

REGULATIONS 2018
(CHOICE BASED CREDIT SYSTEM)
(Common to all M.E./M.Tech. Degree Programmes)

NOTE: The regulations given hereunder are subject to amendments as may be decided by the Academic Council of the Institute from time to time. Any or all such amendments will be effective from such date and to such batches of students including those already in the middle of the programme as may be decided by the Academic Council.

1. ELIGIBILITY FOR ADMISSION

- (i) Candidates seeking admission to the First Semester of M. E. / M. Tech. degree programmes will be required to satisfy the eligibility criteria for admission thereto prescribed by the Directorate of Technical Education, Chennai and Anna University, Chennai.
- (ii) Part - time candidates should satisfy conditions regarding experience, sponsorship, place of work and other requirements that may be prescribed by the Directorate of Technical Education, Chennai and Anna University, Chennai from time to time, in addition to satisfying requirements as in Clause 1 (i).

2. DURATION OF THE PROGRAMME

- (i) **Minimum Duration:** Master of Engineering (M.E.) / Master of Technology (M.Tech.) extends over a period of two years. The two academic years (Part-time three academic years) will be divided into four semesters (Part-time six Semesters) with two semesters per year.
- (ii) **Maximum Duration:** A candidate shall complete all the passing requirements of M. E. / M. Tech. programmes within a maximum period of 4 years / 8 semesters in case of full-time programme and 6 years / 12 semesters in case of part-time programme, these periods being reckoned from the commencement of the First semester to which the candidate was first admitted, regardless to the break-of-study availed.

3. BRANCHES OF STUDY

Following M.E. / M.Tech. Programmes are offered by the Institute

M.E. Programmes

- 1. Applied Electronics
- 2. CAD/CAM
- 3. Communication Systems
- 4. Computer Science and Engineering
- 5. Embedded Systems
- 6. Engineering Design
- 7. Industrial Automation and Robotics
- 8. Industrial Safety Engineering
- 9. Instrumentation Engineering
- 10. Power Electronics and Drives
- 11. Software Engineering
- 12. Structural Engineering

13. VLSI Design

M. Tech. Programme

14. Biotechnology

4. STRUCTURE OF PROGRAMMES

- (i) **Curriculum:** Every Post Graduate Programme will have a curriculum with syllabi consisting of theory and practical courses that include **Professional Core** (core courses relevant to the chosen specialization), **Professional Electives** (elective courses) and **Employability Enhancement Courses** (Practical courses, Project Work, Internship, Miniproject and Industrial / Practical Training).
- (ii) **Project Work:** Every student, individually, shall undertake Dissertation Phase - I during the third semester (fifth semester for part-time programme) and Dissertation Phase - II during the fourth semester (Sixth semester for part-time programme) under the supervision of a qualified faculty (faculty members with Ph.D. or P.G. with a minimum of 3 years of teaching experience). The Dissertation Phase - II shall be a continuation work of the Dissertation Phase - I. The project work can be undertaken in an industrial / research organization or Institute in consultation with the faculty guide and the Head of the Department. In case of project work at industrial / research organization, the same shall be jointly supervised by a faculty guide and an expert from the organization.
- (iii) **Elective Courses: Seven Elective** courses are offered to the students admitted in various disciplines as prescribed in the curriculum to widen their knowledge in their specialization area.
- (iv) **Online Courses:** A Student may be permitted to credit online courses with the approval of a Departmental Consultative Committee constituted by the Head of the Department, subject to a maximum of three credits. Such students may be exempted from attending the classes, if such course(s) are offered in the semester. Summary of such on-line courses, taken by the students, along with the offering agency shall be presented to the Academic Council for information and further suggestions. However, the student needs to obtain certification from the agency offering the course to become eligible for writing or seeking exemption from the End Semester Examination. In case of credits earned through online mode from the Institute / University, the credits may also be transferred directly after due approval from the Departmental Consultative Committee and the Office of the Controller of Examinations.
- (v) **Industrial Training:** Every full-time student shall take-up training in the industry / research laboratories, under the supervision of a faculty guide during summer / winter vacation till pre-final semester of the programme subject to the evaluation prescribed in the Clause 15. Credits of such courses will be indicated for the course in the Grade Sheet if the student passes, but it will not be considered for computing CGPA.

