

# **ANNA UNIVERSITY OF TECHNOLOGY CHENNAI**

CPT CAMPUS, THARAMANI, CHENNAI – 600 113.

## **REGULATIONS 2010**

### **CREDIT SYSTEM**

#### **AFFILIATED COLLEGES**

#### **DEGREE OF BACHELOR OF ENGINEERING / TECHNOLOGY**

#### **(PART-TIME – 7 SEMESTERS)**

(Applicable to all students admitted from 2010 onwards)

The following Regulations are **applicable to all Engineering Colleges (Non-Autonomous) affiliated to Anna University of Technology Chennai and also applicable to University colleges of Engineering under the jurisdiction encompassing Chennai, Kancheepuram, Thiruvallur, Vellore, Thiruvannamalai and Villupuram districts of Tamil Nadu.**

#### **1. PRELIMINARY DEFINITIONS AND NOMENCLATURE**

In these Regulations, unless the context otherwise requires:

- I) **“Programme”** means Degree Programme, that is B.E./B.Tech.(Part-Time – 7 Semesters) Degree Programme.
- II) **“Specialization”** means the discipline of B.E. / B.Tech. (Part-Time -7 Semester) Degree Programme, like Mechanical Engineering & Electronics and Communication Engineering.
- III) **“Course”** means a theory or practical courses that is normally studied in a semester, like Mathematics - I, Physics, Engineering Mechanics, etc.
- IV) **“Director, Academic Courses”** means the authority of the University who is responsible for all academic activities of the University for implementation of relevant rules of this Regulation.
- V) **“Head of the Institution”** means the Principal.
- VI) **“Chairman”** means Head of the Faculty.
- VII) **“Head of the Department”** means Head of the concerned Department of the College.
- VIII) **“University”** means ANNA UNIVERSITY OF TECHNOLOGY CHENNAI.

#### **2. CONDITIONS FOR ADMISSION**

- 2.1 Candidates seeking admission to the first semester (also known as Bridge semester) of the B.E. / B.Tech. (Part-Time – 7 Semesters) degree programme shall be required to have passed the Diploma in Engineering / Technology in the relevant branch of specialization awarded by the State Board of Technical Education, Tamil Nadu or any other authority accepted by the Syndicate of the University as equivalent thereto.

## 2.2 ELIGIBILITY

Candidates seeking admission shall satisfy the following conditions:

- (i) Eligibility conditions such as class, marks, number of attempts shall be as prescribed by the Syndicate of the University from time to time.
- (ii) Shall have been employed for at least two years after qualifying for the Diploma. The period being counted as on 1<sup>st</sup> January of the academic year in which admission is sought.
- (iii) Notwithstanding the qualifying examination the candidate might have passed [vide clause 2.1] he/she has a minimum level of proficiency in Mathematics, Physics, Chemistry and the relevant branch of study as may be prescribed by the University.
- (iv) Shall be employed within a zone of 90 KM radius from the Institution.
- (v) Shall satisfy the conditions of physical fitness as prescribed by the Syndicate of the University.

## 3. DURATION OF THE PROGRAMME

- 3.1 The duration of the programme shall be seven consecutive semesters, spread over 3.5 academic years, (one academic year consisting of 2 semesters). Each semester shall have a minimum of 75 working days, (evenings) excluding the days of the end-semester examinations. The Head of the Department shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus and that the teacher teaches the full content of the specified syllabus for the course being taught.
- 3.2 A student is ordinarily expected to complete the B.E. / B.Tech. (Part – time - 7 semesters) degree programmes in seven semesters (three and half academic years) but in any case he / she has to complete the course requirements successfully and has passed the examinations in all the courses prescribed in the respective curriculum within a maximum period of 14 Semesters (7 academic years) reckoned from the commencement of the first semester to which the candidate was admitted. This maximum period shall be 16 semesters in the case of women candidates.
- 3.3 The Curriculum and Syllabi of all the P.G. Programmes shall be approved by the Academic Council of Anna University of Technology Chennai.

