes to withdraw the registration of the course, he/she shall submit a letter to the Principal of the college through the Head of the Department and mentor within fifteen days.**
- c) **The concerned department shall thoroughly verify and upload the data/courses registered by each student in the examination center within one week. The HOD of the concerned department shall ensure that there no wrong registration courses by the student and ensure that foundation courses must be completed. The registrations will be closed within a week of time.**

#### 4. Structure of the Undergraduate Engineering program:

Every course of B. Tech. Program shall be placed in one of the fifteen categories as listed in table below:

SNO	DESCRIPTION		NUMBER	CREDIT PER ONE	CREDITS		
01	THEORY	BASIC SCIENCE COURSES	05	36	03	15	105
02		HUMANITIES & SOCIAL SCIENCE COURSES	02		03	06	
03		ENGINEERING SCIENCE COURSES	06		03	18	
04		PROFESSIONAL CORE COURSES	13		03	39	
05		PROFESSIONAL ELECTIVES	05		03	15	
06		OPEN ELECTIVES/JOB ORIENTED ELECTIVES	04		03	12	
07		HUMANITIES & SOCIAL SCIENCE ELECTIVE	01		03	03	
08	PRACTICALS	HUMANITIES & SOCIAL SCIENCE LAB	01	17	1.5	1.5	25.5
19		BASIC SCIENCE COURSE LAB	02		1.5	03	
10		ENGINEERING SCIENCE COURSE LAB	04		1.5	06	
11		PROFESSIONAL CORE COURSE LAB	10		1.5	15	
12	INTERNSHIPS		02	1.5+3	4.5		
13	MANDATORY COURSES		04	0	0		
14	SKILL ORIENTED PROGRAMS		05	2	10		
15	MAJOR PROJECT/INTERNSHIP		01	12	12		
<b>TOTAL</b>			<b>65</b>		<b>160</b>		

#### SEMESTER WISE STRUCTURE:

YEAR	SEM	THEORY (03 CREDITS)	LAB (1.5 CREDITS)	SOP (02 CREDITS)	INTERNSHIP (1.5+3 CREDITS)	PROFESSIONAL ELECTIVES (03 CREDITS)	OPEN ELECTIVES (03 CREDITS)	PROJECT (12 CREDITS)	H&S ELECTIVE (03 CREDITS)	TOTAL CREDITS
I	I	15	4.5	00	00	00	00	00	00	19.5
	II	15	4.5	00	00	00	00	00	00	19.5
II	III	15	4.5	02	00	00	00	00	00	21.5
	IV	15	4.5	02	00	00	00	00	00	21.5
III	V	09	03	02	1.5	03	03	00	00	21.5
	VI	09	4.5	02	00	03	03	00	00	21.5
IV	VII	00	00	02	03	09	06	00	03	23
	VIII	00	00	00	00	00	00	12	00	12
<b>TOTAL</b>		<b>78</b>	<b>25.5</b>	<b>10</b>	<b>4.5</b>	<b>15</b>	<b>12</b>	<b>12</b>	<b>03</b>	<b>160</b>



## 5. Assigning of Credits:

1 Hr. Lecture (L) per week	-	1 credit
1 Hr. Tutorial (T) per week	-	1 credit
1 Hr. Practical (P) per week	-	0.5 credits
2 Hours Practical (Lab)/week	-	1 credit

**6. (a) Award of B.Tech Degree:** A student will be declared eligible for the award of B.Tech Degree if he/she fulfills the following academic regulations.

- (i) A student shall be declared eligible for award of the B. Tech Degree, if he pursues a course of study in not less than four and not more than eight academic years. After eight academic years from the year of their admission, he/she shall **forfeit** their seat in B. Tech course and their admission stands cancelled.
- (ii) The student shall register for 160 credits and must secure all the 160 credits.
- (iii) Credits are defined as per AICTE norms.

**(b) Award of B. Tech. (Honor)/B. Tech. (Minor):** B. Tech. with Honors or a B. Tech. with a Minor will be awarded if the student earns 20 additional credits are acquired as per the regulations/guidelines. The regulations/guidelines are separately provided. Registering for an Honors/Minor is optional.