- (vi) **Mini Project:** A Mini Project shall be undertaken by the students individually in consultation with the respective faculty and Head of the Department, as specified in the curriculum. A student is expected to make a presentation about the mini-project during the final evaluation as given in the Clause 15.
- (vii) **Value Added / Certificate Courses:** Students can opt for any one of the Value added Courses in II and III semester, approved by the Academic Council. A separate Certificate will be issued on successful completion of the Course by the Controller of Examinations.
- (viii) **Credit Assignment:** Each course is normally assigned a certain number of credits with 1 credit per lecture hour per week, 1 credit for 2 hours of practical per week, 1 credit for 1 hours of tutorial per week, The exact numbers of credits assigned to the different courses of various programmes are decided by the respective Boards of Studies.
- (ix) **Minimum Credits:** For the award of the degree, the student shall earn a minimum number of total credits as prescribed by the respective Board of Studies as given below:

S.No.	M.E./M. Tech. Programmes	Total Credits
1.	M.E. Applied Electronics	69
2.	M.E. CAD / CAM	70
3.	M.E. Communication Systems	70
4.	M.E. Computer Science and Engineering	70
5.	M.E. Embedded Systems	70
6.	M.E. Engineering Design	70
7.	M.E. Power Electronics and Drives	69
8.	M.E. Software Engineering	70
9.	M.E. Structural Engineering	69
10.	M.E. VLSI Design	70
11.	M.E. Industrial Safety Engineering	70
12.	M.E. Industrial Automation and Robotics	69
13.	M.E. Instrumentation Engineering	69
14.	M.Tech. Biotechnology	69

5. COURSE ENROLLMENT AND REGISTRATION

- 5.1 Each student, on admission shall be assigned to a Faculty Advisor (vide Clause 7) who shall advise / counsel the student about the details of the academic programme and the choice of courses considering the student's academic background and career objectives.
- 5.2 Every student shall enroll for the courses of the succeeding semester, in the current semester. However, the student shall confirm the enrolment by registering for the courses within the first five working days after the commencement of the semester concerned.

5.3 After registering for a course, a student shall attend the classes, satisfy the attendance requirements, earn Continuous Assessment marks and appear for the End Semester Examinations.

5.3.1 Each student on admission to the programme shall register for all the **courses prescribed in the curriculum** in the **first Semester of study**.

5.3.2 The enrolment for all the courses of the Semester II will commence 10 working days prior to the last working day of Semester I. The student shall confirm the enrolment by registering for the courses within the first five working days after the commencement of the Semester II.

5.3.3 If a student wishes, the student may drop or add courses (vide Clause 5.5) within **five** working days after the commencement of the semester concerned and complete the registration process duly authorized by the PG coordinator of the programme. In the case, if a student fails in a course, he / she may be permitted to register the course in the subsequent semester or when it is offered.

5.3.4 A student who has passed all the courses prescribed in the curriculum for the award of the degree shall not be permitted to re-enroll to improve the student's marks in a course or the aggregate marks / CGPA.

5.4 **Minimum Credits to Register for Project work**

The Project work for M.E. / M.Tech. consists of Dissertation Phase - I and Dissertation Phase - II. The Dissertation Phase - I is to be undertaken during III semester (V semester for part-time programme) and Dissertation Phase - II, which is a continuation of Phase - I is to be undertaken during IV semester (VI semester for part-time programme). Minimum 24 credits are required to be earned to enroll the Dissertation Phase - I.

If a student fails to earn the requisite minimum credits, the student cannot enroll for the Dissertation Phase - I. In such a case, the student can enroll for the project work in a subsequent semester, after earning the minimum credits specified.

5.5 **Flexibility to Add or Drop courses**

5.5.1 A student has to earn the total number of credits specified in the curriculum of the respective Programme of study in order to be eligible to obtain the degree. However, if a student wishes, the student is permitted to earn more than the total number of credits prescribed in the curriculum of the student's programme by opting for additional courses.