The number of credits to be earned for the successful completion of the Programme shall be as specified in the Curriculum of the respective specialization of the P.G. Programmes.

- 3.4 Credits will be assigned to the courses for different modes of study as given below:
  - 3.4.1 The following will apply to all modes of P.G. Programmes.
    - One credit for each lecture period designed per week
    - One credit for each tutorial period designed per week
    - One credit for each seminar/practical session of two periods designed per week.
  - 3.4.2 Four weeks of practical training in any industrial / research laboratory correspond to one credit, and is applicable to all modes of study.

#### 4. BRANCHES OF STUDY

A candidate may be offered, at the time of admission, one of the following branches of study.

##### (I). FACULTY OF MECHANICAL ENGINEERING

SL. No.	DEGREE AND BRANCH	QUALIFYING DIPLOMA
1.	B.E. Mechanical Engineering	Diploma in Mechanical Engineering / Metallurgy / Mechanical & Rural Engineering / Machine Tool Maintenance / Machine Design & Drafting / Refrigeration and Air Conditioning / Production Engineering / Tool & Die Design / Mechatronics Engineering / Foundry Technology (Sandwich) / Automobile Engineering

##### (II). FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING

SL. No.	DEGREE AND BRANCH	QUALIFYING DIPLOMA
2.	B.E. Electronics and Communication Engineering	Diploma in Electronics Engineering / Electronics and Communication Engineering / Electrical Engineering / Instrument Technology / Electronics with specialization in Instrumentation / Electrical and Electronics Engineering.

#### 5. COURSES OF STUDY

The Courses of study shall include theory and practical courses as detailed in the respective curriculum.

The medium of instruction is English for all courses, examinations, seminar presentations and project/thesis/dissertation reports.

## 6 REQUIREMENT FOR COMPLETION OF A SEMESTER

- 6.1 A candidate who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester.

Ideally, every student is expected to attend all classes and earn 100% attendance. However, in order to allow provision for certain unavoidable reasons such as medical grounds, the student is expected to earn a minimum of 70% attendance.

Therefore, he/she shall secure not less than 70% of overall attendance in that semester taking into account the total number of periods in all courses attended by the candidate as against the total number of periods in all courses offered during that particular semester.

- 6.2 However, a candidate who secures overall attendance between 66% and 69% in that current semester due to medical reasons (prolonged hospitalization / accident / specific illness) may be permitted to appear for the current semester examinations subject to the condition that the candidate shall submit the medical certificate attested by the Head of the Department. The same shall be forwarded to the Controller of Examinations, Anna University of Technology Chennai for record purposes.

- 6.3 Candidates who could secure **less than 65%** overall attendance and candidates who do not satisfy the **clauses 6.1 & 6.2** will not be permitted to write the end-semester examination of that current semester and are not permitted to go to subsequent academic session. They are required to repeat the incomplete semester in the subsequent academic year.

## 7. FACULTY ADVISER

To help the students in planning their courses of study and for general advice on the academic programme, the Head of the Department of the students will attach a certain number of students to a teacher of the Department who shall function as Faculty Adviser for those students throughout their period of study. Such Faculty Advisers shall advise the students and monitor the courses undergone by the students, check the attendance and progress of the students attached to him/her and counsel them periodically. If necessary, the faculty adviser may also discuss with or inform the parents about the progress of the students.

## 8. CLASS COMMITTEE

- 8.1. Every class shall have a Class Committee consisting of teachers of the class concerned, Student Representatives and a Chairperson who is not teaching the class. It is like the 'Quality Circle' (more commonly used in industries) with the overall goal of improving the teaching-learning process. The functions of the class committee include

- Solving problems experienced by students in the class room and in the laboratories.
- Clarifying the regulations of the degree programme and the details of rules therein particularly **clause 3 and 6** which should be displayed on college Notice-Board.
- Informing the student representatives the academic schedule including the dates of assessments and the syllabus coverage for each assessment.
- Informing the student representatives the details of Regulations regarding weightage used for each assessment. In the case of practical courses (laboratory / drawing / project work / seminar etc.) the breakup of marks for each experiment / exercise / module of work, should be clearly discussed in the Class Committee Meeting and informed to the students.

