

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (AUTONOMOUS)
ANANTHAPURAMU – 515 002 (A.P) INDIA**

Academic Regulations 2015 (R15) for B. Tech (Regular)

(Applicable for the students admitted during the
Academic Year 2015-2016 and onwards)

1. Eligibility for Admission:

Admission to the B.Tech. program shall be made subject to the eligibility, qualification and specialization prescribed by the University for each program from time to time.

- i. Admission shall be made either on the basis of merit/rank obtained by the qualifying candidates in EAMCET/ECET or otherwise specified, whichever is relevant.

The duration of B.Tech program is of four academic years divided into eight semesters comprising of two semesters in each academic year. A student is required to choose a branch of study at the time of admission. Students under lateral entry will be admitted straightaway into Third semester of B.Tech course in the respective branch. No change of branch shall be allowed after the admissions are closed.

2. Award of B.Tech. Degree:

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

- i. Regular entry students shall pursue a course of study for not less than four academic years and in not more than eight academic years.
- ii. Regular entry students shall register for 224 credits and secure all 224 credits
- iii. Lateral entry students shall pursue a course of study for not less than three academic years and in not more than six academic years for.
- iv. Lateral entry students shall register for 170 credits and secure all 170 credits
- v. Student's who fail to fulfill all the academic requirements for the award of the degree within eight academic years (for Regular Entry) / six academic years (for Lateral Entry) from the year of their admission, shall forfeit their seat in B.Tech course and their admission is cancelled.
- vi. The students who have availed one year or two year gap period, shall have to fulfill all the academic requirements for the award of the degree within nine academic years or ten academic years, respectively otherwise they shall forfeit their seat in B.Tech course and their admission is cancelled.

Completing the course of study shall mean not only satisfying the attendance requirements but also passing of all the subjects and acquiring required number of credits within the respective stipulated period

3. Branches of study:

The following Branches of study are offered at present for B. Tech. degree

S.No. Branch

1. Civil Engineering
2. Electrical and Electronics Engineering.
3. Mechanical Engineering.
4. Electronics and Communication Engineering
5. Computer Science and Engineering.
6. Chemical Engineering

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

Each Branch will have a curriculum with a syllabi that shall consist of the following:

- i. General Core Courses
 1. Basic Sciences
 2. Engineering Sciences
 3. Humanities and social sciences
- ii. Program core courses in Engineering / Technology
- iii. Elective courses of Engineering / Technology / Management Entrepreneurship / Business Communication and allied fields.
- iv. Open Electives/CBCS/MOOCs/Audit Courses
- v. Mandatory learning courses
- vi. Project work

4. Credits:

	Semester	
	Periods / Week	Credits
Theory	04	04
Comprehensive Examination	--	01
Practical	03	02
Seminar	--	02
Project Work	12	8

- i. *Academic Year*: Two consecutive (one odd + one even) semesters constitute one academic year.
- ii. *Choice Based Credit System (CBCS)*: The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
- iii. *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 or tutorial) or two hours of practical work/field work per week.

5. Distribution and Weightage of Marks (Internal & External):

- i. 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. In addition seminar and project work shall be evaluated for 100 and 200 marks respectively.
- ii. For theory subjects the distribution shall be 40 marks for Internal Evaluation and 60 marks for the External Evaluation.
- iii. There shall be five units in each of the theory subjects.
- iv. For theory subjects, there shall be Two Internal examinations during the semester. Each Internal examination shall consist of an objective test for 10 marks and a subjective test for 20 marks with duration of 20 and 90 minutes respectively.

Objective test paper is set for 20 multiple choice questions for 10 marks. *Subjective test paper shall contain three questions, EITHER/OR type shall be evaluated for 10 marks for each, then condensed for 20 marks, any fraction rounded off to the next higher mark. First midterm examination shall be conducted for half of the syllabus and second internal examination shall be conducted for remaining half of the syllabus. Both the internal exams are compulsory. Final Internal marks for a total of 30 marks shall be arrived at by considering the marks secured by the student in both the internal examinations with 70% weightage to the better internal exam and 30% to the other. Only, the fraction if any in total internal examination marks shall be rounded off to the next higher mark.

*Subjective test changed to EITHER/OR type w.e.f. October, 2016

Note: The internal examination shall be conducted first by distribution of the Objective test paper simultaneously marking the attendance, after 20 minutes the answered objective

test paper is collected back. The student is not allowed to leave the examination hall. Then the subjective test paper and the answer booklet shall be distributed. After 90 minutes the answered booklets are to be collected back.

- v. For the remaining 10 marks in internal evaluation, the faculty members teaching the subject shall evaluate the students through a minimum of 2 individual/group assignments or through a mini project with a group of six students or through a term paper/Data collection or through internet based seminar presentations, etc...
- vi. For theory subjects, there will be six questions with following pattern in the End-Examination.
 - a. All Questions have to be answered compulsorily.
 - b. Question I shall contain 5 short Answer questions “a” to “e” each of 2 marks. (Total 10 marks) covering one question from each unit.
 - c. Out of the remaining five questions, EITHER/OR type shall be followed with 10 marks for each.
 - d. In each question as mentioned in (c), one, two or more bits can be set.
- vii. Further, whenever any theory subject with two parts is offered (combined subject), for ex: Electrical & Mechanical Technology, then there shall be only two parts Part A, Part B in the question paper.
 - Part – A: shall contain three questions, EITHER/OR type shall be followed with 10 marks for each.
 - Part – B: shall also contain three questions, EITHER/OR type shall be followed with 10 marks for each.
- viii. Model Question paper for each theory course shall be prepared by the subject teacher/expert within 15 days from the commencement of the semester and the same shall be forwarded to the Controller of Examinations through the Chairman, BOS concerned.
- ix. For practical subjects there shall be a continuous evaluation during the semester for 40 internal marks and 60 end examination marks. Day-to-day work in the laboratory shall be evaluated for 40 marks by the concerned laboratory teacher based on the report of experiments/jobs. The end examination shall be conducted by the laboratory teacher and another examiner from the same department.

Discussion pending

- x. There shall be an audit pass (Mandatory learning Course) course in Human Values & Professional Ethics and Advanced Communication Skills lab with no 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 pass in the audit course when he/she secures 40% or more in the internal examinations. If the student fails to achieve 40% of marks in internal examination, a makeup examination shall be conducted in the forthcoming semester.
- xi. There shall be an Discipline centric Elective Course through Massive Open Online Course (MOOC) in III year II semester (For EEE, ECE, CSE branches) and in IV year I semester (For Civil, Mechanical, Chemical Engineering branches), where in the student shall register the course offered by authorized institutions/Agencies, through online with the approval of Head of the Department. The Head of the Department shall appoint one mentor for each of the MOOC subject offered and the mentor appointed shall conduct the internal examination following the guidelines given in 5(iv) & 5(v). Further, the College shall conduct the external examination for the MOOC subject in line with other regular subjects (5.vi) based on the syllabi of the respective subject provided by the Head of the Department.

- xii. The Certificate issued by the institution/agency after successful completion of the course will be considered for the award of grade to that course. There shall be an Open Elective in III year II semester, where in the students have to choose an elective offered by the departments other than their department.
- xiii. There shall be **Four Comprehensive Objective Type Examinations, one each** with 100 objective questions for 100 marks at the end of II year I semester, II year II semester, III year I semester and III year II semester. The duration of the examination would be for 2 hours. A student shall acquire 1 credit each assigned to the comprehensive examination, only when he/she secures 40% or more marks in the examination. In case, if a student fails in comprehensive examination, he/she shall reappear for the examination by following a similar procedure adopted for the theory examinations.
- xiv. For the subject having design and / or drawing, such as Engineering Drawing, Machine Drawing and Estimation, the distribution shall be 40 marks for internal evaluation and 60 marks for end examination. The Internal evaluation will be 20 marks for day-to-day work in the class that shall be evaluated by the concerned subject teacher based on the reports/submissions prepared in the class. Further, there shall be two midterm exams in a Semester for duration of 2 hrs each, evenly distributed over the syllabi for 20 marks and the average marks of both the mid examinations shall be considered as internal test marks. The sum of day to day evaluation and the internal test marks will be the final internal marks for the subject. The pattern and duration of the examination pertaining to these specific subjects shall be finalized by the BOS Chairman and need to be clearly mentioned at the end of syllabus.
- xv. There shall be a seminar presentation in IV year II Semester. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding over the topic, and submit to the department before presentation. The report and the presentation shall be evaluated by the Departmental committee consisting of Head of the Department, seminar supervisor and a senior faculty member. The seminar shall be evaluated for 100 marks. There shall be no external examination for seminar. A student shall acquire 2 credits assigned to the seminar only when he/she secures 40 marks on aggregate out of 100 marks allocated. In case, if a student fails in seminar, he/she shall reappear for the makeup seminar by following a similar procedure adopted for the theory examinations.
- xvi. Out of a total of 200 marks for the project work, 80 marks shall be for Internal Evaluation and 120 marks for the End Semester Examination (Viva-voce). The viva-voce shall be conducted by a committee consisting of Head of the Department, Project Supervisor and an External Examiner nominated by the Principal from the panel of 3 members proposed by Head of the Department. The project work shall start in IV year I semester and shall continue in the semester break. The evaluation of project work shall be conducted at the end of the IV year II semester. The Internal Evaluation shall be made by the departmental committee consisting of Head of the Department, project supervisor and one senior faculty member, on the basis of two seminars (one at the beginning of IV B.Tech II semester and the other before submission of project work) given by each student on the topic of his project work. In case, if a student fails in project work viva-voce, he/she shall reappear for the viva-voce examination by following a similar procedure adopted for the practical examinations.
- xvii. The laboratory records, assignment records and internal test papers shall be collected at the end of each semester and shall be preserved for minimum of 3 years in the respective departments and shall be produced to the Committees of the college as and when the same are asked for.

6. Attendance Requirements:

- i. A student shall be eligible to appear for end examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the subjects in a semester.
- ii. **Shortage of Attendance below 65% in aggregate shall in NO case be condoned.**
- iii. 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.
- 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, as applicable. They may seek readmission for that semester when offered next.
- vi. A stipulated fee shall be payable towards condonation of shortage of attendance to the college.

7. Minimum Academic Requirements (For Regular Entry Students):

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no.6

- 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 internal evaluation and end examination taken together.
- ii. A student shall be promoted from II to III year only if he/she fulfils the academic requirement of securing **41 credits (50%)** of the subjects that have been studied up to II year I semester from
 - a. Two regular and one supplementary examinations of I year I semester
 - b. One regular and one supplementary examination of I year II semester.
 - c. One regular examination of II year I semester
irrespective of whether the candidate takes the end examination or not as per the normal course of study.
- iii. A student shall be promoted from third year to fourth year only if he fulfills the academic requirements of securing **70 credits (50%)** of the subjects that have been studied upto III year I semester from the following examinations,
 - a. Three regular and two supplementary examinations of I year I semester.
 - b. Two regular and two supplementary examination of I year II semester.
 - c. Two regular and one supplementary examinations of II year I semester.
 - d. One regular and one supplementary examinations of II year II semester.
 - e. One regular examination of III year I semester.
irrespective of whether the candidate takes the end examination or not as per the normal course of study.

And in case of getting detained for want of credits by sections ii and iii above, the student may make up the credits through supplementary exams of the above exams before the date of class work commencement of Third or Fourth year I semester respectively.

- iv. A student shall register and put up minimum attendance in all 224 credits and earn all the 224 credits. Marks obtained in all 224 credits shall be considered for the calculation of percentage of marks obtained.
- v. Students who fail to earn 224 credits as indicated in the course structure within eight academic years from the year of their admission shall forfeit their seat in B.Tech course and their admission shall stand cancelled.

8. Minimum Academic Requirements (For Lateral Entry Students):

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no.6

- 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 internal evaluation and end examination taken together. In the Seminar he/she should secure 40%.

- ii. A student shall be promoted from III to IV year only if he/she fulfils the academic requirement of securing **43 credits (50%)** of the subjects that have been studied up to III year I semester from
 - a. Two regular and one supplementary examinations of II year I semester
 - b. One regular and one supplementary examination of II year II semester.
 - c. One regular examination of III year I semester
 irrespective of whether the candidate takes the end examination or not as per the normal course of study.

and in case of getting detained for want of credits by sections ii and iii above, the student may make up the credits through supplementary exams of the above exams before the date of class work commencement of Third or Fourth year I semester respectively.