5.5.2 From the II to final semesters, the student has the option of registering for additional courses or dropping existing courses. Total number of credits of such courses cannot exceed 6. In such cases, the attendance requirement as stated Clause 6 is mandatory.

5.6 **Reappearance Registration**

5.6.1 If a student fails in a theory course, the student shall do reappearance registration for that course in the subsequent semester or when it is offered next.

- 5.6.2 On registration, a student may attend the classes for the reappearance registration courses, if the student wishes. However, the attendance requirement (vide Clause 6) is not compulsory for such courses.
- 5.6.3 The student who fails in any practical / Miniproject or any other EEC courses shall register for the same in the subsequent semester or when offered next, and **repeat** the course. In this case, the student shall attend the classes, satisfy the attendance requirements (vide Clause 6) and earn Continuous Assessment marks.
- 5.6.4 The student who fails in Dissertation Phase I / II shall register for the same in the subsequent semester or when offered next, and **repeat** the course. In this case, the student shall attend the classes, satisfy the attendance requirements (vide Clause 6), earn Continuous Assessment marks and appear for the End Semester Examinations. Reappearance Registration is not available for such courses.
- 5.6.5 If a student is prevented from writing the end semester examination of a course due to lack of attendance, the student has to register for that course again, when offered next, attend the classes and fulfil the attendance requirements as per Clause 6.

6. REQUIREMENTS FOR APPEARING FOR THE END SEMESTER EXAMINATION OF A COURSE

A student who has fulfilled the following conditions (vide clause 6.1 and 6.2) shall be deemed to have satisfied the attendance requirements for appearing for End Semester Examination of a particular course.

Each semester shall normally consist of 75 working days or 540 periods of each 50 minutes duration, for full-time mode of study or 250 periods for part-time mode of study.

- 6.1 Ideally every student is expected to attend all the periods and earn 100% attendance. However, a student shall secure not less than 80% attendance (Physical presence) course wise taking into account the number of periods required for that course as specified in the curriculum.
- 6.2 If a student secures attendance between 70% and 79% in any course in the current semester due to medical reasons (prolonged hospitalization / accident / specific illness) or participation in Institution/ University/ State/ National/ International level extra and co-curricular activities, with prior permission from the Head of the Department, shall be permitted to appear for the current semester examinations subject to the condition that the student shall submit the medical certificate / participation certificate attested by the Head of the Department. Such certificates shall be forwarded to the Controller of Examinations for verification and for the permission to attend the examinations.
- 6.3 A student shall normally be permitted to appear for End Semester Examination of a course if the student has satisfied the attendance requirements (vide Clause 6.1 –

6.2) and has registered for examination in those courses of that semester by paying the prescribed fee.

- 6.4 A Student who does not satisfy clause 6.1 and 6.2 and who secure less than 70% attendance in a course will not be permitted to write the End-Semester Examination of that course. The student has to register and repeat this course in the subsequent semester or when it is offered next (vide clause 5.6.4).
- 6.5 A student who has already appeared for a course in a semester and passed the examination is not entitled to reappear in the same course for improvement of grades / marks.

7. FACULTY ADVISOR

To help the students in planning their courses of study and for general advice on the academic programme, the Head of the Department will attach a certain number of students to a Faculty member of the Department who shall function as Faculty Advisor for those students. The Faculty Advisor shall advise and guide the students in registering of courses, reappearance of courses, monitor their attendance and progress and counsel them periodically. If necessary, the Faculty Advisor may also discuss with or inform the parents about the progress / performance of the students concerned.

8. COMMITTEES

8.1 Class Committee Meeting

- (i) For all the courses taught, prescribed in the curriculum, Class Committee meeting shall be convened twice in a semester, comprising members of the faculty handling all the courses and two student representatives from the class.
- (ii) One of the members of the faculty (not handling any courses to that class), nominated by the Head of the Department, shall coordinate the activities of this Committee. During these meetings, the student members shall meaningfully interact and express their opinions and suggestions of all the students to improve the effectiveness of the teaching-learning process. It is the responsibility of the student representatives to convey the proceedings of these meetings to all other students.