- Analyzing the performance of the students of the class after each test and finding the ways and means of solving problems, if any.
  - Identifying the weak students, if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such weak students.
- 7.2 The class committee for a class under a particular branch is normally constituted by the Head of the Department. However, if the students of different branches are mixed in a class (like the first semester which is generally common to all branches), the Class Committee is to be constituted by the Principal.
- 7.3 The Class Committee shall be constituted within the first week of each semester.
- 7.4 At least 4 student representatives (usually 2 boys and 2 girls) shall be included in the Class Committee.
- 7.5 The Chairperson of the Class Committee may invite the Faculty adviser(s) and the Head of the Department to the meeting of the Class Committee.
- 7.6 The Principal may participate in any Class Committee of the Institution.
- 7.7 The Chairperson is required to prepare the minutes of every meeting, submit the same to Principal within two days of the meeting and arrange to circulate it among the students and teachers concerned. If there are some points in the minutes requiring action by the management, the same shall be brought to the notice of the management by the Head of the Institution.
- 7.8 The first meeting of the Class Committee shall be held within one week from the date of commencement of the semester, in order to inform the students about the nature and weightage of assessments within the framework of the Regulations. Two or three subsequent meetings may be held in a semester at suitable intervals. **The Class Committee Chairman shall put on the Notice Board the cumulative attendance particulars of each student at the end of every such meeting to enable the students to know their attendance details to satisfy the clause 6 of this Regulation.** During these meetings the student members representing the entire class, shall meaningfully interact and express the opinions and suggestions of the other students of the class in order to improve the effectiveness of the teaching-learning process.

## 8. COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one discipline or group shall have a "Course Committee" comprising all the teachers teaching the common course with one of them nominated as Course Coordinator. The nomination of the Course Coordinator shall be made by the Head of the Department / Principal depending upon whether all the teachers teaching the common course belong to a single department or to several departments. The 'Course committee' shall meet in order to arrive at a common scheme of evaluation for the test and shall ensure a uniform evaluation of the tests. Where ever feasible, the Course Committee may also prepare a common question paper for the internal assessment test(s). The committee on common courses, after the evaluation of the end-semester examination papers of common courses shall decide on the range of marks for awarding letter grades as per **clause 15.1**.

## **9. SYSTEM OF EXAMINATION**

- 9.1 Performance in each course of study shall be evaluated based on (i) continuous internal assessment throughout the semester and (ii) University examination at the end of the semester.
- 9.2 Each course, both theory and practical (other than project work) shall be evaluated for a maximum of 100 marks. The project work shall be evaluated for a maximum of 200 marks.
- 9.2.1 For all theory and practical courses other than project work, the continuous internal assessment will carry 20 marks while the University examination will carry 80 marks.
- Project work may be allotted to a single student or to a group of students not exceeding 4 per group.
- 9.2.2 For project work, the continuous internal assessment will carry 40 marks while the University examination will carry 160 marks (**see also 9.4.1**).
- 9.3 The University examination (theory and practical) of 3 hours duration shall ordinarily be conducted between October and December during the even semesters and between April and June during the odd semesters.
- 9.4 The University examination for project work shall consist of evaluation of the final report submitted by the student or students of the project group (of not exceeding 4 students) by an external examiner followed by a viva-voce examination conducted separately for each student by a committee consisting of the external examiner, the guide of the project group and an internal examiner.
- 9.4.1 The project report shall carry a maximum 60 marks (same mark shall be awarded for the report submitted to every student within the project group) while the viva-voce examination shall carry 100 marks. (Marks are awarded to each student of the project group based on the individual performance in the viva-voce examination).
- 9.5 For the University examination in both theory and practical courses including project work the internal and external examiners shall be appointed by the University.