- iii. A student shall register and put up minimum attendance in all 170 credits and earn all the 170 credits. Marks obtained in all 170 credits shall be considered for the calculation of percentage of marks obtained.
- iv. Students who fail to earn 170 credits as indicated in the course structure within six academic years from the year of their admission shall forfeit their seat in B.Tech course and their admission shall stand cancelled.

9. Grading:

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.

Table – Conversion into Grades and Grade Points assigned

Range in which the marks in the subject fall	Grade	Grade points assigned
≥ 95	S	10
90-94	A1	9.5
85-89	A2	9.0
80-84	A3	8.5
75-79	B1	8.0
70-74	B2	7.5
65-69	C1	7.0
60-64	C2	6.5
55-59	D1	6.0
50-54	D2	5.5
45-49	E1	5.0
40-44	E2	4.5
< 40	F (Fail)	0
Absent	Ab (Absent)	0

- i. A student obtaining Grade „F“ shall be considered failed and will be required to reappear for that subject when the next supplementary examination offered.
- ii. For non credit (Audit) courses „Satisfactory“ or “Notsatisfactory“ shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.

9.1. Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. 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^{th} subject and G_i is the grade point scored by the student in the i^{th} course.

- ii. 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_i “ is the SGPA of the i^{th} semester and C_i is the total number of credits in that semester.

- iii. Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
iv. While computing the GPA/CGPA 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 as mentioned in the above table.

10. 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 year/II year/III year II semester to pursue entrepreneurship full time. This period may be extended to two years at the most and these two years would not be counted for the maximum time for graduation. An evaluation committee shall be constituted to evaluate the proposal submitted by the student and the committee shall decide on permitting the student for having the Gap Year.

11. Transitory Regulations:

- i. 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.v and they will be in the academic regulations into which the candidate is presently readmitted.
- ii. Candidates who were permitted with Gap Year(s) shall be eligible for rejoining into the succeeding year of their B.Tech from the date of commencement of class work, subject to Section 2.vi and they will be in the academic regulations into which the candidate is presently rejoining.
- iii. In case of regulation change, the maximum credits the student shall acquire for the award of the degree shall be the sum of the total number of credits he/she secured during the course work he/she pursued in old regulations and the total number of credits he/she will be securing in the remaining course work in new regulations. The minimum academic requirement credits for promotion shall also change accordingly.
- iv. End semester Examinations under Old regulations shall be conducted in subjects of each year three times after the conduct of last regular examinations under those regulations.
- v. Candidates who satisfies the attendance requirements in any year under old regulations but who are yet to pass some subjects of that year even after three chances as stated in 11(iv) shall appear for the equivalent subjects specified by the Board of Studies of the concerned branch.

12. Conduct and Discipline:

- i. Students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an Institute of national importance.
- ii. As per the order of the Hon^{ble} Supreme Court of India, ragging in any form is banned: acts of ragging will be considered as gross indiscipline and will be severely dealt with.

- iii. The following additional acts of omission and/or commission by the students within or outside the precincts of the College shall constitute gross violation of code of conduct and are liable to invoke disciplinary measures:
- (a) Ragging
 - (b) Lack of courtesy and decorum; indecent behavior anywhere within or outside the campus.
 - (c) Willful damage or stealthy removal of any property/belongings of the Institute/Hostel or of fellow students.
 - (d) Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drugs (e) Mutilation or unauthorized possession of library books
 - (f) Hacking in computer systems
 - (g) Furnishing false statement to the disciplinary committee, or willfully withholding information relevant to an enquiry.
 - (h) Organizing or participating in any activity that has potential for driving fellow students along lines of religion, caste, batch of admission, hostel or any other unhealthy criterion.
 - (i) Resorting to noisy and unseemly behavior, disturbing studies of fellow students.
 - (j) Physical or mental harassment of freshers through physical contact or oral abuse.
 - (k) Adoption of unfair means in the examination.
 - (l) Organizing or participating in any group activity except purely academic and scientific programmes in company with others in or outside the campus without prior permission of the Principal.
 - (m) Disturbing in drunken state or otherwise an incident in academic or student function or any other public event.
 - (n) Not obeying traffic rules in campus, not following safety practices or causing potential danger to oneself or other persons in any way.
 - (o) Any other act of gross indiscipline.
- iv. Commensurate with the gravity of the offence, the punishment may be reprimand, fine, and expulsion from the hostel, debarment from an examination, rustication for a specified period or even outright expulsion from the College.
- v. The reprimanding Authority for an offence committed by students in the Hostels and in the Department or the classroom shall be respectively, the manager of the Hostels and the Head of the concerned Department.
- vi. In all the cases of offence committed by students in jurisdictions outside the purview of Clause (12.v), the Principal shall be the Authority to reprimand them.
- vii. All major acts of indiscipline involving punishment other than mere reprimand, shall be considered and decided by the Principal, Students Disciplinary Committee appointed by the Principal.
- viii. All other cases of indiscipline of students, like adoption of unfair means in the examinations shall be reported to the Vice-Principal, for taking appropriate action and deciding on the punishment to be levied.
- ix. In all the cases of punishment levied on the students for any offence committed, the aggrieved party shall have the right to appeal to the Principal, who shall constitute appropriate Committees to review the case.

13. With-holding of Results:

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

14. 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	≥ 7.5
First Class	$\geq 6.5 < 7.5$
Second Class	$\geq 5.5 < 6.5$
Pass Class	$\geq 4.5 < 5.5$

14. Minimum Instruction Days:

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

15. There shall be no branch transfers after the completion of admission process.

16. There shall be no place transfer within the Constituent Colleges.

17. Punishments for Malpractice Cases - Guidelines

The examinations committee may take the following guidelines into consideration while dealing with the suspected cases of malpractice reported by the invigilators/squad members etc; during end examinations. The punishment may be more severe or less severe depending on the merits of the individual cases.

S. No	Nature of Malpractices/Improper conduct	Punishment
1.	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 student 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.
2.	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.
3.	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.
4.	Gives assistance or guidance or receives it from any other student orally or by any other body language methods or communicates through cell phones with any other student 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 students involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
5.	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 student is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects including practical examinations and project work of that semester/year.
6.	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 including practical examinations and project work of that semester/year.

7.	Smuggles in the Answer book or takes out or arranges to send out the question paper during the examination or answer book during or after the examination	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects including practical examinations and project work of that semester/year. The student is also debarred for two consecutive semesters from class work and all examinations. The continuation of the course by the student is subject to the academic regulations in connection with forfeiture of seat.
8.	Refuses to obey the orders of the Chief Inspector/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 of that semester/year. The students 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.
9.	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 including practical examinations and project work 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.
10.	Possesses 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 including practical examinations And project work of that semester/year. The student is also debarred and forfeits the seat.

11.	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 7 to 9.	For Student of the college: Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects including practical examinations and project work 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.
12.	Impersonates any other student in connection with the examination	The student who has impersonated shall be expelled from examination hall. The student is debarred from writing the remaining exams, and rusticated from the college for one academic year during which period the student will not be permitted to write any exam. If the imposter is an outsider, he will be handed over to the police and a case is registered against him. The performance of the original student who has been impersonated, shall be cancelled in all the subjects of the examination including practical's and project work of that semester/year. The student is rusticated from the college for two consecutive years during which period the student will not be permitted to write any exam. The continuation of the course by the student is subject to the academic regulations in connection with forfeiture of seat
13.	If any malpractice is detected which is not covered in the above clauses 1 to 12 it shall be reported to the college academic council for further action to award suitable punishment.	
14.	Malpractice cases identified during sessional examinations will be reported to the examination committee nominated by Academic council to award suitable punishment.	

18. General:

- i. The academic regulations should be read as a whole for purpose of any interpretation.
- ii. Malpractice rules - nature and punishments is appended
- iii. Where the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- iv. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal is final.
- v. The College 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 roles with effect from the dates notified by the College.

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., Act. No. 30 of 2008)
ANANTHAPURAMU – 515 002 (A.P.) INDIA.

Course Structure for B.Tech-R15 Regulations

ELECTRICAL & ELECTRONICS ENGINEERING

I B.Tech. - I Semester

S.No	Course code	Subject	L	T	P	Drg	C
1.	15A52101	Functional English	3	1	-	-	3
2.	15A54101	Mathematics – I	3	1	-	-	3
3.	15A05101	Computer Programming	3	1	-	-	3
4.	15A56101	Engineering Physics	3	1	-	-	3
5.	15A03101	Engineering Drawing	0	-	-	6	3
6.	15A52102	English Language Communication Skills Lab	-	-	4	-	2
7.	15A56102	Engineering Physics Lab	-	-	4	-	2
8.	15A05102	Computer Programming Lab	-	-	4	-	2
Total			12	4	12	6	21

I-II Semester

S.No	Course code	Subject	L	T	P	C
1.	15A54201	Mathematics – II	3	1	-	3
2.	15A52201	English for Professional Communication	3	1	-	3
3.	15A51101	Engineering Chemistry	3	1	-	3
4.	15A01101	Environmental Studies	3	1	-	3
5.	15A02201	Electrical Circuits – I	3	1	-	3
6.	15A51102	Engineering Chemistry Lab	-	-	4	2
7.	15A02202	Electrical Circuits Lab	-	-	4	2
8.	15A99201	Engineering & IT Workshop	-	-	4	2
Total			15	5	12	21

- * L - Lecture hours
- *T - Tutorial hours
- *P - Practical hours
- *Drg - Drawing
- *C - Credits

II B. Tech (EEE) – I Sem

S. No	Course Code	Subject	L	T	P	C
1	15A54301	Mathematics –III	3	1	-	3
2	15A02301	Electrical Circuits – II	3	1	-	3
3	15A02302	Electrical Machines – I	3	1	-	3
4	15A02303	Control Systems Engineering	3	1	-	3
5	15A04301	Electronic Devices & Circuits	3	1	-	3
6	15A05201	Data Structures	3	1	-	3
7	15A02305	Electric Circuits Simulation Laboratory	-	-	4	2
8	15A04305	Electronic Devices & Circuits Laboratory	-	-	4	2
Total			18	6	8	22

II B. Tech (EEE) – II Sem

S. No	Course Code	Subject	L	T	P	C
1	15A54402	Mathematics – IV	3	1	-	3
2	15A52301	Managerial Economics and Financial Analysis	3	1	-	3
3	15A02401	Electrical Machines – II	3	1	-	3
4	15A02402	Electrical Power Generating Systems	3	1	-	3
5	15A02403	Electromagnetic Fields	3	1	-	3
6	15A04409	Analog Electronic Circuits	3	1	-	3
7	15A02404	Electrical Machines Laboratory – I	-	-	4	2
8	15A02405	Control Systems & Simulation Laboratory	-	-	4	2
9	15A02406	Comprehensive Online Examination – I	-	-	-	1
Total			18	6	8	23

B.Tech III-I Semester (EEE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A02501	Electrical Measurements	3	1	-	3
2.	15A04509	Linear & Digital IC Applications	3	1	-	3
3.	15A02502	Electrical Power Transmission Systems	3	1	-	3
4.	15A02503	Power Electronics	3	1	-	3
5.	15A02504	Electrical Machines – III	3	1	-	3
6.		MOOCS -I	3	1	-	3
	15A04510	Digital Circuits and Systems				
	15A02505	Networks Signals and Systems				
7.	15A02506	Electrical Machines Laboratory – II	-	-	4	2
8.	15A02507	Electrical Measurements Laboratory	-	-	4	2
9.	15A99501	Audit course – Social Values & Ethics	2	0	2	0
Total			20	6	10	22

B.Tech III-II Semester (EEE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A52601	Management Science	3	1	-	3
2.	15A02601	Power Semiconductor Drives	3	1	-	3
3.	15A02602	Power System Protection	3	1	-	3
4.	15A04601	Microprocessors & Microcontrollers	3	1	-	3
5.	15A02603	Power System Analysis	3	1	-	3
6.		CBCC -I				
	15A02604	1) Neural Networks & Fuzzy Logic				
	15A02605	2) Programmable Logic Controller & Its Applications	3	1	-	3
	15A02606	3) Optimization Techniques				
	15A01608	4) Intellectual Property Rights				
7.	15A04607	Microprocessors & Microcontrollers Laboratory	-		4	2
8.	15A02607	Power Electronics & Simulation Laboratory	-		4	2
9.		Advanced English Language				
	15A52602	Communication Skills (AELCS) Laboratory (Audit Course)	-		2	-
10.	15A02608	Comprehensive Online Examination - II	-	-	-	1
Total			18	6	12	23