9. ASSESSMENT AND PASSING REQUIREMENTS

9.1 Assessment

The assessment will comprise Continuous Assessment and End Semester Examination, carrying marks as specified in the scheme (Clause 15). All assessments will be done on absolute marks basis. However, for the purpose of reporting the performance of a student, Letter Grades and Grade Points will be awarded as per Clause 9.4.

9.2 End Semester Examinations

End Semester Examinations will normally be conducted as per the time table circulated by the Office of the Controller of Examination. A student will be permitted to appear for the End Semester Examination of a semester only if he/she

completes the study of that semester satisfying the requirements given in Clause 5 and 6, and registers simultaneously for the examinations of the highest semester eligible and the courses, pertaining to that semester, that need reappearance.

9.3 Employability Enhancement Courses

Every candidate shall submit reports on Industrial training / Mini-project, Dissertation - Phase I and Dissertation - Phase II on dates announced by the Institute / Department through the faculty guide to the Head of the Department. If a candidate fails to submit the reports of any of these courses not later than the specified date, he/she is deemed to have failed in it. The reports /papers shall be orally presented by the student before a team of expert consisting of an internal examiner, usually the supervisor, and an external examiner, appointed by the Head of the Institution.

A candidate is permitted to register for the Dissertation -Phase II, only after passing the Dissertation - Phase I. A candidate who fails in Industrial training / Mini-project, Dissertation - Phase I or Dissertation - Phase II shall register for redoing the same at the beginning of a subsequent semester.

9.4 Letter Grade and Grade Point: The Letter Grade and the Grade Point are awarded based on percentage of total marks secured by a candidate in an individual course as detailed below:

Range of Percentage of Total Marks	Grade Point	Letter grade
91 to 100	10	O (Outstanding)
81 to 90	9	A + (Excellent)
71 to 80	8	A (Very Good)
61 to 70	7	B + (Good)
50 to 60	6	B (Above average)
0 to 49	0	RA (Reappearance)
Incomplete	0	I
Withdrawal	0	W
Absent	0	AB

‘RA’ - Reappearance registration is required for that particular course

‘I’ - Continuous evaluation is required for that particular course in the subsequent examinations.

After completion of the evaluation process, Semester Grade Point Average (SGPA) and

Cumulative Grade Point Average is calculated using the formula:

$$SGPA/CGPA = \frac{\sum_{i=1}^n C_i * g_i}{\sum_{i=1}^n C_i}$$

where

C_i : Credit allotted to the course.

g_i : Grade Point secured corresponding to the course.

n : number of courses successfully cleared during the particular semester in the case of SGPA and all the semesters, under consideration, in the case CGPA.

- 9.5** A student can apply for revaluation of his / her semester examination answer paper in a theory course, within 3 working days from the declaration of results, along with prescribed application to the Controller of Examinations through the Head of Department. Revaluation is not permitted for laboratory courses, industrial training and project works.

9.6 Passing a Course

A candidate who secures Grade Point 6 or more in any course of study will be declared to have passed that course, provided, if secures a minimum of 50% of the total mark in the End Semester Examination of that course. The Continuous Assessment (CA) marks obtained by the candidate in the first appearance shall be retained and considered valid for one subsequent attempt, except Clause 5.6.3 & 5.6.4. However, from the third attempt onwards the candidate shall be declared to have passed the course if he/she secures a minimum of 6 Grade Points in the course prescribed during the End Semester Examination alone.

- 9.7** Besides satisfying the above Clauses, a student shall present a technical paper, based on the courses of study, in a National or an International conference before the completion of semester IV.

10. REJOINING THE PROGRAMME

A candidate who has not completed the study of any semester as per Clause 6 or who is allowed to rejoin the programme after the period of discontinuance or who on his/her own request is permitted to repeat the study of any semester (break of study), may join the semester which he /she is eligible or permitted to join, only at the time of its normal commencement for a regular batch of candidates and after obtaining the approval from the Director of Technical Education and Anna University, Chennai. In such case, earlier Continuous Assessment in the repeated courses will be disregarded. No candidate will however be allowed to enroll in more than one semester at any point of time.