## **10. EVALUATION OF CANDIDATES PERFORMANCE**

- 10.1 The maximum marks for each theory and practical course (subject) shall be 100 comprising 20 marks for continuous assessment and 80 marks for the end-semester examinations conducted by the University. The examinations shall ordinarily be conducted in November / December or in April / May depending on odd or even semesters. For practical examinations (including Project Work), both internal and external examiners shall be appointed by the Controller of Examinations, Anna University of Technology Chennai.

## **10.2 PROCEDURE FOR AWARDING MARKS FOR CONTINUOUS ASSESSMENT**

### **10.2.1 INTERNAL ASSESSMENT FOR THEORY COURSES:**

The maximum marks for Internal Assessment shall be 20 in case of theory courses.

There shall be three tests each carrying 100 marks conducted by the Department. The Total marks obtained in the best 2, tests out of 3 put together, out of 200 shall be reduced to 15 marks (**vide clause 10.1**) and rounded to the nearest integer. (The remaining 5 marks shall be distributed for attendance as prescribed in **clause 10.2.5**)

### **10.2.2 INTERNAL ASSESSMENT FOR PRACTICAL COURSES:**

Every practical experiment shall be evaluated based on conduct of experiment and records maintained duly signed by the HOD. There shall be at least one mid-semester test. The criteria for arriving at the internal assessment marks shall be decided (based on the recommendation of the Class Committee) by the Head of the Department and shall be announced at the beginning of every semester. The maximum mark for Internal Assessment will be 20 in case of Practical Courses.

Out of 20 marks for Internal Assessment 10 marks can be given for mid-semester test; 5 marks for attendance (as per clause **10.2.5**), and the remaining 5 marks may be distributed for completion of record and neatness.

### **10.2.3 THEORY COURSES WITH LABORATORY COMPONENT:**

The maximum marks for Internal Assessment shall be 20 in case of theory courses with Laboratory component.

If there is a theory course with Laboratory component, there shall be three tests: the first two tests (each 100 marks) will be from theory portions and the third test (maximum mark 100) will be for laboratory component. The sum of marks of first two tests shall be reduced to 15 marks and the third test mark shall be reduced to 15 marks. The sum of these two test / assessment will further be reduced to 15 marks and rounded to the nearest integer. (The remaining 5 marks shall be distributed for attendance as prescribed in **clause 10.2.5**).

### **10.2.4 PROJECT WORK:**

The total internal assessment marks shall be 20 there shall be three assessments (each 100 marks) during the semester by a review committee. The Head of the Institution shall constitute the review committee. The student shall make presentation on the progress made before the committee. The total marks obtained in the three assessments shall be reduced to 15 marks and rounded to the nearest integer. (The remaining 5 marks shall be distributed for attendance as prescribed in **clause 10.2.5**)

#### **10.2.5. Distribution of 5 marks for attendance above 70%**

71%	-	76%	=	1 mark
77%	-	82%	=	2 marks
83%	-	88%	=	3 marks
89%	-	94%	=	4 marks
95%	-	100%	=	5 marks

## 11. DISCIPLINE:

- 11.1 Every student is required to be disciplined and to have decorous behavior both inside and outside the campus and not to indulge in any activity, which will tend to bring down the prestige of the Institution and university.
- 11.2 Any act of indiscipline of a student reported to the Head of the Institution will be referred to a Discipline and Welfare Committee nominated by the University from time to time, for taking appropriate action.
- 11.3 If a student indulges in malpractice in any of the Tests of Internal / University Examinations, the student shall be liable for punitive action as prescribed by the university from time to time.

## 12 REQUIREMENTS FOR APPEARING END-SEMESTER EXAMINATION

- (a) A candidate shall normally be permitted to appear for the end-semester examination of the current semester, if he / she has satisfied the semester completion requirements (vide clause 6.1 & 6.2) and has registered for examination in all the courses of that semester.

However, students having arrears of the previous semester courses must register for all the arrears courses of the previous semesters alongwith the current semester subjects.

- (b) A candidate shall be permitted to proceed from the current semester to the next higher semester, irrespective of the arrear courses he / she may have in the earlier semester only if,
- i) He / She has satisfied all the semester completion requirements of the current semester and
  - ii) He / She has registered for the end semester examination in all the courses of the current semester and also in all arrears course, if any.