B.Tech IV-I Semester (EEE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A02701	Electrical Distribution Systems	3	1	-	3
2.	15A04603	Digital Signal Processing	3	1	-	3
3.	15A02702	Power System Operation and Control	3	1	-	3
4.	15A02703	Utilization of Electrical Energy	3	1	-	3
5.	15A02704 15A02705 15A02706	CBCC-II a) Modern Control Theory b) Switched Mode Power Converters c) Energy Auditing & Demand Side Management	3	1	-	3
6.	15A02707 15A02708 15A02709	CBCC-III a) Smart Grid b) Flexible AC Transmission Systems c) Power Quality	3	1	-	3
7.	15A04608	Digital Signal Processing Laboratory	-	-	4	2
8.	15A02710	Power Systems & Simulation Laboratory	-	-	4	2
Total			18	6	8	22

B.Tech IV-II Semester (EEE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A02801 15A02802 15A02803	MOOCS - II 1. Instrumentation 2. Power System Dynamics and Control 3. Industrial Automation & Control	3	1	-	3
2.	15A02804 15A04702 15A02805	MOOCS - III 1. HVDC Transmission 2. Embedded Systems 3. Energy Resources & Technology	3	1	-	3
3.	15A02806	Comprehensive Viva Voce	-	-	4	2
4.	15A02807	Technical Seminar	-	-	4	2
5.	15A02808	Project Work	-	-	24	12
Total			6	2	32	22

Minor Discipline in EEE

S. No.	Course Code	Subject	L	T	P	C
1	15A02303	Control Systems Engineering	3	1	-	3
2	15A02402	Electrical Power Generating Systems	3	1	-	3
3	15A02502	Electrical Power Transmission Systems	3	1	-	3
4	15A02603	Power System Analysis	3	1	-	3
5	15M02101	Minor Discipline Project	-	-	-	8
		Total	12	4	-	20

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Course Structure for B.Tech-R15 Regulations

Mechanical Engineering

B.Tech I – I Semester (ME)

S.No	Course code	Subject	L	T	P	C
1.	15A52101	Functional English	3	1	-	3
2.	15A54101	Mathematics – I	3	1	-	3
3.	15A05101	Computer Programming	3	1	-	3
4.	15A51101	Engineering Chemistry	3	1	-	3
5.	15A01101	Environmental Studies	3	1	-	3
6.	15A52102	English Language Communication Skills Lab	-	-	4	2
7.	15A51102	Engineering Chemistry Lab	-	-	4	2
8.	15A05102	Computer Programming Lab	-	-	4	2
Total			15	5	12	21

I-II Semester

S.No	Course code	Subject	L	T	P	Drg	C
1.	15A52201	English for Professional Communication	3	1	-	-	3
2.	15A54201	Mathematics – II	3	1	-	-	3
3.	15A03201	Material Science and Engineering	3	1	-	-	3
4.	15A56101	Engineering Physics	3	1	-	-	3
5.	15A03101	Engineering Drawing	-	-	-	6	3
6.	15A03202	Material Science and Engineering Lab	-	-	4	-	2
7.	15A56102	Engineering Physics Lab	-	-	4	-	2
8.	15A99201	Engineering & IT Workshop	-	-	4	-	2
Total			12	4	12	6	21

* L - Lecture hours

*T - Tutorial hours

*P - Practical hours

*Drg - Drawing

*C - Credits

II B. Tech – I Sem

S.No.	Course Code	Subject	L	T	P	C
1	15A54301	Mathematics - III	3	1	-	3
2	15A52301	Managerial Economics & Financial Analysis	3	1	-	3
3	15A01308	Mechanics of Solids	3	1	-	3
4	15A03301	Engineering Drawing for Mechanical Engineers	3	1	-	3
5	15A03302	Engineering Mechanics	3	1	-	3
6	15A03303	Thermodynamics	3	1	-	3
7	15A01309	Mechanics of Solids Lab	-	-	4	2
8	15A03304	Computer Aided Drafting Lab	-	-	4	2
Total			18	06	08	22

II B. Tech – II Sem

S.No.	Course Code	Subject	L	T	P	C
1	15A54401	Probability and Statistics	3	1	-	3
2	15A99301	Basic Electrical and Electronics Engineering	3	1	-	3
3	15A03401	Machine Drawing	3	1	-	3
4	15A03402	Kinematics of Machines	3	1	-	3
5	15A03403	Thermal Engineering – 1	3	1	-	3
6	15A03404	Manufacturing Technology	3	1	-	3
7	15A03405	Thermal Engineering Laboratory	-	-	4	2
8	15A03406	Manufacturing Technology Laboratory	-	-	4	2
9	15A03407	Comprehensive Online Examination-I	-	-	-	1
Total			18	06	08	23

B.Tech III-I Semester (ME)

S. No.	Course Code	Subject	L	T	P	C
1.	15A01510	Fluid Mechanics and Hydraulic Machines	3	1	-	3
2.	15A03501	Thermal Engineering - II	3	1	-	3
3.	15A03502	Dynamics of Machinery	3	1	-	3
4.	15A03503	Machine Tools	3	1	-	3
5.	15A03504	Design of Machine Members - I	3	1	-	3
6.		MOOCS -		1	-	
	15A03505	a. Entrepreneurship	3			3
	15A03506	b. Nano Technology				
	15A03507	c. Micro Electro Mechanical Systems				
7.	15A01511	Fluid Mechanics and Hydraulic Machines Laboratory	-	-	4	2
8.	15A03508	Machine Tools Laboratory	-	-	4	2
9.	15A99501	Audit course – Social Values & Ethics	2	0	2	0
Total			20	6	10	22

B.Tech III-II Semester (ME)

S. No.	Course Code	Subject	L	T	P	C
1.	15A03601	Operations Research	3	1	-	3
2.	15A03602	Design of Machine Members – II	3	1	-	3
3.	15A03603	Heat Transfer	3	1	-	3
4.	15A03604	Finite Element Method	3	1	-	3
5.	15A03605	Metal forming Process	3	1	-	3
6.		CBCC-I		1	-	
	15A03606	a. Non Conventional Source of Energy	3			3
	15A03607	b. Total Quality Management				
	15A03608	c. Mechatronics				
	15A01608	d. Intellectual Property Rights				
7.	15A03609	Heat Transfer Laboratory	-	-	4	2
8.	15A03610	Computer Aided Engineering Laboratory	-	-	4	2
9.	15A52602	Advanced English Language Communication Skills (AELCS) Laboratory (Audit Course)			2	-
10.	15A03611	Comprehensive Online Examination - II	-	-	-	1
Total			18	6	11	23

B.Tech IV-I Semester (ME)

S. No.	Course Code	Subject	L	T	P	C
1.	15A52601	Management Science	3	1	-	3
2.	15A03701	Automobile Engineering	3	1	-	3
3.	15A03702	CAD/CAM	3	1	-	3
4.	15A03703	Metrology and Measurements	3	1	-	3
5.	15A03704 15A03705 15A03706	CBCC-II a. Refrigeration and Air – Conditioning b. Tool Design c. Modern Manufacturing Methods	3	1	-	3
6.	15A03707 15A03708 15A03709	CBCC-III a. Computational Fluid Dynamics b. Automation and Robotics c. Production & Operations Management	3	1	-	3
7.	15A03710	CAD/ CAM Laboratory	-	-	4	2
8.	15A03711	Metrology and Measurements Laboratory	-	-	4	2
Total			18	6	8	22

B.Tech IV-II Semester (ME)

S. No.	Course Code	Subject	L	T	P	C
1.	15A03801 15A03802 15A03803	MOOCS-II a. Industrial Engineering b. Product Design c. Composite Materials	3	1	0	3
2.	15A03804 15A03805 15A03806	MOOCS -III a. Power Plant Engineering b. Gas Turbines and Jet Propulsion c. Energy Management	3	1	0	3
3.	15A03807	Comprehensive Viva Voce	0	0	4	2
4.	15A03808	Technical Seminar	0	0	4	2
5.	15A03809	Project work	0	0	24	12
Total			6	2	32	22

Minor Discipline in ME

S. No.	Course Code	Subject	L	T	P	C
1	15A03303	Thermodynamics	3	1	-	3
2	15A03403	Thermal Engineering-I	3	1	-	3
3	15A03501	Thermal Engineering-II	3	1	-	3
4	15A03603	Heat Transfer	3	1	-	3
5	15A03101	Minor Discipline Project	-	-	-	8
		Total	12	4	-	20

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Course Structure for B.Tech-R15 Regulations

Electronics & Communication Engineering

I B.Tech. - I Semester

S.No	Course code	Subject	L	T	P	C
1.	15A52101	Functional English	3	1	-	3
2.	15A54101	Mathematics – I	3	1	-	3
3.	15A05101	Computer Programming	3	1	-	3
4.	15A51101	Engineering Chemistry	3	1	-	3
5.	15A01101	Environmental Studies	3	1	-	3
6.	15A52102	English Language Communication Skills Lab	-	-	4	2
7.	15A51102	Engineering Chemistry Lab	-	-	4	2
8.	15A05102	Computer Programming Lab	-	-	4	2
Total			15	5	12	21

I-II Semester

S.No	Course code	Subject	L	T	P	Drg	C
1.	15A52201	English for Professional Communication	3	1	-	-	3
2.	15A54201	Mathematics – II	3	1	-	-	3
3.	15A04201	Network Analysis	3	1	-	-	3
4.	15A56101	Engineering Physics	3	1	-	-	3
5.	15A03101	Engineering Drawing	0	-	-	6	3
6.	15A04202	Network Analysis Lab	-	-	4	-	2
7.	15A56102	Engineering Physics Lab	-	-	4	-	2
8.	15A99201	Engineering and IT Workshop	-	-	4	-	2
Total			12	4	12	6	21

* L - Lecture hours

* T - Tutorial hours

* P - Practical hours

* Drg - Drawing

* C - Credits

II B. Tech – I sem

S. No	Course Code	Subject	L	T	P	C
1	15A54301	Mathematics-III	3	1	-	3
2	15A04301	Electronic Devices and Circuits	3	1	-	3
3	15A04302	Switching Theory and Logic Design	3	1	-	3
4	15A04303	Signals and Systems	3	1	-	3
5	15A04304	Probability Theory and Stochastic Processes	3	1	-	3
6	15A02306	Electrical Technology	3	1	-	3
7	15A04305	Electronic Devices and Circuits Laboratory	-	-	4	2
8	15A02307	Electrical Technology and Basic Simulation Laboratory	-	-	4	2
Total			18	06	08	22

II B. Tech – II sem

S. No	Course Code	Subject	L	T	P	C
1	15A54402	Mathematics-IV	3	1	-	3
2	15A04401	Electronic Circuit Analysis	3	1	-	3
3	15A04402	Analog Communication Systems	3	1	-	3
4	15A04403	Electromagnetic Theory and Transmission Lines	3	1	-	3
5	15A05201	Data Structures	3	1	-	3
6	15A02303	Control Systems Engineering	3	1	-	3
7	15A04404	Electronic Circuit Analysis Laboratory	-	-	4	2
8	15A04405	Analog Communication Systems Laboratory	-	-	4	2
9	15A04406	Comprehensive Online Examination-I	-	-	-	1
Total			18	06	08	23

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B.Tech III-I Semester (ECE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A04511	Computer Organization	3	1	-	3
2.	15A04501	Antennas and Wave Propagation	3	1	-	3
3.	15A04502	Digital Communication Systems	3	1	-	3
4.	15A04503	Linear Integrated Circuits and Applications	3	1	-	3
5.	15A04504	Digital System Design	3	1	-	3
6.	15A04505 15A04506	MOOCS-I a. Linux Programming & Scripting b. MEMS & Microsystems	3	1	-	3
7.	15A04507	IC Applications Laboratory	-	-	4	2
8.	15A04508	Digital Communication Systems Laboratory	-	-	4	2
9.	15A99501	Audit course – Social Values & Ethics	2	0	2	0
Total			20	06	10	22