11. QUALIFYING FOR THE AWARD OF THE DEGREE

A candidate will be declared to have qualified for the award of the M.E. / M.Tech. Degree provided:

- (i) he/she has successfully completed the course requirements and has passed all the prescribed courses of study of the respective programme listed in Clause 3 within the duration specified in Clause 2.
- (ii) No disciplinary action is pending against the candidate.

12. CLASSIFICATION OF DEGREE

12.1 First Class with Distinction:

A student who satisfies the following conditions shall be declared to have passed the examination in First class with Distinction:

M.E. / M.Tech., (Full Time)

- Should have passed the examination in all the courses of all the four semesters in the student's First Appearance within three years, which includes authorised break of study of one year. Withdrawal from examination (vide Clause 13) will not be considered as an appearance.
- Should have secured a CGPA of not less than 8.50.
- Should NOT have been prevented from writing end Semester examination due to lack of attendance in any of the courses.

M.E. / M.Tech. (Part Time)

- Should have passed the examination in all the courses of all the six semesters in the student's First Appearance within four years, which includes authorised break of study of one year. Withdrawal from examination (vide Clause 13) will not be considered as an appearance.
- Should have secured a CGPA of not less than 8.50.
- Should NOT have been prevented from writing end Semester examination due to lack of attendance in any of the courses.

12.2 First Class:

A student who satisfies the following conditions shall be declared to have passed the examination in First class:

M.E. / M.Tech. (Full Time)

- Should have passed the examination in all the courses of all four semesters within three years ,which includes one year of authorized break of study (if availed) or prevention from writing the End Semester Examination due to lack of attendance (if applicable).
- Should have secured a CGPA of not less than 6.50

M.E. / M.Tech. (Part Time)

- Should have passed the examination in all the courses of all six semesters within four years, which includes one year of authorized break of study (if availed) or prevention from writing the End Semester Examination due to lack of attendance (if applicable).
- Should have secured a CGPA of not less than 6.50

12.3 Second Class: All other students who qualify for the award of Degree shall be declared to have passed in Second Class.

13. WITHDRAWAL FROM EXAMINATION

- 13.1 A student may, for valid reasons, be granted permission by the Head of the Department to withdraw from appearing in the examination in any course(s) of only once during the entire duration of the degree programme.
- 13.2 Withdrawal application shall be valid only, if the student is eligible to write the examination as per Clause 6 and, if such request for withdrawal is made prior to the submission of marks of the Continuous Assessment of the course(s) with the recommendations from the Head of the Department.
- 13.3 Withdrawal shall not be construed as an opportunity for appearance in the examination for the eligibility of a candidate for First Class with Distinction or First Class.

14. AUTHORIZED BREAK OF STUDY FROM A PROGRAMME

- 14.1 A student is permitted to go on break of study for a maximum period of one year either as two breaks of one semester each or a single break of one year.
- 14.2 A student who would like to avail the break of study, on account of short term employment / Medical treatment / personal reasons) shall apply to the Head of the Institution through concerned Head of the Department, (application available with the Controller of Examinations), in any case, not later than the last date for registering for the semester.
- 14.3 The students permitted to rejoin the programme after break of study / prevention due to lack of attendance, shall be governed by the Curriculum and Regulations in force at the time of rejoining. A committee constituted by the Head of the Institution shall prescribe additional / equivalent courses, if any, from the regulation in-force, so as to bridge the requirement between curriculum in-force and the old curriculum.
- 14.4 The total period for completion of the programme reckoned from the commencement of the first semester to which the student is admitted shall not exceed the maximum period specified in the Clause 2, irrespective of the period of break of study in order that he / she may be eligible, for the award of the degree (vide Clause 11 and 12).
- 14.5 In case of any valid reasons for the extension of break-of-study, such extended break-of-study may be granted by the Head of the Institution for a period not more than one year in addition to the earlier authorized break of study. Such extended break-of-study shall be counted for the purpose of classification of degree (vide clause 12).
- 14.6 If a student does not report back to the Institute, even after the extended Break of Study, the name of the student shall be deleted permanently from the college enrolment. Such candidates are not entitled to seek readmission under any circumstances.