## 7. Attendance Requirements

- (a) A student is eligible to write the semester end examinations if he/she acquires a minimum 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%) may be granted by the College Academic Committee. However, this condonation concession is applicable only to any two semesters during the entire programme.
- (c) Shortage of Attendance below 65% in aggregate shall not be condoned.
- (d) A student who is short of attendance in a semester may seek re-admission into that semester when offered within 4 weeks from the date of commencement of class work.
- (e) Students whose shortage of attendance is not condoned in any semester are not eligible to write their end semester examination of that class.
- (f) A stipulated fee of Rs. 700/- in the concerned semester shall be payable towards condonation of shortage of attendance. Students availing condonation on medical ground shall produce a medical certificate issued by the competitive authority.
- (g) A student will be promoted to the next semester if he satisfies the (i) attendance requirement of the present semester and (ii) minimum required credits.
- (h) If any candidate fulfills the attendance requirement in the present semester, he shall not be eligible for readmission into the same class.
- (i) For induction programme attendance shall be maintained as per AICTE norms.
- (j) For non-credit mandatory courses the students shall maintain the attendance similar to credit courses

## 8. Evaluation – Distribution and Weightage of marks:

- (a) Paper setting and evaluation of the answer scripts shall be done as per the procedures laid down by the University Examination section from time to time.
- (b) To maintain the quality, external examiners and question paper setters shall be selected from reputed institutes.
- (c) For non-credit mandatory courses, like Environmental Sciences, Universal Human Values, Ethics, Indian Constitution, Essence of Indian Traditional Knowledge, the student has to secure 40% of the marks allotted in the internal evaluation for passing the course. No marks or letter grade shall be allotted for all mandatory non-credit courses.
- (d) A student is deemed to have satisfied the minimum academic requirements if he has earned the credits allotted to each theory/practical design/drawing subject/ project etc by securing not less than 35% of marks in the end semester exam and minimum 40% of marks in the sum total of the internal marks and end semester examination marks together.
- (e) **Distribution and Weightage of marks:**  
The assessment of the student's performance in each course will be as per the details given:

SNO	COMPONENTS	INTERNAL	EXTERNAL	TOTAL
01	THEORY	30	70	100
02	PRACTICAL	15	35	50
03	MINI PROJECT/INTERNSHIP/INDUSTRIAL TRAINING/ SKILL DEVELOPMENT PROGRAMMES/RESEARCH PROJECT	---	50	50
04	PROJECT WORK	60	140	200

**(f) Continuous Internal Theory Evaluation:**

- (i) For theory subjects, during a semester, there shall be two mid-term examinations. Each mid-term examination consists of one descriptive examination (3 full questions for 5 marks each) for 15 marks for duration of 90 minutes.
- (ii) Surprise exams will be conducted by the concerned staff on any day and average of all these surprise exams will be evaluated for 10 marks.
- (iii) The total marks secured by the student in each mid-term examination are evaluated for 15 marks. The first mid marks (Mid-1) consisting of marks of descriptive examination shall be submitted to the examination section within one week after completion of first mid examination.
- (iv) The mid marks submitted to the examination section shall be displayed in the concerned department notice boards for the benefit of the students.
- (v) If any discrepancy found in the submitted Mid-1 marks, it shall be brought to the notice of examination section within one week from the submission.
- (vi) Second mid marks (Mid-2) consisting of marks of objective examination and descriptive examination shall also be submitted to examination section within one week after completion of second mid examination and it shall be displayed in the notice boards. If any discrepancy found in the submitted mid-2 marks, it shall be brought to the notice of examination section within one week from the submission.
- (vii) Each student should submit the assignment work given by the concerned staff and present the same in PPT. The prepared PPT will be evaluated by the concerned subject faculty for 05 marks. These evaluated marks should be added in final internal marks.
- (viii) Internal marks can be calculated with 80% weightage for better of the two mids and 20% Weightage for other mid exam.  
Example:  
**Mid-1 marks** = Marks secured in (descriptive examination-1)  
**Mid-2 marks** = Marks secured in (descriptive examination-2)  
**Final internal Marks** = (Best of (Mid-1/Mid-2) marks x 0.8 + Least of (Mid-1/Mid-2) marks x 0.2) + Average of Surprise exams+ Average of PPT evaluated marks
- (ix) With the above criteria, examination section will send mid marks of all subjects in consolidated form to all the concerned departments and same shall be displayed in the concerned department notice boards. If any discrepancy found, it shall be brought to the notice of examination section through proper channel within one week with all proofs. Discrepancies brought after the given deadline will not be entertained under any circumstances.