B.Tech III-II Semester(ECE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A52301	Managerial Economics and Financial Analysis	3	1	-	3
2.	15A04601	Microprocessors & Microcontrollers	3	1	-	3
3.	15A04602	Electronic Measurements and Instrumentation	3	1	-	3
4.	15A04603	Digital Signal Processing	3	1	-	3
5.	15A04604	VLSI Design	3	1	-	3
6.	15A04605 15A04606 15A02605 15A01608	CBCC-I a. MATLAB Programming b. Industrial Electronics c. Neural Networks & Fuzzy Logic d. Intellectual Property Rights	3	1	-	3
7.	15A04607	Microprocessors & Microcontrollers Laboratory	-	-	4	2
8.	15A04608	Digital Signal Processing Laboratory	-	-	4	2
9.	15A52602	Advanced English Language Communication (AELCS) Laboratory (Audit Course)	-	-	2	-
10.	15A04609	Comprehensive Online Examination-II	-	-	-	1
Total			18	06	12	23

B.Tech IV-I Semester(ECE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A04701	Optical Fiber Communication	3	1	-	3
2.	15A04702	Embedded Systems	3	1	-	3
3.	15A04703	Microwave Engineering	3	1	-	3
4.	15A04704	Data Communications and Networking	3	1	-	3
5.	15A04705 15A04706 15A04707	CBCC-II a. Radar Systems b. Adaptive Signal Processing c. FPGA Design	3	1	-	3
6.	15A04708 15A04709 15A04710	CBCC-III a. Digital Image Processing b. Cellular & Mobile Communication c. Real Time Systems	3	1	-	3
7.	15A04711	Microwave and Optical Communication Laboratory	-	-	4	2
8.	15A04712	VLSI & Embedded Systems Laboratory	-	-	4	2
Total			18	06	08	22

B.Tech IV-II Semester(ECE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A04801 15A04802	MOOCS-II* a. Advanced Digital Signal Processing- Multirate & Wavlet b. Low Power VLSI Circuits & Systems	3	1	-	3
2.	15A04803 15A04804	MOOCS-III * a. Pattern Recognition & Applications b. RF Integrated Circuits	3	1	-	3
3.	15A04805	Comprehensive Viva Voce	-	-	4	2
4.	15A04806	Technical Seminar	-	-	4	2
5.	15A04807	Project Work	-	-	24	12
Total			6	02	32	22

Minor Discipline in ECE

S. No.	Course Code	Subject	L	T	P	C
1	15A04303	Signals & Systems	3	1	-	3
2	15A04304	Probability Theory & Stochastic Processes	3	1	-	3
3	15A04402	Analog Communication Systems	3	1	-	3
4	15A04502	Digital Communication Systems	3	1	-	3
5	15M04101	Minor Discipline Project	-	-	-	8
		Total	12	4	-	20

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Course Structure for B.Tech-R15 Regulations

COMPUTER SCIENCE AND ENGINEERING

I B.Tech. - I Semester

S.No	Course code	Subject	L	T	P	Drg	C
1.	15A52101	Functional English	3	1	-	-	3
2.	15A54101	Mathematics – I	3	1	-	-	3
3.	15A05101	Computer Programming	3	1	-	-	3
4.	15A56101	Engineering Physics	3	1	-	-	3
5.	15A03101	Engineering Drawing	-	-	-	6	3
6.	15A52102	English Language Communication Skills Lab	-	-	4	-	2
7.	15A56102	Engineering Physics Lab	-	-	4	-	2
8.	15A05102	Computer Programming Lab	-	-	4	-	2
Total			12	4	12	6	21

I-II Semester

S.No	Course code	Subject	L	T	P	C
1.	15A52201	English for Professional Communication	3	1	-	3
2.	15A54201	Mathematics – II	3	1	-	3
3.	15A05201	Data Structures	3	1	-	3
4.	15A51101	Engineering Chemistry	3	1	-	3
5.	15A01101	Environmental Studies	3	1	-	3
6.	15A05202	Data Structures Lab	-	-	4	2
7.	15A51102	Engineering Chemistry Lab	-	-	4	2
8.	15A99201	Engineering & IT Workshop	-	-	4	2
Total			15	5	12	21

- * L - Lecture hours
- * T - Tutorial hours
- * P - Practical hours
- * Drg - Drawing
- * C - Credits

II B. Tech – I Sem

S. No	Course Code	Subject	L	T	P	C
1	15A54301	Mathematics III	3	1	-	3
2	15A05301	Database Management Systems	3	1	-	3
3	15A05302	Discrete Mathematics	3	1	-	3
4	15A99301	Basic Electrical and Electronics Engineering	3	1	-	3
5	15A04306	Digital Logic Design	3	1	-	3
6	15A52301	Managerial Economics and Financial Analysis	3	1	-	3
7	15A05303	Database Management Systems Laboratory	-	-	4	2
8	15A99302	Basic Electrical and Electronics Laboratory	-	-	4	2
		Total	18	06	08	22

II B. Tech – II Sem

S. No	Course Code	Subject	L	T	P	C
1	15A54401	Probability and Statistics	3	1	-	3
2	15A05401	Software Engineering	3	1	-	3
3	15A05402	Computer Organization	3	1	-	3
4	15A04407	Microprocessors & Interfacing	3	1	-	3
5	15A05403	Object Oriented Programming using Java	3	1	-	3
6	15A05404	Formal Languages and Automata Theory	3	1	-	3
7	15A04408	Microprocessors & Interfacing Laboratory	-	-	4	2
8	15A05405	Java Programming Laboratory	-	-	4	2
9	15A05406	Comprehensive Online Examination-I	-	-	-	1
		Total	18	06	08	23

B.Tech III-I Semester (CSE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A05501	Operating Systems	3	1	-	3
2.	15A05502	Computer Networks	3	1	-	3
3.	15A05503	Object Oriented Analysis and Design	3	1	-	3
4.	15A05504	Principles of Programming Languages	3	1	-	3
5.	15A05505	Software Testing	3	1	-	3
6.	15A05506 15A05507 15A05508	MOOCS-I a. Introduction to Big Data b. R Programming c. Introduction to Operations Management	3	1	-	3
7.	15A05509	Object Oriented Analysis and Design & Software Testing Laboratory	-	-	4	2
8.	15A05510	Operating Systems Laboratory	-	-	4	2
9.	15A99501	Social Values & Ethics (Audit Course)	2	-	2	-
Total			20	06	10	22

B.Tech III-II Semester (CSE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A05601	Compiler Design	3	1	-	3
2.	15A05602	Data Warehousing & Mining	3	1	-	3
3.	15A05603	Design Patterns	3	1	-	3
4.	15A05604	Design and Analysis of Algorithms	3	1	-	3
5.	15A05605	Web and Internet Technologies	3	1	-	3
6.	15A05606 15A05607 15A05608 15A01608	CBCC-I a. Artificial Intelligence b. Linux Environment System c. System Applications & Product (SAP) d. Intellectual Property Rights	3	1	-	3
7.	15A05609	Web and Internet Technologies Laboratory	-	-	4	2
8.	15A05610	Data Warehousing & Mining Laboratory	-	-	4	2
9.	15A52602	Advanced English Language Communication Skills(AELCS) Laboratory (Audit Course)	-	-	2	-
10.	15A05611	Comprehensive Online Examination-II	-	-	-	1
Total			18	06	10	23

B.Tech IV-I Semester (CSE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A52601	Management Science	3	1	-	3
2.	15A05701	Grid & Cloud Computing	3	1	-	3
3.	15A05702	Information Security	3	1	-	3
4.	15A05703	Mobile Application Development	3	1	-	3
5.	15A05704 15A05705 15A05706	CBCC-II a. Software Architecture b. Computer Graphics c. Machine Learning	3	1	-	3
6.	15A05707 15A05708 15A05709	CBCC-III a. Software Project Management b. Distributed Systems c. Real Time Systems	3	1	-	3
7.	15A05710	Grid & Cloud Computing Laboratory	-	-	4	2
8.	15A05711	Mobile Application Development Laboratory	-	-	4	2
Total			18	06	08	22

B.Tech IV-II Semester (CSE)

S. No.	Course Code	Subject	L	T	P	C
1.	15A05801 15A05802 15A05803	MOOCS-II a. Data Analytics b. Mobile Computing c. Innovations and IT Management	3	1	-	3
2.	15A05804 15A05805 15A05806	MOOCS-III a. Building Large Scale Software Systems b. Enabling Technologies for Data Science Analytics : IoT c. Cyber Security	3	1	-	3
3.	15A05807	Comprehensive Viva-Voce	-	-	4	2
4.	15A05808	Technical Seminar	-	-	4	2
5.	15A05809	Project Work	-	-	24	12
Total			6	2	32	22

Minor Discipline in CSE

S. No.	Course Code	Subject	L	T	P	C
1	15A05201	Data Structures	3	1	-	3
2	15A05301	Database Management Systems	3	1	-	3
3	15A05401	Software Engineering	3	1	-	3
4	15A05501	Operating Systems	3	1	-	3
5	15M05101	Minor Discipline Project	-	-	-	8
Total			12	4	-	20



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

ACADEMIC REGULATIONS FOR THE AWARD OF FULL TIME

M.B.A. DEGREE

(WITH EFFECT FROM THE ACADEMIC YEAR 2017-2018)

The Jawaharlal Nehru Technological University Anantapur shall confer M.B.A Post Graduate degree to candidates who are admitted to the Master of Business Administration Programs and fulfill all the requirements for the award of the degree.

1.0 ELIGIBILITY FOR ADMISSIONS:

Admission to the above programme shall be made subject to the eligibility, qualifications and specialization prescribed by the University for each programme, from time to time.

- 1.1. Admissions shall be made either on the basis of merit rank obtained by the qualified candidates at an Entrance Test conducted by the University or on the basis of ICET score, subject to reservations prescribed by the University or Government policies from time to time.

2.0 COURSE WORK:

- 2.1 A Candidate after securing admission must pursue the M.B.A course of study for Four Semesters duration.
- 2.2 Each semester shall be of 20 weeks duration including all examinations.
- 2.3 A candidate admitted to a programme should complete it within a period equal to twice the prescribed duration of the programme from the date of admission.

3.0 ATTENDANCE

- 3.1 A candidate shall be deemed to have eligibility to write end semester examinations if he has put in at least 75% of attendance on cumulative basis of all subjects/courses in the semester and 50% of minimum attendance should be maintained in each subject.
- 3.2 Condonation of shortage of attendance up to 10% i.e., from 65% and above and less than 75% may be given by the college on the recommendation of the Principal.
- 3.3 Condonation of shortage of attendance shall be granted only on genuine and valid reasons on representation by the candidate with supporting evidence.
- 3.4 If the candidate does not satisfy the attendance requirement, he is detained for want of attendance and shall reregister for that semester. He/she shall not be promoted to the next semester.

4.0 EVALUATION:

The performance of the candidate in each semester shall be evaluated subject wise, with a maximum of 100 marks for Theory and 100 marks for Practicals, on the basis of Internal Evaluation and End Semester Examination.

- 4.1 For the theory subjects 60% of the marks will be for the External End Examination and 40% of the marks will be for Internal Evaluation.
- 4.2 There shall be five units in each of the theory subjects.
- 4.3 Two midterm Examinations shall be held during the semester. First midterm examination shall be conducted for I, II and half of III unit syllabus and second midterm examination shall be conducted for the remaining syllabus. In each mid examination a student shall answer all three questions in 2 hours of time without seeking any choice. Final internal marks for a total of 40 marks shall be arrived at by considering the marks secured by the students in both mid examinations with 80% weightage to the better mid exam and 20% to the other.
- 4.4 The Following pattern shall be followed to the end examination
 - a. Five questions shall be set from each of the five units with either/or type for 10 Marks each and 6th question shall be the case study for 10 marks.
 - b. All the questions have to be answered compulsorily.
 - c. Each question may consist of one, two or more bits.

