

***TWO YEAR COURSE STRUCTURE***  
***FOR***  
***M.TECH –DIGITAL ELECTRONICS AND***  
***COMMUNICATION SYSTEMS (DECS)***  
***w.e.f.***  
***2017-2018 ADMITTED BATCH***  
***R-17 REGULATIONS***



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**COLLEGE OF ENGINEERING (AUTONOMOUS) :: PULIVENDULA**  
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**PULIVENDULA – 516390, Y.S.R. (DIST), ANDHRA PRADESH, INDIA**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR  
COLLEGE OF ENGINEERING (Autonomous) PULIVENDULA – 516 390 (A. P.)

**Academic regulations for M. Tech. (Regular) program**  
**with effect from academic year 2017-18**

### 1. ELIGIBILITY FOR ADMISSION:

Admission to the above 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 GATE/PGECET or otherwise specified, whichever is relevant.

### 2. AWARD OF M.TECH. DEGREE:

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

- i. He/she has pursued a course of study for not less than four semesters and not more than eight semesters.
- ii. Students, who fail to fulfill all the academic requirements for the award of the degree within eight semesters from the year of their admission, shall forfeit their seat in the course and their seat shall stand cancelled.
- iii. Register for 68 credits and secure all 68 credits

### 3. COURSES OFFERED:

s.no.	Department	Specialization
01.	Electrical & Electronics Engineering (EEE)	<i>Electrical Power Systems (EPS)</i>
02.	Mechanical Engineering (ME)	<i>Computer Aided Design &amp; Computer Aided Manufacturing (CAD&amp;CAM)</i>
03.	Electronics & Communication Engineering (ECE)	<i>Digital Electronics &amp; Communication Systems (DECS)</i>
04.	Computer Science & Engineering (CSE)	<i>Computer Science &amp; Engineering (CSE)</i>

And any other course as approved by the competent authorities from time to time.

### 4. COURSE WORK:

The programs are offered on a Semester basis consisting of four Semesters.

- i. The candidates shall undergo ***five theory*** and ***two laboratory*** courses in ***each semester*** during the first and second semesters. During the third and fourth semesters the candidates pursue the dissertation in the concerned specialization only. The theme of dissertation should conform to the specialization.
- ii. There shall be one comprehensive online examinations conducted by the respective department one at the end of 1<sup>st</sup> year with 60 objective questions for 60 marks on the subjects studied in the respective years of both semesters. The heads of the respective department are given the responsibility of preparing question paper and conducting the online examination by maintaining confidentiality. A student shall acquire Two credit assigned to the online examination only when he/she secure 50% or more marks. In case, if a student fails in comprehensive online examination, he shall re- register by following a similar procedure adopted for the lab examinations.

- iii. There shall be *two seminars*(*seminar-I, and seminar -II*) related to thesis/dissertation. Out of two seminars related to thesis/dissertation, *seminar-I* shall be conducted in the 3<sup>rd</sup> semester and the *seminar-II* will be in 4<sup>th</sup> semester.
- iv. A candidate has to either present a paper in any national or international conference organized by AICTE recognized college/institution, or, publish a paper in peer-reviewed journals/Conferences proceedings before the submission of thesis.
- v. Only on completion of all the prescribed courses, the candidate will be permitted to submit the thesis/dissertation. Three copies of the thesis / dissertation certified by the concerned supervisor in the prescribed form shall be submitted to the College. Once a student fails to submit the thesis within the stipulated period of four semesters, extension of time up to eight semesters may be permitted by the Principal with recommendation of the College Academic Committee.
- vi. The Thesis/Dissertation will be adjudicated by one external examiner from reputed institutions/industry appointed by the competent authority.
- vii. If the report of the external examiner is favorable, a viva-voce examination shall be conducted by a board consisting of Head of the department as Chairman, the supervisor and the examiner who adjudicated the thesis/ dissertation. The board shall jointly report the candidate's work as:
  - A - Excellent
  - B - Good
  - C - Satisfactory
  - D - Unsatisfactory
- viii. If the report of the viva-voce is not satisfactory, the candidate will retake the viva-voce examination after three months. If he/she fails to get a satisfactory report at the second viva-voce examination, he/she will not be eligible for the award of the degree unless the candidate is asked to revise and resubmit the thesis/dissertation. The resubmitted copy shall be evaluated by the same board.

## 5. EVALUATION:

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

- i. For the theory subjects, 60% of the marks will be for the End Examination and 40% of the marks will be for Internal Evaluation.