**(g) Semester end theory examination evaluation:**

- (i) The semester end examinations will be conducted examination section for 70 marks consists of Part-A & Part-B. In part-A five questions carrying 02 marks each. In part-B five questions carrying 12 marks each. Each of these questions is from one unit and may contain sub-questions. For each question there will be an “either” “or” choice, which means that there will be two questions from each unit and the student should answer either of the two questions.
- (ii) For practical subjects there shall be continuous evaluation during the semester for 15 internal marks and 35 end examination marks. The internal 15 marks shall be awarded as follows: day to day work - 5 marks, Record-5 marks and the remaining 5 marks to be awarded by conducting an internal laboratory test. The end examination shall be conducted by the teacher concerned and external examiner appointed.
- (iii) For the subject having design and / or drawing, (such as Engineering Graphics, Engineering Drawing, Machine Drawing) and estimation, the distribution shall be 30 marks for internal evaluation (15 marks for continuous Assessment (day-to-day work) and 15 marks for internal

tests) and 70 marks for end examination. There shall be two internal tests in a Semester for 15 marks each and final marks can be calculated with 80% weightage for better of the two tests and 20% weightage for other test and these are to be added to the marks obtained in day to day work.

(iv) Evaluation of the summer internships: It shall be completed in collaboration with local industries, Govt. Organizations, construction agencies, Industries, Hydel and thermal power projects and also in software MNCs in the area of concerned specialization of the UG programme. Students shall pursue this course during summer vacation just before its offering as per course structure. The minimum duration of this course is at least 4 weeks. The student shall register for the course as per course structure after commencement of academic year. A supervisor/mentor/advisor has to be allotted to guide the students for taking up the summer internship. The supervisor shall monitor the attendance of the students while taking up the internship. Attendance requirements are as per the norms of the institution. After successful completion, students shall submit a summer internship technical report to the concerned department and appear for an oral presentation before the departmental committee consists of an external examiner; Head of the Department; supervisor of the internship and a senior faculty member of the department. A certificate from industry/skill development center shall be included in the report. The report and the oral presentation shall carry 40% and 60% weightages respectively. It shall be evaluated for 50 external marks at the end of the semester. 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 exam section

(iv) The job oriented skill courses may be registered at the college or at any accredited external agency. A student shall submit a record/report on the on the list skills learned. If the student completes job oriented skill course at external agency, a certificate from the agency shall be included in the report. The course will be evaluated at the end of the semester for 50 marks (record: 15 marks and viva-voce: 35 marks) along with laboratory end examinations in the presence of external and internal examiner (course instructor or mentor). There are no internal marks for the job oriented skill courses.

(v) Mandatory Course (M.C): Environmental Sciences, Universal Human Values, Ethics, Indian Constitution, Essence of Indian Traditional Knowledge etc non-credit (zero credits) mandatory courses. Environmental Sciences shall be offered compulsorily as mandatory course for all branches. A minimum of 75% attendance is mandatory in these subjects. There shall be an external examination for 70 marks and it shall be conducted by the college internally. Two internal examinations shall be conducted for 30 marks and a student has to secure at least 40% of the marks for passing the course. There is no online internal exam for mandatory courses. No marks or letter grade shall be printed in the transcripts for all mandatory non-credit courses, but only Completed (Y)/Not-completed (N) will be specified.