- 4.5 For practical subjects, 60 marks shall be for the End Semester Examinations and 40 marks will be for internal evaluation based on the day to day performance.
- 4.6 For Seminar there will be an internal evaluation of 50 marks. A candidate has to secure a minimum of 50% to be declared successful. The assessment will be made by a board consisting of HOD and two internal experts at the end of the semester instruction.
- 4.7 Out of a total of 200 marks for the project work, 80 marks shall be for Internal Evaluation and 120 marks for the End Semester Examination. The End Semester Examination (viva-voce) shall be conducted by an External examiner nominated by the university, HOD & Supervisor as a committee. The evaluation of project work shall be conducted at the end of the IV semester.
- 4.8 A candidate shall be deemed to have secured the minimum academic requirement in a subject if he secures a minimum of 40% of marks in the End Examination and a minimum aggregate of 50% of the total marks in the End Semester Examination and Internal Evaluation taken together.
- 4.9 In case the candidate does not secure the minimum academic requirement in any subject(as specified in 4.8) he has to reappear for the Semester Examination either supplementary or regular in that subject, or repeat the course when next offered or do any other specified subject as may be required.

5.0 RE-REGISTRATION FOR IMPROVEMENT OF INTERNAL EVALUATION MARKS:

Following are the conditions to avail the benefit of improvement of internal evaluation marks.

- 5.1 The candidate should have completed the course work for all four semesters pending Project work submission.
- 5.2 He should have passed all the subjects for which the Internal evaluation marks secured are more than 50%.
- 5.3 Out of the subjects the candidate has failed in the examinations due to Internal evaluation marks secured being less than 50%, the candidate shall be given one chance for each Theory subject and for a maximum of **three** Theory subjects for Improvement of Internal evaluation marks.
- 5.4 The candidate has to re-register for the chosen subjects and fulfill the academic requirements.
- 5.5 For each subject, the candidate has to pay a fee equivalent to one third of the semester tuition fee and the amount is to be remitted in the form of D.D in favour of 'the Registrar, JNTUA' payable at Anantapur along with the requisition through the Principal of the respective college.
- 5.6 In the event of availing the Improvement of Internal evaluation marks, the internal evaluation marks as well as the End Examinations marks secured in the previous attempt(s) for the reregistered subjects stand cancelled.

6.0 MOOCS

- 6.1 Institution intends to encourage the students to do at least one MOOC in III semester of MBA Programme.
- 6.2 The MOOC(s) shall be offered for the existing course titles (discipline core or concern electives).
- 6.3 The department shall give a list of standard MOOCs providers among edx, Udacity, Coursera, NPTEL or any other standard providers, whose credentials are endorsed by the Concerned Principal / HOD.
- 6.4 The department shall appoint Coordinators / Mentors and allot the students to them who shall be responsible to guide students in selecting online courses and provide guidance for the registration, progress and completion of the same.
- 6.5 A student shall choose an online course (relevant to his/her programme of study) from the given list of MOOCS providers, as endorsed by the teacher concerned, with the approval of the HOD.
- 6.6 If the student fails in completing the course with in the III semester, he must complete the course in the IV semester with the special permission from the Principal / HOD of the college.
- 6.7 No Credits for MOOC(s) shall be awarded to the students.

7.0 CONDUCT OF PROJECT WORK:

Every candidate shall be required to submit thesis or dissertation after taking up a topic approved by the college/institute.

- 7.1 Registration of Project work: A candidate is permitted to register for the project work after satisfying the attendance requirement of all the courses (theory and practical courses of I, II and III Sem)
- 7.2 An Internal Departmental Committee (I.D.C) consisting of HOD, Supervisor and one internal senior expert shall monitor the progress of the project work.
- 7.3 The work on the project shall be initiated immediately after II semester and continued in the final semester. The candidate can submit Project thesis with the approval of I.D.C. at the end of the IV semester Instruction as

per the schedule. Extension of time within the total permissible limit for completing the programme is to be obtained from the Head of the Institution.

- 7.4 The student must submit status report at least in two different phases during the project work period. These reports must be approved by the I.D.C before submission of the Project Report.
- 7.5 The viva-voce examination may be conducted for all the candidates as per the IV semester examination schedule.
- 7.6 Three copies of the Thesis / Dissertation certified in the prescribed form by the supervisor & HOD shall be presented to the H.OD. One copy is to be forwarded to the University and one copy to be sent to the examiner.
- 7.7 The college shall submit a panel of three experts for a maximum of every 5 students. However, the viva voce examiners will be nominated by the University.

8.0 GRADING

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.

Letter Grade	Marks Range	Grade Point
S	91-100	10
A	81-90	9
B	70-80	8
C	60-69	7
D	55-59	6
E	50-54	5
F	<50	0
Absent	Ab (Absent)	0

A student obtaining Grade F shall be considered failed and will be required to reappear for that subject when the next supplementary examination offered.

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 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.

$$SGPA = \frac{\sum_{i=1}^n (C_i \times G_i)}{\sum_{i=1}^n C_i}$$

Where, C_i is the number of credits of the i^{th} subject, G_i is the grade point scored by the student in the i^{th} course and n is the no. of subjects.

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.

$$CGPA = \frac{\sum_{i=1}^n (C_i \times S_i)}{\sum_{i=1}^n C_i}$$

Where 'S_i' is the SGPA of the i^{th} semester, C_i is the total number of credits in that semester and n is the no. of semesters.

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 letters as mentioned in the above table.

9.0 AWARD OF DEGREE AND CLASS:

A candidate shall be eligible for the award of respective degree if he/she satisfies the minimum academic requirements in every subject and secures 'satisfactory' or higher grade report on his/her thesis/dissertation and viva-voce. Based on overall percentage of marks obtained, the following class is awarded.

Class Awarded	CGPA Secured
First class with Distinction	≥ 8
First class	≥ 7 and < 8
Second class	≥ 5 and < 7

10.0 WITH – HOLDING OF RESULTS:

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

11.0 TRANSITORY REGULATIONS:

Candidates who have discontinued or have been detained for want of attendance or who have failed after having undergone the course in earlier regulations 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 4.9 and 2.3 sections.

12.0 GENERAL:

- i. The academic regulations should be read as a whole for purpose of any interpretation.**
- ii. Disciplinary action for Malpractice/improper conduct in examinations is appended.**
- iii. There shall be no places transfer within the constituent colleges and affiliated colleges of Jawaharlal Nehru Technological University Anantapur.**
- iv. Where the words "he", "him", "his", occur in the regulations, they include "she", "her", "hers".**
- v. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.**
- vi. 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 MALPRACTICE / 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,	Expulsion from the examination hall and cancellation of

	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.	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.	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.
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.	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.
6.	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.
7.	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 impostor is an outsider, he will be handed over to the police and a case is registered against him.
8.	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	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

	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.	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.
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.	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.
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 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)
 - (i) A show cause notice shall be issued to the college.
 - (ii) Impose a suitable fine on the college.
 - (iii) Shifting the examination centre from the college to another college for a specific period of not less than one year.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

Course Structure and Detailed Syllabi (2017-18 onwards)

Master of Business Administration

MBA Semester – I

S. No	Course code	Subject	L	T	P	C
1.	17E00101	Management & Organizational Behaviour	4	-	-	4
2.	17E00102	Business Environment & Law	4	-	-	4
3.	17E00103	Managerial Economics	4	-	-	4
4.	17E00104	Financial Accounting for Managers	4	-	-	4
5.	17E00105	Statistics for Managers	4	-	-	4
6.	17E00106	Management Information Systems	2	-	-	2
7.	17E00107	Information Technology for Managers	2	-	-	2
8.	17E00108	Communication Lab	-	-	3	2
9.	17E00109	Data Analytics Lab	-	-	3	2
		Total	24	-	6	28

MBA Semester – II

S. No	Course code	Subject	L	T	P	Credits
1.	17E00201	Human Resource Management	4		-	4
2.	17E00202	Marketing Management	4		-	4
3.	17E00203	Business Research Methods	4		-	4
4.	17E00204	Financial Management	4		-	4
5.	17E00205	Operations Research	4		-	4
6.	17E00206	Operations Management	4		-	4
7.	17E00207	Business Communication	2		-	2
8.	17E00208	Business Analytics Lab	-		3	2
9.	17E00209	Business Communication Lab	-		3	2
		Total	26		6	30

***Note: The student shall initiate project work immediately after II semester and evaluation shall take place in IV semester**

MBA Semester – III

S. No	Course code	Subject	L	T	P	C
1.	17E00301	Business Ethics & Corporate Governance	4	-	-	4
2.	17E00302	Green Business Management	4	-	-	4
3.	17E00303	Entrepreneurship Development	4	-	-	4
4.		Elective I	4	-	-	4
	17E00304	Cost and Management Accounting				
	17E00305	Product and Brand Management				
	17E00306	Human Resource Development				
	17E00307	Mobile Commerce				
5.		Elective II	4	-	-	4
	17E00308	Financial Institutions and Services				
	17E00309	Consumer Behavior				
	17E00310	Labor laws and Legislation				
	17E00311	Supply Chain Management				
6.		Elective III	4	-	-	4
	17E00312	Investment and Portfolio Management				
	17E00313	Rural Marketing				
	17E00314	Performance Management				
	17E00315	Enterprise Resource Planning				
7.		Elective IV	4	-	-	4
	17E00316	Auditing and Taxation				
	17E00317	Advertising and Sales Promotion Management				
	17E00318	Knowledge Management				
	17E00319	Data warehousing and Mining				
8.	17E00320	Business Simulation Lab	-	-	3	2
9.	17E00321	MOOCS	-	-	-	
		Total	28	-	3	30

MBA Semester – IV

S. No	Course code	Subject	L	T	P	C
1.	17E00401	Strategic Management	4	-	-	4
2.	17E00402	E-Business	4	-	-	4
3.		Elective V	4	-	-	4
	17E00403	Financial Derivatives				
	17E00404	Services Marketing				
	17E00405	Organization Development				
	17E00406	Data Communication and Network Analysis				
4.		Elective VI	4	-	-	4
	17E00407	International Financial Management				
	17E00408	International Marketing				
	17E00409	Global Human Resource Management				
	17E00410	Corporate Information Management				
5.	17E00411	Seminar (Contemporary Issues on Business)	-	-	3	2
6.	17E00412	Project Work	-	-	12	10
		Total	16	-	15	28



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
Draft Academic Regulations of M.Tech. (Full Time/Regular) Programme
(Effective for the students admitted into I year from the Academic Year 2021-22 and onwards)

Jawaharlal Nehru Technological University Anantapur (JNTUA) offers **Two Years (Four Semesters)** full-time Master of Technology (M.Tech.) Degree programme, under Choice Based Credit System (CBCS) in different branches of Engineering and Technology with different specializations.

The Jawaharlal Nehru Technological University Anantapur shall confer M. Tech. degree on candidates who are admitted to the programme and fulfill all the requirements for the award of the degree.

1. Award of the M.Tech. Degree

A student will be declared eligible for the award of the M.Tech. degree if he/she fulfils the following:

- 1.1 Pursues a course of study for not less than two academic years and not more than four academic years.
- 1.2 Registers for 70 credits and secures all 70 credits.

2. Students, who fail to fulfil all the academic requirements for the award of the degree within four academic years from the year of their admission, shall forfeit their seat in M.Tech. course and their admission stands cancelled.

3. Programme of Study:

The following M.Tech. Specializations are offered at present in different branches of Engineering and Technology in non-autonomous affiliated colleges:

S.No.	Discipline	Name of the Specialization	Code
01	Civil Engineering	Structural Engineering	20
		Geotechnical Engineering	12
		Computer Aided Structural Engineering	35
		Construction Planning & Management	21
		Structural Engineering & Construction Management	91
		Highway Engineering	93
02	Electrical and Electronics Engineering	Electrical Power Systems	07
		Power Electronics	43
		Power Electronics & Electrical Drives	54
		Power Systems	82
03	Mechanical Engineering	CAD / CAM	04
		Machine Design	15
		Thermal Science & Energy Systems	11
		Refrigeration & Air- Conditioning	17
		Advanced Manufacturing Systems	87



		Thermal Engineering	88
		Production Engineering & Engineering Design	90
		Production Engineering	94
04	Electronics and Communication Engineering	Digital Electronics & Communication Systems	38
		Electronics & Communication Engineering	70
		Digital Systems & Computer Electronics	06
		Embedded Systems	55
		VLSI Design	57
		VLSI System Design	
		VLSI	
		VLSI & Embedded Systems	68
		Embedded Systems & VLSI	
		VLSI and Embedded Systems Design	85
05	Computer Science and Engineering	Computer Science & Engineering	58
		Software Engineering	25
		Computer Networks	08
		Artificial Intelligence & Machine Learning	98

and any other specializations as approved by AICTE/University from time to time.