15. SCHEME OF ASSESSMENT

I	THEORY COURSES	Marks
	Continuous Assessment	50
	Distribution of marks for Continuous Assessment:	
	Periodical Test I (20)	
	Periodical Test II (20)	
	Term Paper Report (5) & Presentation (5)	
	End Semester Examination	50
	Total Marks	100
II	THEORY COURSES WITH LAB COMPONENT	Marks
	Continuous Assessment	50
	Distribution of marks for Continuous Assessment:	
	Periodical Test I (15)	
	Periodical Test II (15)	
	Final Lab Examination (10)	
	Viva-voce (10)	
	End Semester Examination	50
	(QP pattern as per (I))	
	Total Marks	100
III	PRACTICAL COURSES	Marks
	Continuous Assessment	100
	Distribution of marks for Continuous Assessment:	
	<u>Conduct of Experiment</u>	
	i. Preparation (10)	
	ii. Experiment and Analysis of Results (20)	
	iii. Record (5)	
	Self-Learning Experiment (15)	
	Test - Cycle I (15)	
	Test - Cycle II (15)	
	Final Viva-voce (20)	
	Total Marks	100
IV	DISSERTATION PHASE - I	Marks
	Continuous Assessment	50
	Distribution of marks for Continuous Assessment:	
	<u>Presentation I</u>	
	Identification of topic and Justification (10)	
	Literature Survey (10)	
	<u>Presentation II</u>	
	Work plan & Approach (10)	
	Progress, Results and Discussion (20)	
	End Semester Examination	
	Presentation and Demonstration (20)	50
	Report (10)	
	Viva Voce (20)	
	Total Marks	100

V	DISSERTATION PHASE - II	Marks
	Continuous Assessment	50
	Distribution of marks for Continuous Assessment:	
	<u>Presentation I</u>	
	<i>Work plan & Approach (10)</i>	
	<u>Presentation II</u>	
	<i>Progress, Results and Discussion (20)</i>	
	<i>Journal Publication (20)</i>	
	End Semester Examination	
	Presentation and Demonstration (20)	50
VI	Report (10)	
	Viva Voce (20)	
	Total Marks	100
	MINI PROJECT	Marks
	Continuous Assessment	100
	Distribution of marks for Continuous Assessment:	
	Review I (25)	
	Review II (25)	
	Report Presentation & Viva voce (50)	
	Total Marks	100
VII	INDUSTRIAL TRAINING / INTERNSHIP	Marks
	(CONTINUOUS ASSESSMENT ONLY)	
	Presentation and Viva-voce I	25
	Presentation and Viva-voce II	25
	Review at the Industry	20
	Case study / Report	30
	Total Marks	100
VIII	VALUE ADDED COURSES / CERTIFICATE COURSES	Marks
	(CONTINUOUS ASSESSMENT ONLY)	
	Test	50
	Final Evaluation / Test	50
	Grades (Excellent / Good / Satisfactory)	

Optional Test: A student becomes eligible to appear for the one optional test conducted after the Periodical Test II, only under the following circumstances, if absent for Test I or Test II or both, on account of (i) medical reasons (hospitalization / accident / specific illness) (ii) participation in the College / University / State / National / International level Sports events with prior permission from the Head of the Institution and (iii) on satisfying the conditions (i) or (ii), the student should have registered for the Optional Test, through the concerned faculty member who handles the course or through the respective Head of the Department, submitted to the Controller of Examinations. Such Optional Tests are not conducted for the courses under the categories III, IV, V, VI, VII and VIII listed above.

16. DISCIPLINE

A student is expected to follow the rules and regulations laid down by the Institute and the affiliating University, as published from time to time. Any violations, if any, shall be treated as per the procedures stated thereof.

If a student indulges in malpractice in any of the End Semester / Continuous Assessments, he / she shall be liable for punitive action as prescribed by the Institution / University from time to time.

The Question Paper Pattern (Theory Examination) for PG course is given below:

Type	Questions	Marks
Part A	2 Mark Questions (10 x 2 Marks)	20
Part B	12 Mark Questions either or pattern (5 x 12 Marks)	60
Part C	Comprehensive Type- 20 Mark Question (1 x 20 Marks)	20
Total		100