(vi) **Procedure to conduct and evaluation of SWAYAM/MOOC:** There shall be a Discipline Centric Elective Course through SWAYAM/MOOC as Program Elective course. The student shall register for the course (Minimum of 12 weeks) offered by SWAYAM/NPTEL through online with the approval of Head of the Department. The Head of the Department shall appoint one mentor for each of the SWAYAM/MOOC subjects offered. The student needs to register the course in the SWAYAM/NPTEL portal. During the course, the mentor monitors the student's assignment submissions given by SWAYAM/NPTEL. The student needs to submit all the assignments given and needs to take final exam at the proctor center. The student needs to earn a certificate by passing the exam. The student will be awarded the credits given in curriculum only by submission of the certificate. In case if student does not pass subjects registered through SWAYAM/NPTEL, the same or alternative equivalent subject may be registered again through SWAYAM/NPTEL in the next semester with the recommendation of HOD and shall be pass.

(vii) **Major Project (Project - Project work, seminar and internship in industry):**

In the final semester, the student should mandatorily register and undergo internship 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.

**Evaluation:** 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 and is evaluated for 140 marks.

**9. Recounting or Re-evaluation of Marks in the End Semester Examination:** A student can request for recounting of revaluation of his/her answer book on payment of a prescribed fee as per institution norms.

**10. Supplementary Examinations:** A student who has failed to secure the required credits can appear for a supplementary examination, as per the schedule announced by the institution.

**11. Malpractices in Examinations:** Disciplinary action shall be taken in case of malpractices during Mid/End examinations as per the rules framed by the institution.

**12. Promotion Rules:**

**For Regular Scheme:**

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no.7 for promotion to higher classes

(a) A student shall be promoted from first year to second year if he fulfills the minimum attendance requirement as per University norm.

(b) A student will be promoted from II year to III year if he fulfills the academic requirement of 40% of credits up to either II year I-Semester or II year II-Semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in II year II semester.

(c) A student shall be promoted from III year to IV year if he fulfills the academic requirements of 40% of the credits up to either III year I semester or III year II semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in III year II semester.

**For Lateral Entry Scheme:**

a) A student shall be promoted from second year to third year if he fulfills the minimum attendance requirements.

b) A student shall be promoted from III year to IV year if he fulfills the academic requirements of 40% of the credits up to either III year I semester or III year II semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in III year II semester.

**13. Course Pattern:**

(a) The entire course of study is for four academic years; all years are on semester pattern.

(b) A student eligible to appear for the end semester examination in a subject, but absent from it or has failed in the end semester examination, may write the exam in that subject when conducted next.

(c) When a student is detained for lack of credits / shortage of attendance, he may be re-admitted into the same semester/year in which he has been detained. However, the academic regulations under which he was first admitted shall continue to be applicable to him.

**14. Earning of Credit:**

A student shall be considered to have completed a course successfully and earned the credits if he/she secures an acceptable letter grade in the range A+ to E as given below. Letter grade 'F' in any course implies failure of the student in that course and no credits earned. Absent is also treated as no credits earned. For project same % percentages will be followed for grading.

Marks Range Theory (Max-100)	Marks Range Lab (Max-50)	Level	Letter Grade	Grade Point
≥ 90	≥ 45	Outstanding	A+	10
80-89	40-44	Excellent	A	9
70-79	35-39	Very Good	B	8

60-69	30-34	Good	C	7
50-59	25-29	Fair	D	6
40-49	20-24	Satisfactory	E	5
< 40	< 20	Fail	F	0
-		Absent	Ab	0

### 15. 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 shall be placed in one of the following four classes:

Class Awarded	CGPA to be secured	Remarks
First Class with Distinction	$\geq 7.75$ (Without any supplementary appearance)	From the CGPA secured from 160 Credits
First Class	$\geq 6.75$	
Second Class	$\geq 5.75$ to $< 6.75$	
Pass Class	$\geq 5.00$ to $< 5.75$	

### 16. Minimum Instruction Days:

The minimum instruction days for each semester shall be 90 working days. There shall be no branch transfers after the completion of the admission process.

### 17. Withholding of Results:

If the student is involved in indiscipline/malpractices/court cases, the result of the student will be withheld.