4. Eligibility for Admissions:

- 4.1 Admission to the M. Tech Program shall be made subject to the eligibility, qualification and specialization prescribed by the A.P. State Government/University from time to time.
- 4.2 Admissions shall be made either on the basis of either the merit rank or Percentile obtained by the qualified student in the relevant qualifying GATE Examination/ the merit rank obtained by the qualified student in an entrance test conducted by A.P. State Government (APPGECET) for M.Tech. programmes/an entrance test conducted by University/on the basis of any other exams approved by the University, subject to reservations as laid down by the Govt. from time to time.

5. Programme related terms:

- 5.1 **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.

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

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

**6. Programme Pattern:**

- 6.1 Total duration of the of M.Tech. programme is two academic years
- 6.2 Each academic year of study is divided into two semesters.
- 6.3 Each Semester shall be of 22 weeks duration (inclusive of Examinations), with a minimum of 90 instructional days per semester.
- 6.4 The student shall not take more than four academic years to fulfill all the academic requirements for the award of M.Tech. degree from the date of commencement of first year first semester, failing which the student shall forfeit the seat in M.Tech. programme.
- 6.5 The medium of instruction of the programme (including examinations and project reports) will be in English only.
- 6.6 All subjects/courses offered for the M.Tech. degree programme are broadly classified as follows:

S.No.	Broad Course Classification	Course Category	Description
1.	Core Courses	Foundational & Professional Core Courses (PC)	Includes subjects related to the parent discipline/department/branch of Engineering
2.	Elective Courses	Professional Elective Courses (PE)	Includes elective subjects related to the parent discipline/department/ branch of Engineering
		Open Elective Courses (OE)	Elective subjects which include inter-disciplinary subjects or subjects in an area outside the parent discipline which are of importance in the context of special skill development
3.	Research	Research methodology & IPR	To understand importance and process of creation of patents through research
		Technical Seminar	Ensures preparedness of students to undertake major projects/Dissertation, based on core contents related to specialization
		Cocurricular Activities	Attending conferences, scientific presentations and other scholarly activities
		Dissertation	M.Tech. Project or Major Project
4.	Audit Courses	Mandatory noncredit courses	Covering subjects of developing desired attitude among the learners is on the line of initiatives such as Unnat Bharat Abhiyan, Yoga, Value education etc.

- 6.7 The 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.
- 6.8 A faculty advisor/mentor shall be assigned to each specialization to advise students on the programme, its Course Structure and Curriculum, Choice of Courses, based on his competence, progress, pre-requisites and interest.
- 6.9 Preferably 25% course work for the theory courses in every semester shall be conducted in the blended mode of learning.



7. Attendance Requirements:

- 7.1 A student shall be eligible to appear for the University external examinations if he/she acquires i) a minimum of 50% attendance in each course and ii) 75% of attendance in aggregate of all the courses.
- 7.2 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.
- 7.3 Condonation of shortage of attendance shall be granted only on genuine and valid reasons on representation by the candidate with supporting evidence
- 7.4 Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examination of that class.
- 7.5 A stipulated fee shall be payable towards condonation of shortage of attendance.
- 7.6 A student will not be promoted to the next semester unless he satisfies the attendance requirements of the present semester. They may seek re-admission into that semester when offered next.
- 7.7 If any candidate fulfils the attendance requirement in the present semester, he shall not be eligible for readmission into the same class.
- 7.8 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.

8. Evaluation – Distribution and Weightage of Marks:

The performance of a student in each semester shall be evaluated subject - wise (irrespective of credits assigned), for a maximum of 100 marks for theory and 100 marks for practical, based on Internal Evaluation and End Semester Examination.

- 8.1 There shall be five units in each of the theory subjects. For the theory subjects 60 marks will be for the End Examination and 40 marks will be for Internal Evaluation.
- 8.2 Two Internal Examinations shall be conducted for 30 marks each, one in the middle of the Semester and the other immediately after the completion of instruction. First mid examination shall be conducted for I & II units of the syllabus and second mid examination for III, IV & V units. Each mid exam shall be conducted for a total duration of 120 minutes with 3 questions (without choice) each question for 10 marks. Final Internal marks for a total of 30 marks shall be arrived at by considering the marks secured by the student in both the internal examinations with 80% weightage to the better internal exam and 20% to the other. There shall be an online examination (TWO) conducted during the respective mid examinations by the college for the remaining 10 marks with 20 objective questions.



- 8.3 The following pattern shall be followed in the End Examination:
- Five questions shall be set from each of the five units with either/or type for 12 marks each.
 - All the questions have to be answered compulsorily.
 - Each question may consist of one, two or more bits.
- 8.4 For practical subjects, 60 marks shall be for the End Semester Examinations and 40 marks will be for internal evaluation based on the day-to-day performance.
- The internal evaluation based on the day-to-day work-10 marks, record- 10 marks and the remaining 20 marks to be awarded by conducting an internal laboratory test. The end examination shall be conducted by the examiners, with a breakup mark of Procedure-10, Experimentation-25, Results-10, Viva-voce-15.
- 8.5 There shall be a **Technical Seminar** during I year II semester for internal evaluation of 100 marks. A student under the supervision of a faculty member, shall collect the literature on a topic and critically review the literature and submit it to the department in a report form and shall make an oral presentation before the Project Review Committee consisting of Head of the Department, supervisor/mentor and two other faculty members of the department. The student has to secure a minimum of 50% of marks, to be declared successful. If he fails to obtain the minimum marks, he has to reappear for the same as and when supplementary examinations are conducted. The Technical seminar shall be conducted anytime during the semester as per the convenience of the Project Review Committee and students. There shall be no external examination for Technical Seminar.
- 8.6 There shall be Mandatory **Audit courses** in I & II semesters for zero credits. There is no external examination for audit courses. 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 50% or more in the internal examinations. In case, the student fails, a re-examination shall be conducted for failed candidates for 40 marks every six months/semester satisfying the conditions mentioned in item 1 & 2 of the regulations.
- 8.7 A candidate shall be deemed to have secured the minimum academic requirement in a subject if he secures a minimum of 40% of marks in the End Examination and a minimum aggregate of 50% of the total marks in the End Semester Examination and Internal Evaluation taken together.
- 8.8 In case the candidate does not secure the minimum academic requirement in any of the subjects he/she has to reappear for the Semester Examination either supplementary or regular in that subject or repeat the course when next offered or do any other specified subject as may be required.



- 8.9 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.

9. Credit Transfer Policy

As per University Grants Commission (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016, the University shall allow up to a maximum of 40% of the total courses being offered in a particular Programme in a semester through the Online Learning courses through SWAYAM.

- 9.1 The University shall offer credit mobility for MOOCs and give the equivalent credit weightage to the students for the credits earned through online learning courses through SWAYAM platform.
- 9.2 The online learning courses available on the SWAYAM platform will be considered for credit transfer. SWAYAM course credits are as specified in the platform
- 9.3 Student registration for the MOOCs shall be only through the institution, it is mandatory for the student to share necessary information with the institution
- 9.4 The institution shall select the courses to be permitted for credit transfer through SWAYAM. However, while selecting courses in the online platform institution would essentially avoid the courses offered through the curriculum in the offline mode.
- 9.5 The institution shall notify at the beginning of semester the list of the online learning courses eligible for credit transfer in the forthcoming Semester.
- 9.6 The institution shall also ensure that the student has to complete the course and produce the course completion certificate as per the academic schedule given for the regular courses in that semester
- 9.7 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.
- 9.8 The university shall ensure no overlap of SWAYAM MOOC exams with that of the university examination schedule. In case of delay in SWAYAM results, the university will re-issue the marks sheet for such students.
- 9.9 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.
- 9.10 The institution shall submit the following to the examination section of the university:
- List of students who have passed MOOC courses in the current semester along with the certificates of completion.
 - Undertaking form filled by the students for credit transfer.
- 9.11 The university 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.

Note: Students shall also be permitted to register for MOOCs offered through online platforms other than SWAYAM NPTEL. In such cases, credit transfer shall be permitted only after seeking approval of the University at least three months prior to the commencement of the semester.

10. Re-registration for Improvement of Internal Evaluation Marks:

A candidate shall be given one chance to re-register for each subject provided the internal marks secured by a candidate are less than 50% and has failed in the end examination

- 10.1 The candidate should have completed the course work and obtained examinations results for **I, II and III** semesters.
- 10.2 The candidate should have passed all the subjects for which the Internal Evaluation marks secured are more than 50%.
- 10.3 Out of the subjects the candidate has failed in the examination due to Internal Evaluation marks secured being less than 50%, the candidate shall be given one chance for each Theory subject and for a maximum of **three** Theory subjects for Improvement of Internal evaluation marks.
- 10.4 The candidate has to re-register for the chosen subjects and fulfill the academic requirements.
- 10.5 For reregistration the candidates have to apply to the University through the college by paying the requisite fees and get approval from the University before the start of the semester in which re-registration is required
- 10.6 In the event of availing the Improvement of Internal evaluation marks, the internal evaluation marks as well as the End Examinations marks secured in the previous attempt(s) for the reregistered subjects stand cancelled.

11. Evaluation of Project/Dissertation Work:

The Project work shall be initiated at the beginning of the III Semester and the duration of the Project is of two semesters. Evaluation of Project work is for 300 marks with 200 marks for internal evaluation and 100 marks for external evaluation. Internal evaluation of the Project Work – I & Project work – II in III & IV semesters respectively shall be for 100 marks each. External evaluation of final Project work viva voce in IV semester shall be for 100 marks.

A Project Review Committee (PRC) shall be constituted with the Head of the Department as Chairperson, Project Supervisor and one faculty member of the department offering the M.Tech. programme.



- 11.1 A candidate is permitted to register for the Project Work in III Semester after satisfying the attendance requirement in all the subjects, both theory and laboratory (in I & II semesters).
- 11.2 A candidate is permitted to submit Project dissertation with the approval of PRC. The candidate has to pass all the theory, practical and other courses before submission of the Thesis.
- 11.4 Project work shall be carried out under the supervision of teacher in the parent department concerned.
- 11.5 A candidate shall be permitted to work on the project in an industry/research organization on the recommendation of the Head of the Department. In such cases, one of the teachers from the department concerned would be the internal guide and an expert from the industry/ research organization concerned shall act as co-supervisor/ external guide. It is mandatory for the candidate to make full disclosure of all data/results on which they wish to base their dissertation. They cannot claim confidentiality simply because it would come into conflict with the Industry's or R&D laboratory's own interests. A certificate from the external supervisor is to be included in the dissertation.
- 11.6 Continuous assessment of Project Work - I and Project Work – II in III & IV semesters respectively will be monitored by the PRC.
- 11.7 The candidate shall submit status report by giving seminars in three different phases (two in III semester and one in IV semester) during the project work period. These seminar reports must be approved by the PRC before submission of the Project Thesis.
- 11.8 After registration, a candidate must present in Project Work Review - I, in consultation with his Project Supervisor, the title, objective and plan of action of his Project work to the PRC for approval within four weeks from the commencement of III Semester. Only after obtaining the approval of the PRC can the student initiate the project work.
- 11.9 The Project Work Review - II in III semester carries internal marks of 100. Evaluation should be done by the PRC for 50 marks and the Supervisor will evaluate the work for the other 50 marks. The Supervisor and PRC will examine the Problem Definition, Objectives, Scope of Work, Literature Survey in the same domain and progress of the Project Work.
- 11.10 A candidate has to secure a minimum of 50% of marks to be declared successful in Project Work Review - II. Only after successful completion of Project Work Review – II, candidate shall be permitted for Project Work Review – III in IV Semester. The unsuccessful students in Project Work Review - II shall reappear for it as and when supplementary examinations are conducted.
- 11.11 The Project Work Review - III in IV semester carries 100 internal marks. Evaluation should be done by the PRC for 50 marks and the Supervisor will evaluate it for the other 50 marks. The PRC will examine the overall progress



