



# **Jawaharlal Nehru Technological University Anantapur**

*(Established by Govt. of A.P., Act. No. 30 of 2008)*

**Ananthapuramu-515 002 (A.P) India**

## **Academic Regulations (R20) for B. Tech (Regular & Lateral -Full time)**

(Effective for the students admitted into I year from the Academic  
Year **2020-2021** onwards)

**Guidelines for conducting I Year B.Tech. Coursework as per R20 Regulations  
(Applicable for Non Autonomous Constituent & Affiliated Colleges)**

**1. Programs offered by the University:**

The following programs are offered at present as specializations for the B. Tech. Course for non-autonomous, constituent& affiliated colleges

S.No.	Name of the Program	Program Code
1.	Civil Engineering	01
2.	Electrical and Electronics Engineering	02
3.	Mechanical Engineering	03
4.	Electronics and Communication Engineering	04
5.	Computer Science and Engineering	05
6.	Electronics and Instrumentation Engineering	10
7.	Information Technology	12
8.	Food Technology	27
9.	Artificial Intelligence & Data Science	30
10.	Computer Science and Engineering (Artificial Intelligence)	31
11.	Computer Science and Engineering (Data Science)	32
12.	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	33
13.	Computer Science and Engineering (Data Science)	35

and any other course as approved by the authorities of the University from time to time.

**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) The total credits for the Programme is 160.
- d) The minimum instruction days including exams for each semester shall be 90 days.
- e) The medium of instruction for the entire under graduate programme will be in English only
- f) Three week induction program is mandatory for all first year UG students and shall be conducted as per AICTE/UGC/APSCHS guidelines.
- g) Preferably 50% course work for the Theory courses in every semester shall be conducted in the blended mode of learning. If the blended learning is carried out in online mode, then the total attendance of the student shall be calculated considering the offline and online attendance of the student.

**3. About Program related terms:**

- a) **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (Lecture/Tutorial) or two hours of practical work/field work per week.
- b) **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.

Each course is assigned certain number of credits based on following criterion:

	Semester	
	Periods / Week	Credits
Theory (Lecture/Tutorial)	02	02
	03	03
	04	04
Practical	02	01
	03	1.5
	04	02

#### 4. Course Evaluation:

##### 4.1 Course Pattern:

- The entire course of study is for four academic years. Semester pattern shall be followed in all the academic years
- A student eligible to appear for the end examination in a subject, but absent or has failed in the end examination may appear for that subject at the next supplementary examination when offered.
- 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.

##### 4.2 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. Internship shall be evaluated for 50 marks each & Project shall be evaluated for 200 marks whereas mandatory courses with no credits shall be evaluated for 30 mid semester marks.

- For theory subjects the distribution shall be 30 marks for mid semester Evaluation and 70 marks for the End-Examination.
- For practical subjects the distribution shall be 30 marks for mid semester Evaluation and 70 marks for the End- Examination.
- 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.

##### 4.3 Mid Semester Examination Evaluation:

For theory subjects, during the semester, there shall be two midterm examinations. Each midterm examination shall be evaluated for 30 marks of which 10 marks for objective paper (20 minutes duration), 15 marks for subjective paper (90 minutes duration) and 5 marks for assignment.

Objective paper shall be set for maximum of 20 bits for 10 marks. Subjective paper shall contain 3 either or type questions (totally six questions from 1 to 6) of which student has to answer one from each either or type question. Each question carries 5 marks.

**Note:**

- a) The subjective paper shall contain 6 questions of equal weightage of 5 marks. Any fraction shall be rounded off to the next higher mark.
- b) The objective paper with 20 objective type questions shall be prepared in line with the quality of UPSC/ GATE examination questions
- c) The midterm examination shall be conducted first by distribution of the Objective paper, simultaneously marking the attendance, after 20 minutes the answered objective paper shall be collected back. The student is not allowed to leave the examination hall. Then the descriptive question paper and the answer booklet shall be distributed. After 90 minutes the answered booklets are collected back.
- d) The assignment shall contain numerical problems/software development. If subject is purely descriptive and does not have any numerical problems then essay type question/term paper shall be given. It should be continuous assessment throughout the semester. There shall be at least four assignments (2 assignments per each mid examination) in a semester and the average marks shall be considered.

If the student is absent for the mid semester examination, no re-exam shall be conducted and mid semester marks for that examination shall be considered as zero.

First midterm examination shall be conducted for I, II units of syllabus with one either or type question from each unit and third either or type question from both the units. The second midterm examination shall be conducted for III, IV and V units with one either or type question from each unit.

Final mid semester marks shall be arrived at by considering the marks secured by the student in both the mid examinations with 80% weightage given to the better mid exam and 20% to the other.

For Example:

Marks obtained in first mid: 25

Marks obtained in second mid: 20

Final mid semester Marks:  $(25 \times 0.8) + (20 \times 0.2) = 24$

If the student is absent for any one midterm examination, the final mid semester marks shall be arrived at by considering 80% weightage to the marks secured by the student in the appeared examination and zero to the other. For Example:

Marks obtained in first mid : Absent

Marks obtained in second mid: 25

Final mid semester Marks:  $(25 \times 0.8) + (0 \times 0.2) = 20$

#### **4.4 End Examination Evaluation:**

- i. End examination of theory subjects shall have the following pattern:
  - a) There shall be 6 questions and all questions are compulsory.
  - b) Question 1 shall contain 10 compulsory short answer questions for a total of 20 marks such that each question carries 2 marks. There shall be 2 short answer questions from each unit.
  - c) In each of the questions from 2 to 6, there shall be either/or type questions of 10marks each. Student shall answer any one of them.
  - d) The questions from 2 to 6 shall be set by covering one unit of the syllabus for each question.
  