### 18. Transitory Regulations:

- Discontinued or detained candidates are eligible for re-admission as and when next offered.
- The re-admitted candidate will be governed by the rules & regulations under which the candidate has been admitted.
- A student, who is detained or discontinued in a semester, on readmission, the academic regulations under which he was first admitted will continue to be applicable to him on readmission. However, if a student is admitted in first year 2022-23 (AR22 Regulations) and detained in the first semester, he will be readmitted into I year I semester under the prevailing rules and regulations. The student has to give an undertaking that he is willing to join in AR24 regulations. However, the decision of the Academic Council will be final.

### 19. Gap – Year:

Gap Year concept of Student Entrepreneur in Residence shall be introduced and outstanding students who wish to pursue entrepreneurship are allowed to take a break of one year at any time after I/II/III year to pursue entrepreneurship full time. This period shall be counted for the maximum time for graduation. An evaluation committee at university level shall be constituted to evaluate the proposal submitted by the student and the committee shall decide on permitting the student for availing the Gap Year.

### 20. Advanced Supplementary Exams:

Student(s), who failed in theory/ laboratory courses of 4/4 B.Tech. in Eighth semester, can appear for advanced supplementary examinations to be conducted within one month after declaration of the revaluation results of 4/4 B.Tech. Eighth semester. However, those students who fail in these advanced supplementary examinations of 4/4 B.Tech shall appear for subsequent examinations along with regular candidates, in the examinations conducted at the end of the respective academic semester.

### 21. Readmission Criteria:

A student, who is detained in a semester due to lack of attendance/credits, has to obtain written permission from the Principal for readmission into the same semester after duly fulfilling all the required norms stipulated by the college in addition to paying an administrative fee of Rs. 1,000/-

### 22. Transcript:

After successful completion and award of degree (number of courses and credits) transcript may be issued to the student as per scheme of a program.

23. There shall be mandatory student induction program for freshers, 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., shall be included in the guidelines issued by AICTE.

24. The concerned Board of studies can assign tutorial hours to such courses wherever it is necessary, but without change in the total number of credits already assigned for semester.
25. There shall be 05 Professional Elective courses and 04 Open Elective courses. All the Professional & Open Elective courses shall be offered for 03 credits, wherever lab component is involved it shall be (2-0-2) and without lab component it shall be (3-0-0). If a course comes with a lab component, that component has to be cleared separately. The concerned BOS shall explore the possibility of introducing virtual labs for such courses with lab component.
26. All Open Electives are offered to students of all branches in general. However, a student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the Programme.
27. A student shall be permitted to pursue up to a maximum of nine elective courses under SWAYAM/MOOCs during the Programme. Each of the courses must be of minimum 12 weeks in duration. Attendance will not be monitored for SWAYAM/MOOC courses. Student has to pursue and acquire a certificate for a SWAYAM/MOOC course only from the organizations/agencies approved by the BOS in order to earn the 3 credits. The Head of the department shall notify the list of such courses at the beginning of the semester.
28. The department shall invite registration forms from the students at the beginning of the semester for offering professional and open elective courses. There shall be a limit on the minimum and maximum number of registrations based on class/section strength.
29. Students shall undergo mandatory summer internships for a minimum of four weeks duration at the end of second and third year of the Programme. There shall also be mandatory full internship in the final semester of the Programme along with the project work.
30. There shall be 05 skill-oriented 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 engineering courses and the remaining one shall be a soft skills course.

### **31. Other Matters:**

- (a) The physically challenged students who have availed additional examination time and a scribe during their Intermediate/ EAMCET (AP) examinations will be given similar concessions on production of relevant proof/documents.
- (b) Students who are suffering from contagious diseases are not allowed to appear for internal or end semester examinations
- (c) The students who participated in coaching/tournaments held at State/ National/ International levels through University/ Indian Olympic Association during end semester external examination period will be promoted to subsequent semesters till the entire course is completed as per the guidelines of University Grants Commission Letter No. F.1-5/88(SPE/PES), dated 18-08-1994
- (d) The Principal shall deal with any academic problem, which is not covered under these rules and regulations, in consultation with the Heads of the Departments in an appropriate manner and subsequently such actions shall be placed before the Academic Council for ratification. Any emergency modification of regulation, approved in the meetings of the Heads of the Departments, shall be reported to the College Academic Council for ratification

### **32. General:**

- (a) Wherever the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- (b) The academic regulation should be read as a whole for the purpose of any interpretation.
- (c) In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal is final.
- (d) The College may change or amend the academic regulations or syllabi at any time and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the College.