Final Internal marks for a total of 40 marks shall be arrived at by considering the marks secured by the student in both the mid examinations with 80% weightage to the better mid exam and 20% to the other. The two midterm examinations shall be held during the semester, one in the middle of the program and the other one during the last week of instruction. **A student shall answer all three questions in 2 hours of time without seeking any choice.**

The following pattern shall be followed in the End-Examination.

- a. Five questions shall be set from each of the five units with either/or type for 12 marks each, and the total marks of 60.
  - b. All the questions have to be answered compulsorily.
  - c. Each question may consist of one, two or more bits.
- ii. For practical subjects, 60 marks shall be for the End Examinations and 40 marks will be for internal evaluation based on the day to day performance. The end semester practical examination shall be conducted by the concerned laboratory teacher and senior expert in the same subject of the department nominated by the Principal.
  - iii. Comprehensive Online Examination shall be evaluated for 60 marks and seminar-I and seminar-II shall be evaluated for internal marks of 50 each. There is no external evaluation for them. A candidate

has to secure a minimum of 50% to be declared successful in all the three evaluations. If the candidate fails, he/she has to re-register for Comprehensive Online Examination /seminars. Assessment of these three shall be done by a board consisting of Head of the Department, concerned thesis supervisors, and senior faculty members of the department.

- iv. 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.
- v. In case the candidate does not secure the minimum aggregate marks as specified in 5 (iv) he/she has to reappear for the semester examination either the supplementary or regular in that subject or repeat the course as and when next offered or do any other specified subject as may be required. *However the candidate is permitted to appear for two courses per semester only.*

## 6. ATTENDANCE:

A student shall be eligible to appear for end semester examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the subjects in a semester.

- i. Condonation of shortage of attendance up to 10% in any subject i.e. from 65% and above and less than 75% may be given by the College Academic Committee.
- 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 external Examination of that class and their registration shall stand cancelled.
- v. A student will not be promoted to the next semester unless he/she satisfies the attendance requirements of the present semester, as applicable. They may seek readmission for that semester as and when offered next.
- vi. A stipulated fee shall be payable towards condonation of shortage of attendance to the institution.

**7. Grading System is to be introduced.** 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.

### vii. Table – Conversion into Grades and Grade Points assigned

Academic performance	Letter Grade	Grade points Assigned
≥ 95%	S	10
≥90% - < 95%	A++	9.5
≥ 85% - <90%	A+	9
≥80% - <85%	A	8.5
≥75% - <80%	B++	8
≥70% - <75%	B+	7.5
≥65% - <70%	B	7
≥60% - <65%	C++	6.5
≥55% - <60%	C+	6
≥50% - <55%	C	5.5
≥45% - < 50%	D	5
≥40%- < 45%	E	4.5
Below 40%	F(Fail)	0
Absent	Ab (Absent)	0

- i. The following procedure shall be adopted to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA);

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

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

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

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<sub>i</sub>' is the SGPA of the  $i^{\text{th}}$  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 S, A, B, C, D, E and F.

## 8. AWARD OF DEGREE AND CLASS:

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

Class Awarded	CGPA Secured
First Class with Distinction	$\geq 7.5$
First Class	$\geq 6.5 < 7.5$
Second Class	$\geq 5.5 < 6.5$
Pass Class	$\geq 4.0 < 5.5$

(The marks in internal evaluation and external Examination shall be shown separately in the marks memorandum)

Further, CGPA to a maximum of extent of 0.05 shall be added which is just sufficient to effect change of class from pass class to Second class, Second class to First class, First class to First class with distinction for all the courses being offered, without adding any marks to the original marks secured by the students

A candidate shall be eligible for the award of respective degree if he/she satisfies the minimum academic requirements in every subject and secures at least satisfactory report on his/her thesis / dissertation and viva-voce.

## 9. WITHHOLDING OF RESULTS

The result of a candidate shall be withheld if:

- i. He/she has not cleared any dues to the Institution / Hostel.
- ii. A case of disciplinary action against him/her is pending disposal.

## 10. TRANSITORY REGULATIONS:

Candidates who have discontinued or have been detained for want of attendance or who have failed after having undergone the course are eligible for re-admission to the same or equivalent subjects as and when subjects are offered, subject to the conditions mentioned in 5-(iv) and 2-(ii).

**11. GENERAL:**

The academic regulations should be read as a whole for purpose of any interpretation.

- i. The college reserves the right of altering the regulations as and when necessary. The regulations altered may be applicable to all the candidates on rolls.
- ii. Wherever the word he, him or his occur, it will also include she, her, hers.
- iii. There shall be no place for transfer of candidate within the constituent colleges of Jawaharlal Nehru Technological University during the entire course of the programme.

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