- ii. End examination of theory subjects consisting of two parts of different subjects, for Example:

Basic Electrical & Electronics Engineering shall have the following pattern:

- a) Question paper shall be in two parts viz., Part A and Part B with equal weightage of 35 markseach.
- b) In each part, question 1 shall contain 5 compulsory short answer questions for a total of 5 marks such that each question carries 1mark.
- c) 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.
- d) The questions from 2 to 4 shall be set by covering one unit of the syllabus for each question

**4.5** For practical courses, there shall be a continuous evaluation during the semester for 30 sessional marks and end examination shall be for 70 marks. Day-to-day work in the laboratory shall be evaluated for 30 marks by the concerned laboratory teacher based on the regularity/record/viva/mid semester test. The end examination shall be conducted by the concerned laboratory teacher and a senior expert in the subject from the same department.

In a practical subject consisting of two parts (Eg: Basic Electrical & Electronics Engg. Lab), the end examination shall be conducted for 35 marks in each part. Mid semester examination shall be evaluated as above for 30 marks in each part and final mid semester marks shall be arrived by considering the average of marks obtained in two parts.

**4.6** There shall be mandatory courses with zero credits. There shall be no external examination. However, attendance in the audit course 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 mid semester examinations. In case, the student fails, a re-examination shall be conducted for failed candidates every six months/semester at a mutually convenient date of college/student

- 4.7** 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.

Day-to-day work shall be evaluated for 15 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 15 marks with weightage of 80% to better mid marks and 20% for the other. The subjective paper shall contain 3 either or type questions of equal weightage of 5 marks. 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 Drawing, shall consist 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 is mentioned along with the syllabus.

- 4.8** 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.

#### **5. Attendance Requirements:**

- a) A student shall be eligible to appear for University external 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.
- c) Shortage of Attendance below 65% in aggregate shall in NO CASE be condoned.
- d) A stipulated fee shall be payable towards condonation of shortage of attendance to the Institution.
- e) 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.
- f) 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 when offered next.

Academic requirements to be satisfied in addition to the attendance requirements mentioned above:

- 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 and end examination marks taken together. In case of mandatory courses he/she should secure 40% of the total marks.

**6. With-holding of Results:**

If the candidate has any dues not paid to the university or if any case of indiscipline or malpractice is pending against him/her or candidate or student, the result of the candidate shall be withheld and the candidate will not be allowed/promoted into the next higher semester. The issue of awarding degree is liable to be withheld in such cases.

**7. Award of Grades:**

After each subject is evaluated for 100 marks, the marks obtained in each subject 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
$\geq 90$	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 (Below Average)	5
$< 40$	F (Fail)	0
Absent	Ab (Absent)	0

- i. 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.
- ii. For mandatory courses, "Satisfactory" or "Unsatisfactory" shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.

**Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):**

- a) 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.

- b) 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<sup>th</sup> semester and C<sub>i</sub> is the total number of credits upto that semester.

- c) Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- d) 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 letters S, A, B, C, D, E and F.

#### **8. Student Transfers:**

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

#### **9. General Instructions:**

- a) The academic regulations should be read as a whole for purpose of any interpretation.
- b) Malpractices rules-nature and punishments are appended.
- c) Where the words “he”, “him”, “his”, occur in the regulations, they also include “she”, “her”, “hers”, respectively.
- d) In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.
- e) The University 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 University.

\*\*\*\*\*



## RULES FOR

### DISCIPLINARY ACTION FOR MALPRACTICES / IMPROPER CONDUCT IN EXAMINATIONS

	Nature of Malpractices/Improper conduct	Punishment
	<i>If the candidate:</i>	
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.
(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. The Hall Ticket of the candidate is to be cancelled and sent to the University.
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 for four 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. 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 four consecutive semesters from class work and all University examinations, if his involvement is established. Otherwise, the candidate is 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 all University examinations. The 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 only.
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. If the candidate physically assaults the invigilator/officer-in-charge of the Examinations, then the candidate is also debarred and forfeits his/her seat. 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 University 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 only or in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester / year examinations, depending on the recommendation of the committee.
12.	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the University for further action to award suitable punishment.	

**Malpractices identified by squad or special invigilators**

1. Punishments to the candidates as per the above guidelines.
2. Punishment for institutions : (if the squad reports that the college is also involved in encouraging malpractices)
3. A show cause notice shall be issued to the college.
4. Impose a suitable fine on the college.
5. Shifting the examination centre from the college to another college for a specific period of not less than one year.

**Note:-**

**Whenever the performance of a student is cancelled in any subject/subjects due to Malpractice, he has to register for End Examinations in that subject/subjects consequently and has to fulfil all the norms required for the award of Degree.**

\*\*\*\*\*