## **CALCULATION OF SEMESTER GRADE POINT AVERAGE (SGPA) AND CUMULATIVE GRADE POINT AVERAGE (CGPA):**

1. The Semester Grade Point Average (SGPA) is the ratio of sum of the product of the number of credits with the grade points 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

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

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

Where 'S<sub>i</sub>' is the SGPA of the  $i^{\text{th}}$  semester and  $C_i$  is the total number of credits in that semester

3. Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
4. While computing the SGPA/CGPA, the subjects in whom the student is awarded Zero grade points will also be included.
5. **Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale.
6. **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters A+, A, B, C, D, E and F.
7. As per AICTE regulations, conversion of CGPA into equivalent percentage as follows:  
Equivalent Percentage =  $(CGPA - 0.50) \times 10$

## COURSE CODE AND COURSE NUMBERING

- Course code consists of Eight characters in which the Third, Four, Six and Eight characters are alphabets and the rest are numerals.
- First and Second characters represents Regulation Year.
- Third and Four characters are described in Following Table

THIRD & FOUR Characters	Name of the Department
CE	Civil Engineering
EE	Electrical and Electronics Engineering
ME	Mechanical Engineering
EC	Electronics and Communication Engineering
CS	Computer Science and Engineering
CSD	CSE (Data Science)
CBA	CSE (Big Data Analysis)
CSM	CSE (Artificial Intelligence & Machine Learning)
CIC	CSE (IOT & Cyber Security including Block Chain Technology)

- Fifth character represents the semester in which the course is offered as mentioned In following Table

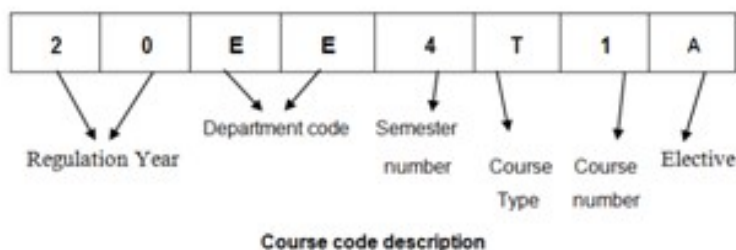
Fifth character	Description
1	First Semester
2	Second Semester
3	Third Semester
4	Fourth Semester
5	Fifth Semester
6	Sixth Semester
7	Seventh Semester
8	Eight Semester

- Sixth character represents course type, as described in following Table

Sixth character	Description
T	Theory course
L	Laboratory /Practice course
SP	Skill Oriented course
MC	Mandatory Course
P	Project

- Seventh character represents course number and Eight Character represents Course Elective as described in Figure.

For example: **22EE4T1A** course is offered in Electrical and Electronics Engineering Department (EE) in the fourth semester (4). The course is of Subject type 'T' and the course number is '1' and Elective 'A' as given in figure 1 below.





## **MALPRACTICES RULES**

### **DISCIPLINARY ACTION FOR / IMPROPER CONDUCT IN EXAMINATIONS:**

The Principal shall refer the cases of malpractices by students in internal assessment tests and end semester examinations, to a malpractice enquiry committee constituted for the purpose. The committee shall follow the approved scales of punishment.

The committee consists of:

1. Principal
2. Controller of Examinations
3. Deputy Controller of Examinations
4. Head of The Department
5. Subject Expert
6. Invigilators

<b>SNO</b>	<b>NATURE OF MALPRACTICES/IMPROPER CONDUCT</b>	<b>PUNISHMENT</b>
1(a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which he 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 subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
1(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 exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that Semester/year.
3	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 and forfeits the seat. The performance of the original candidate who has been impersonated, shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.