- of the Project Work and decide whether or not eligible for final submission. A candidate has to secure a minimum of 50% of marks to be declared successful in Project Work Review - III. If he fails to obtain the required minimum marks, he has to reappear for Project Work Review - III after a month.
- 11.12 For the approval of PRC the candidate shall submit the draft copy of dissertation to the Head of the Department and make an oral presentation before the PRC.
- 11.13 After approval from the PRC, the students are required to submit a report showing that the plagiarism is within 30%. The dissertation report will be accepted only when the plagiarism is within 30%, which shall be submitted along with the dissertation report.
- 11.14 Research paper related to the Project Work shall be published in conference proceedings/UGC recognized journal. A copy of the published research paper shall be attached to the dissertation.
- 11.15 After successful plagiarism check and publication of research paper, three copies of the dissertation certified by the supervisor and HOD shall be submitted to the College.
- 11.16 The dissertation shall be adjudicated by an external examiner selected by the University. For this, the Principal of the College shall submit a panel of three examiners as submitted by the supervisor concerned and department head for each student. However, the dissertation will be adjudicated by one examiner nominated by the University.
- 11.17 If the report of the examiner is not satisfactory, the candidate shall revise and resubmit the dissertation, in the time frame as decided by the PRC. If report of the examiner is unfavorable again, the thesis shall be summarily rejected. The candidate has to reregister for the project and complete the project within the stipulated time after taking the approval from the University
- 11.18 If the report of the examiner is satisfactory, the Head of the Department shall coordinate and make arrangements for the conduct of Project Viva voce exam.
- 11.19 The Project Viva voce examinations shall be conducted by a board consisting of the Supervisor, Head of the Department and the external examiner who has adjudicated the dissertation. For Dissertation Evaluation (Viva voce) in IV Sem. there are external marks of 100 and it is evaluated by external examiner. The candidate has to secure a minimum of 50% marks in Viva voce exam.
- 11.20 If he fails to fulfill the requirements as specified, he will reappear for the Project Viva voce examination only after three months. In the reappeared examination also, if he fails to fulfill the requirements, he will not be eligible for the award of the degree.

12. Credits for Co-curricular Activities

The credits assigned for co-curricular activities shall be given by the principals of the colleges and the same shall be submitted to the University.



A Student shall earn 02 credits under the head of co-curricular activities, viz., attending Conference, Scientific Presentations and Other Scholarly Activities.

Following are the guidelines for awarding Credits for Co-curricular Activities

Name of the Activity	Maximum Credits / Activity
Participation in National Level Seminar/ Conference / Workshop /Training programs (related to the specialization of the student)	1
Participation in International Level Seminar / Conference / workshop/Training programs held outside India (related to the specialization of the student)	2
Academic Award/Research Award from State Level/National Agencies	1
Academic Award/Research Award from International Agencies	2
Research / Review Publication in National Journals (Indexed in Scopus / Web of Science)	1
Research / Review Publication in International Journals with Editorial board outside India (Indexed in Scopus / Web of Science)	2

Note:

- i) Credit shall be awarded only for the first author. Certificate of attendance and participation in a Conference/Seminar is to be submitted for awarding credit.
- ii) Certificate of attendance and participation in workshops and training programs (Internal or External) is to be submitted for awarding credit. The total duration should be at least one week.
- iii) Participation in any activity shall be permitted only once for acquiring required credits under cocurricular activities

13. 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	S (Superior)	10
$\geq 80 < 90$	A (Excellent)	9
$\geq 70 < 80$	B (Very Good)	8
$\geq 60 < 70$	C (Good)	7
$\geq 50 < 60$	D (Pass)	6
< 50	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 noncredit audit courses, "Satisfactory" or "Unsatisfactory" shall be indicated instead of the letter grade and this 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 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^{th} subject and G_i is the grade point scored by the student in the i^{th} course.

- i) 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.,

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

where " S_i " is the SGPA of the i^{th} semester and C_i is the total number of credits up to that semester.

- ii) Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- iii) 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 and F.

14. Award of Class:

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

Class Awarded	Percentage of Marks to be secured
First Class with Distinction	$\geq 70\%$
First Class	$< 70\% \geq 60\%$
Pass Class	$< 60\% \geq 50\%$



15. **Exit Policy:** The student shall be permitted to exit with a PG Diploma based on his/her request to the university through the respective institution at the end of first year subject to passing all the courses in first year.

The University shall resolve any issues that may arise in the implementation of this policy from time to time and shall review the policy in the light of periodic changes brought by UGC, AICTE and State government.

16. Withholding of Results:

If the candidate has any case of in-discipline pending against him, the result of the candidate shall be withheld, and he will not be allowed/promoted into the next higher semester. The issue of degree is liable to be withheld in such cases.

17. 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.

18. General:

- 17.1 The academic regulations should be read as a whole for purpose of any interpretation.
- 17.2 Disciplinary action for Malpractice/improper conduct in examinations is appended.
- 17.3 There shall be no places transfer within the constituent colleges and affiliated colleges of Jawaharlal Nehru Technological University Anantapur.
- 17.4 Where the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- 17.5 In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.
- 17.6 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.	

1. Malpractices identified by squad or special invigilators
2. Punishments to the candidates as per the above guidelines.
3. Punishment for institutions: (if the squad reports that the college is also involved in encouraging malpractices)
4. A show cause notice shall be issued to the college.
5. Impose a suitable fine on the college.
6. Shifting the examination center 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.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., ACT No.30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA

M.TECH. IN VLSI/VLSI DESIGN/VLSI SYSTEM DESIGN

COMMON COURSE STRUCTURE & SYLLABI

SEMESTER – I

S. No.	Course codes	Course Name	Category	Hours per week			Credits
				L	T	P	
1.	21D57101	CMOS Analog IC Design	PC	3	0	0	3
2.	21D57102	CMOS Digital IC Design	PC	3	0	0	3
3.	21D57103a	Program Elective – I Microchip Fabrication Techniques	PE	3	0	0	3
	21D57103b	Nanomaterials and Nanotechnology					
	21D57103c	CAD for VLSI					
4.	21D57104a	Program Elective – II Device Modelling	PE	3	0	0	3
	21D57104b	FPGA Architectures and Applications					
	21D57104c	ASIC Design					
5.	21D57105	CMOS Analog IC Design Lab	PC	0	0	4	2
6.	21D57106	CMOS Digital IC Design Lab	PC	0	0	4	2
7.	21DRM101	Research Methodology and IPR	MC	2	0	0	2
8.	21DAC101a	Audit Course – I English for Research paper writing	AC	2	0	0	0
	21DAC101b	Disaster Management					
	21DAC101c	Sanskrit for Technical Knowledge					
Total							18



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M.TECH. IN VLSI/VLSI DESIGN/VLSI SYSTEM DESIGN

COMMON COURSE STRUCTURE & SYLLABI

SEMESTER – II

S.No.	Course codes	Course Name	Category	Hours per week			Credits
				L	T	P	
1.	21D57201	CMOS Mixed Signal IC Design	PC	3	0	0	3
2.	21D57202	Physical Design Automation	PC	3	0	0	3
3.	21D57203a 21D57203b 21D57203c	Program Elective – III	PE	3	0	0	3
		SoC Testing and Verification					
		Semiconductor Memory Design and Testing MEMS System Design					
4.	21D57204a 21D57204b 21D57204c	Program Elective – IV	PE	3	0	0	3
		Low Power VLSI Design					
		IoT and its Applications VLSI Signal Processing					
5.	21D57205	CMOS Mixed Signal IC Design Lab	PC	0	0	4	2
6.	21D57206	Physical Design Automation Lab	PC	0	0	4	2
7.	21D57207	Technical seminar	PR	0	0	4	2
8.	21DAC201a 21DAC201b 21DAC201c	Audit Course – II	AC	2	0	0	0
		Pedagogy Studies					
		Stress Management for Yoga Personality Development through Life Enlightenment Skills					
		Total					18



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M.TECH. IN VLSI/VLSI DESIGN/VLSI SYSTEM DESIGN

COMMON COURSE STRUCTURE & SYLLABI

SEMESTER - III

S.No.	Course codes	Course Name	Category	Hours per			Credits
				L	T	P	
1.	21D57301a 21D57301b 21D06203a	Program Elective – V Bi-CMOS Technology and Applications Optimization Techniques and Applications in VLSI Design SoC Architecture	PE	3	0	0	3
2.	21DOE301b 21DOE301c 21DOE301e	Open Elective Industrial Safety Business Analytics Waste to Energy	OE	3	0	0	3
3.	21D57302	Dissertation Phase – I	PR	0	0	20	10
4.	21D57303	Co-curricular Activities					2
Total							18

SEMESTER - IV

S.No.	Course codes	Course Name	Category	Hours per			Credits
				L	T	P	
1.	21D57401	Dissertation Phase – II	PR	0	0	32	16
Total							16



Jawaharlal Nehru Technological University Anantapur

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

Ananthapuramu-515 002 (A.P) India

Academic Regulations (R19) for B. Tech (Regular-Full time)

(Effective for the students admitted into I year from the Academic
Year **2019-2020** onwards)

and

Academic Regulations (R19) for B.Tech (Lateral Entry Scheme)

(Effective for the students getting admitted into II year through Lateral
Entry Scheme from the Academic Year **2020-2021** onwards)

1. Award of B.Tech. Degree

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

- 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 not be counted in the maximum period permitted for graduation.
 - ii) Registers for 160 credits and secures all 160 credits.
 - iii) A student will be eligible to get Under Graduate degree with Honours or one Minor Engineering, if he/she completes an additional 20 credits.
 - iv) A student will be permitted to register either for Honours degree or one Minor Engineering but not both.
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.

3. 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 from 2019-2020.

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

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

4. About Program related terms:

- i. **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.
- ii. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- iii. **Choice Based Credit System (CBCS):** The CBCS provides choice for students to select from the prescribed courses.
- iv. 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
Project stage - I	04	02
Project stage – II	14	07

5. Weights for Course Evaluation:

5.1 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.

5.2 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. Project stage-I, Socially relevant project and Internship shall be evaluated for 50 marks each & Project stage-II 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.

5.3 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 1:** The subjective paper shall contain 6 questions of equal weightage of 5 marks. Any fraction (0.5 & above) shall be rounded off to the next higher mark.

***Note 2:** The Objective paper shall be conducted online by the University on the day of subjective paper test.

***Note 3:** The assignment shall contains 5 questions of equal weightage of 1 mark each.

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: $(25 \times 0.8) + (0 \times 0.2) = 20$

5.4 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 I 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 10 marks 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: Electrical & Mechanical Technology shall have the following pattern:
 - a. Question paper shall be in two parts viz., Part A and Part B with equal weightage.
 - b. In each part, there shall be 3 either-or type questions for 12, 12 and 11 marks.

Note: The answers for Part A and Part B shall be written in two separate answer books.

5.5 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: Electrical & Mechanical 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.

5.6 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 satisfying the conditions mentioned in item 1 & 2 of the regulations.

5.7 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 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 is mentioned along with the syllabus.

5.8. Laboratory marks and the sessional marks awarded by the college are not final. They are subject to scrutiny and scaling by the University wherever necessary. In such cases, the sessional and laboratory marks awarded by the college will be referred to a committee. The committee will arrive at a scaling factor and the marks will be scaled as per the scaling factor. The recommendations of the Committee are final and binding.

5.9 The laboratory records and mid semester test papers shall be preserved for a minimum of 2 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.

5.10 Procedure for Conduct and Evaluation of MOOC:

- There shall be a Discipline Centric Elective Course through **Massive Open Online Course (MOOC)** in VIIIth semester as Program Elective course. The student shall register for the course (Minimum of 40 hours) offered by authorized Institutions/Agencies, through online with the approval of Head of the Department. The Head of the Department shall appoint one mentor for each of the MOOC subjects offered and the mentor appointed shall conduct the mid semester examinations following the guidelines given in 5.3. Further, the University shall conduct the external examination for the MOOC subject in line with other regular subjects (5.4) based on the syllabi of the respective subject provided in the curriculum. A MOOC course may be studied either in online or in conventional manner.

5.11 There shall be two Open Electives and three inter-disciplinary electives which are **Choice Based Credit Courses (CBCC)** in IV/V semester onwards, wherein the students have to choose inter-disciplinary electives offered by various other departments. These courses can be pursued in MOOC manner or the Conventional manner.