		If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4	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 subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester / year. The candidate is also debarred for two consecutive semesters from class work And al University examinations continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5	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 subject.
6	Refuses to obey the orders of the Chief Superintendent/Assistant – Superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out 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.	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7	Leaves the exam 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 subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all college examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
8	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other

		subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.
9	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 subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects 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.
10	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year.
11	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/year examinations
12	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the CE office for further action to award suitable punishment.	

# RAGGING

## PROHIBITION OF RAGGING IN EDUCATIONAL INSTITUTIONS ACT 26 OF 1997

### PUNISHMENTS FOR RAGGING:

As per the order of Honorable Supreme Court of India and AICTE guidelines, ragging in any form is considered a criminal offence and is banned. Ragging within or outside any educational institution is prohibited. Ragging means doing an act, that causes or is likely to cause insult or annoyance or fear of apprehension or threat or intimidation or outrage of modesty or injury to a student. Any form of ragging will be severely dealt with as per AP Prohibition of Ragging Act-1997 section-4.

<b>Nature of ragging</b>	<b>Punishment</b>
Teasing, embarrassing and humiliating	Imprisonment upto 6 months or fine upto Rs.1,000/- or both
Assaulting or using criminal force or criminal intimidation	Imprisonment upto 1 year or fine upto Rs.2,000/- or both
Wrongfully restraining or confining or causing hurt	Imprisonment upto 2 years or fine upto Rs.5,000/- or both
Causing grievous hurt kidnapping or raping or committing unnatural offence	Imprisonment upto 5 years and fine upto Rs.10,000/-
Causing death or abetting suicide	Imprisonment upto 10 years and fine upto Rs.10,000/- or both

## **CONDUCT AND DISCIPLINE:**

- A student convicted of an offence under and punished with imprisonment for a term of more than six months shall not be admitted in any other educational institution.
- Whenever any student complains of ragging to the head or manager of an educational institution, such head or manager should inquire into the complaint and if the complaint is prima-facie found true, should suspend the student or students complained against.
- If the head or manager of an educational institution fails or neglects to take action in the manner specified in the Act, the person shall be deemed to have abetted the offence and shall be punished with the punishment provided for the offence.
- If a student commits suicide due to or in consequence of ragging, the person who commits such ragging shall be deemed to have abetted such suicide.
- The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures.
  - Lack of courtesy and decorum; indecent behavior anywhere within or outside the campus.
  - Possession, consumption or distribution of alcoholic drinks or any kind of narcotics or hallucinogenic drugs.
- The following activities are not allowed within the campus:
  - Mutilation or unauthorized possession of library books.
  - Noisy and unseemly behavior, disturbing studies of fellow students.
  - Hacking computer systems (such as entering into other person's areas without prior permission, manipulation and/or damage of computer hardware and software or any other cyber crime etc.)
  - Use of cell phones in the campus.
  - Plagiarism of any nature.
  - Any other act of gross indiscipline as decided by the college from time to time.
  - Commensurate with the gravity of offense, the punishment may be reprimand, fine, expulsion from the institute / hostel, debarment from an examination, disallowing the use of certain facilities of the Institute, rustication for a specified period or even outright expulsion from the Institute, or even handing over the case to appropriate law enforcement authorities or the judiciary, as required by the circumstances.
  - For an offence committed in (i) a hostel, (ii) a department or in a class room and (iii) elsewhere, the Chief Warden, the Head of the Department and the Principal, respectively, shall have the authority to reprimand or impose fine.
  - Cases of adoption of unfair means and/or any malpractice in an examination shall be reported to the Principal for taking appropriate action.
  - Unauthorized collection of money in any form is strictly prohibited.
  - Detained and break-in-study candidates are allowed into the campus for academic purposes only with permission from authorities.
  - Misconduct committed by a student outside the college campus but having the effect of damaging, undermining & tarnishing the image & reputation of the institution will make the student concerned liable for disciplinary action commensurate with the nature and gravity of such misconduct.
  - The disciplinary action committee constituted by the Principal, shall be the authority to investigate the details of the offence, and recommend disciplinary action based on the nature and extent of the offence committed
  - Grievance redressal committee, constituted by the Principal, shall deal with all grievances pertaining to the academic / administrative and disciplinary matters.
  - All the students must abide by the code and conduct rules of the college.

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