5.12 Minor degree in a discipline (Minor degree/programme):

- This concept is introduced in the curriculum of all conventional B. Tech. programmes offering a major degree. The main objective of Minor in a discipline is to provide additional learning opportunities for academically motivated students and it is an optional feature of the B. Tech. programme. In order to earn a Minor in a discipline a student has to earn 20 extra credits by studying any seven theory subjects from the programme core & professional elective courses of the minor discipline or equivalent MOOC courses available under SWAYAM platform. The list of courses to be studied either in MOOCs or conventional type will be decided by the University at the time of registration for Minor degree.
 - a. Students having a CGPA of 8.0 (for SC/ST students CGPA of 7.5) or above up to II year-I semester and without any backlog subjects will be permitted to register for Minor discipline programme. An SGPA and CGPA of 7.5 (for SC/ST students CGPA of 7.0) has to be maintained in the subsequent semesters without any backlog subjects in order to keep the Minor discipline registration live or else it will be cancelled.
 - b. Students aspiring for a Minor must register from V semester onwards and must opt for a Minor in a discipline other than the discipline he/she is registered in. However, Minor discipline registrations are not allowed before V semester and after VI semester.
 - c. Students will not be allowed to register and pursue more than two subjects in any semester.
 - d. The Evaluation pattern of theory subjects will be similar to the regular programme evaluation.
 - e. Students may enlist their choice of Minor discipline programmes, in order of preference, for which they wish to register. It will not be permissible to alter the choices after the application has been submitted. However, students are allowed to opt for only one Minor discipline programme in the order of preference given by them.
 - f. Minimum strength required for offering a Minor in a discipline is considered as 20% of the class size and Maximum would be 80% of the class size.

- g. Completion of a Minor discipline programme requires no addition of time to the regular Four year Bachelors' programme. That is, Minor discipline programme should be completed by the end of final year B. Tech. program along with the major discipline.
- h. The Concerned Principal of the college shall arrange separate course/class work and time table of the various Minor programmes. Attendance regulations for these Minor discipline programmes will be as per regular courses.
- i. Reservations shall be followed as per the rules of Government of Andhra Pradesh i.e., State-wide Universities Presidential Order 371 Article D in consonance to Section 95 of the A.P. Reorganization Act, 2014 for admissions to Minor degree programmes.
- j. A student registered for Minor in a discipline shall pass in all subjects that constitute the requirement for the Minor degree programme. No class/division (i.e., second class, first class and distinction, etc.) shall be awarded for Minor degree programme.
- k. 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**. This fact will also be reflected in the transcripts, along with the list of courses taken for Minor programme with CGPA mentioned separately.

5.13 Honors degree in a discipline:

- a. This concept is introduced in the curriculum for all conventional B. Tech. programmes. The main objective of Honors degree in a discipline is to provide additional learning opportunities for academically motivated students and it is an optional feature of the B. Tech. programme. In order to earn a Honors degree in his/her discipline, a student has to earn 20 extra credits by studying five advanced courses for 15 credits and by carrying out a mini project for 5 credits in the concerned branch of Engineering. In place of advanced courses, he/she can study equivalent MOOC courses available under SWAYAM platform, as decided by the University from time to time. The Evaluation pattern of theory subjects will be similar to the regular programme evaluation. The mini project shall be evaluated by the committee consisting of Head of the department, Supervisor and External examiner. Students aspiring for Honors degree must register from V semester onwards. However, Honors degree registrations are not allowed before V semester and after VI semester. Student may register for mini project from V semester onwards and complete the same before VIII semester after completing at least two advanced courses or equivalent.

b. Procedure for Conduct and Evaluation of Honors degree Mini project:

Out of a total of 100 marks for the **Mini project**, 30 marks shall be for Internal Evaluation and 70 marks for the End Semester Examination (Viva-voce). The Viva-Voce shall be conducted by a committee consisting of HOD, Project Supervisor and an External Examiner nominated by the University. The evaluation of project work shall be conducted at the end of the VIII semester. The Internal Evaluation shall be made by the departmental committee (Head of the Department and one senior faculty member of the Department and Supervisor).

- c. Students having a CGPA of 8.0 (for SC/ST students CGPA of 7.5) or above up to II year-I semester and without any backlog subjects will be permitted to register for degree with Honors. An SGPA and CGPA of 7.5 (for SC/ST students CGPA of 7.0) has to be maintained in the subsequent semesters without any backlog subjects in order to keep the degree with Honors registration live or else it will be cancelled.

5.14 A Socially relevant Project is introduced in IV, V, VI and VII semesters for 0.5 credits in each semester. The student has to spend 15 Hrs./semester on any socially relevant project and submit a report for evaluation. This shall be evaluated for 50 marks in each of the above semesters by a committee consisting of Head of the department, Project mentor and one senior faculty member of the department. A student shall acquire 0.5 credits assigned, when he/she secures 40% or more marks for the total of 50 marks. In case, if a student fails, he/she shall resubmit the report. There shall be no external evaluation.

5.15 There shall be one **Comprehensive online examination** with zero credits conducted by the University at the end of VI semester with 100 objective questions for 100 marks on the subjects studied up to VI semester. Student shall be declared to have passed the Comprehensive online examination only when he/she secures 40% or more marks in the examination. In case, the student fails, he/she shall reappear as and when VI semester supplementary examinations are conducted.

5.16 An Internship/Industrial Training/Research Projects in National Laboratories/Academic Institutions is introduced for 2 credits in the curriculum. It is introduced at the end of VI semester i.e., during summer vacation for a period of 4 weeks. The student shall submit a diary and a technical report for evaluation. This shall be evaluated in the VII semester for 50 marks by a committee consisting of Head of the Department along with two senior faculty members of the Department. A student shall acquire 2 credits assigned, when he/she secures 40% or more marks for the total of 50 marks. In case, if a student fails, he/she shall reappear as and when the VII semester supplementary examinations are conducted. There shall be no external evaluation. Alternatively, B. Tech Civil Engineering students can take up a mini project on Water Resource Engineering in place of the above for 2 credits. Topics can be found in the Civil Engineering curriculum.

5.17 Procedure for Conduct and Evaluation of Project Stage – I:

There shall be a presentation of **Abstract of the main project** in the VII Semester. After selecting the specific topic, the student shall collect the information and prepare a report, showing his/her understanding of the topic and submit the same to the department before presentation. The report and the presentation shall be evaluated by the departmental committee consisting of Head of the Department, Project supervisor and a senior faculty member. It shall be evaluated for 50 marks. A student shall acquire 2 credits assigned to the Project stage-I, when he/she secures 40% or more marks for the total of 50 marks. The Project stage-I shall be evaluated at the end of VII semester by the department committee. There shall be no external evaluation for Project stage-I.

In case, if a student fails in Project stage-I, a re-examination shall be conducted within a month. In case if he/she fails in the re-examination also, he/she shall not be permitted to register for Project Stage-II. Further, such students shall reappear as and when VII semester supplementary examinations are conducted.

5.18 Procedure for Conduct and Evaluation of Project Stage – II:

Out of a total of 200 marks for the **Project stage - II**, 60 marks shall be for Internal Evaluation and 140 marks for the End Semester Examination (Viva-voce). The Viva-Voce shall be conducted by a committee consisting of HOD, Project Supervisor and an External Examiner nominated by the University. Project work shall start in VII

semester and shall continue in the VIII semester. The evaluation of project work shall be conducted at the end of the VIII semester. The Internal Evaluation shall be made by the departmental committee (Head of the Department, two senior faculty members of the department and Supervisor), on the basis of two seminars given by each student on the topic of his/her project.

6. Attendance Requirements in Academics:

- 6.1. A student shall be eligible to appear for University examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the subjects in a semester.
- 6.2. 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.
- 6.3 Shortage of Attendance below 65% in aggregate shall in NO CASE be condoned.
- 6.4 A stipulated fee shall be payable towards condonation of shortage of attendance to the University.
- 6.5 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.
- 6.6 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.

7. Minimum Academic Requirements and Award of the Degree:

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in section 6.

- 7.1 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.
- 7.2 A student shall be promoted from IV to V Semester only if he/she fulfils the academic requirement of securing 40% of the credits (**24.5 credits**) in the subjects that have been studied up to III semester from the following examinations, irrespective of whether the candidate takes the end examination or not as per the normal course of study.
 - One regular and two supplementary examinations of I Semester.
 - One regular and one supplementary examination of II Semester.
 - One regular examination of III semester.
- 7.3 A student shall be promoted from VI semester to VII semester only if he/she fulfils the academic requirements of securing 40% of the credits (**42 credits**) in the subjects that have been studied up to V semester from the following examinations, irrespective of whether the candidate takes the end examination or not as per the normal course of study.
 - One regular and four supplementary examinations of I Semester.
 - One regular and three supplementary examinations of II Semester.
 - One regular and two supplementary examinations of III Semester.
 - One regular and one supplementary examinations of IV Semester.
 - One regular examination of V Semester.

And in case a student is detained for want of credits for particular academic year by sections 7.2 and 7.3 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 as the case may be.

7.4 A student shall register and put up minimum attendance in all 160 credits and earn all the 160 credits.

7.5 Students who fail to earn 160 credits as indicated in the course structure within eight academic years from the year of their admission shall forfeit their seat in B.Tech. course and their admission shall stand cancelled.

8. 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.

9. 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
≥ 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.

9.1. Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. 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^{th} subject and G_i is the grade point scored by the student in the i^{th} course.

- ii. 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_i ” is the SGPA of the i^{th} semester and C_i is the total number of credits upto that semester.

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

10. 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	≥ 7.5
First Class	$\geq 6.5 < 7.5$
Second Class	$\geq 5.5 < 6.5$
Pass Class	$\geq 4.5 < 5.5$

11. Gap Year Concept:

Gap year concept for Student Entrepreneur in Residence is introduced and outstanding students who wish to pursue entrepreneurship are allowed to take a break of one year at any time after II year to pursue full-time entrepreneurship. 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.

12. 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 rejoining 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.

13. Minimum Instruction Days for a Semester:

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

14. Medium of Instruction:

The Medium of Instruction is **English** for all courses, laboratories, mid semester and external examinations, Comprehensive Viva-Voce, seminar presentations and project reports.

15. Student Transfers:

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

16. 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.

**ACADEMIC REGULATIONS (R19)
FOR B.TECH (LATERAL ENTRY SCHEME)**

(Effective for the students getting admitted into II year through Lateral Entry Scheme from the Academic Year 2020-2021 onwards)

1. Award of B.Tech. Degree

A student admitted in Lateral Entry Scheme (LES) will be declared eligible for the award of the B.Tech degree if the student fulfils the following academic regulations:

- a) Pursues a course of study for not less than three academic years and not more than six academic years.
 - b) Registers for 120.5 credits and secures all 120.5 credits from II to IV year of Regular B. Tech. program.
2. Students, who fail to fulfill the requirement for the award of the degree within six consecutive academic years from the year of admission, shall forfeit their seat.
3. The regulations 3 to 6 except 5.1 are to be adopted as that of B. Tech. (Regular).

4. Minimum Academic Requirements:

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no.5

- 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 third year to fourth year only if the student fulfils the academic requirements of securing 40% of credits (26 credits) from the following examinations, irrespective of whether the candidate takes the end examination or not as per the normal course of study.
 - a. One regular and Two supplementary examinations of III semester.
 - b. One regular and one supplementary examinations of IV semester.
 - c. One regular examination of 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.

5. Course Pattern

- 5.1. The entire course of study is three academic years on semester pattern.
- 5.2. 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.
- 5.3. 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.

6. The regulations **8** to **16** are to be adopted as that of B. Tech. (Regular). All other regulations as applicable for B. Tech. Four-year degree course (Regular) will hold good for B. Tech. (Lateral Entry Scheme).
7. There shall be additional four mandatory courses with zero credits: English in III semester, Mathematics in IV semester, Problem Solving & Programming in V semester and AI Tools, Techniques and Applications in VI semester. There shall be no external examination for these mandatory courses. However, attendance in the mandatory 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 satisfying the conditions mentioned in item 1 & 2 of the regulations.

JANUUA

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.

**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/APSCH 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
≥ 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^{th} subject and G_i is the grade point scored by the student in the i^{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_i” is the SGPA of the ith semester and C_i 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.
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		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)
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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.