## 13. PASSING REQUIRMENTS

- 13.1 A Candidate who secures not less than 50% of total marks prescribed for the courses (Internal Assessment and End Semester Examinations) with a minimum of 50 % of the marks prescribed for the end-semester examination in both theory and Practical courses (including project work) shall be declared to have passed in the Examination.

- 13.2 If the candidate fails to secure a pass in a particular course as per **clause 13.1**, it is mandatory that candidate shall register and reappear for the examination in that course during the subsequent semester when examination is conducted in that course. Further the candidate should continue to register and reappear for the examination till a **pass** is secured in such arrears subjects.

The internal assessment marks obtained by the candidate in the first appearance shall be retained and considered valid for all subsequent attempts till the candidate secure a pass.

However, from the 3<sup>rd</sup> attempt onwards if a candidate fails to obtain pass marks (IA + End Semester Examination) as per **clause 13.1** then the passing requirement shall be as follows:

**The candidate should secure 50% and above the maximum marks prescribed for the university examinations alone.**

13.3. The Internal Assessment marks for all the courses including practicals are valid for a minimum of 2 attempts in the end semester examinations, including the first appearance. From the 3<sup>rd</sup> attempt onwards the internal assessment will not be taken into account and the passing requirement shall be 50% of the total marks alone prescribed for those courses in the end semester examination.

#### 14 WEIGHTAGES

14.1 The following will be the weightages for different courses.

i) Lecture or Lecture cum Tutorial based course:

Internal Assessment	-	20%
University Semester Examination	-	80%

ii) Laboratory based courses

Internal Assessment	-	20%
University Semester Examination	-	80%

iii) Project work

Internal Assessment	-	20%
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Evaluation of Project Report by external examiner	-	30%
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Viva-Voce Examination	-	50%
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#### 15 AWARD OF LETTER GRADES

15.1 All assessments of a course will be done on absolute marks basis. However, for the purpose of reporting the performance of a candidate, letter grades, each carrying certain points, will be awarded as per the range of total marks (out of 100) obtained by the candidate, as detailed below:

Letter grade	Grade Points	Marks Range
S	10	91 – 100
A	9	81 – 90
B	8	71 – 80
C	7	61 – 70
D	6	56 – 60
E	5	50 – 55
RA	0	< 50
I	0	
W	0	

“RA” denotes **reappearance** is required for the examination in the course. (This grade will figure both in Marks Sheet as well as in Result Sheet “W” denotes **withdrawal** from the course).

The Grade “I” denotes inadequate attendance (as per **clause 12**) and hence prevention from writing the end semester examination.

The Grade “I” and “W” will figure only in the Result Sheets.

### Grade sheet

After results are declared, Grade Sheets will be issued to each student which will contain the following details:

- The college in which the candidate has studied
- The list of courses enrolled during the semester and the grade scored.
- The Grade Point Average (GPA) for the semester and
- The Cumulative Grade Point Average (CGPA) of all courses enrolled from first semester onwards.

GPA is the ratio of the sum of the products of the number of credits of courses enrolled and the points corresponding to the grades scored in those courses, taken for all the courses, to the sum of the number of credits of all the courses in the semester to the sum of the credits of all courses registered.

$$\text{GPA} = \frac{\text{Sum of [C * GP]}}{\text{Sum of C}}$$

CGPA will be calculated in a similar manner, considering all the courses enrolled from first semester. "RA", "I" and "W" grades will be excluded for calculating GPA and CGPA.

- 15.2 Whenever students, having arrear subjects, appear for the end semester examination during which there are no regular batch of students writing the same subjects, then, the letter grades for the arrears subjects shall be awarded based on the range of marks approved by the class committee immediately preceding end semester examination in which regular students wrote.

## 16 ELIGIBILITY FOR THE AWARD OF THE DEGREE

- 16.1 A student shall be declared to be eligible for the award of the Degree if he/she has
- Successfully gained the required number of total credits as specified in the Curriculum corresponding to his/her Programme within the stipulated time.
  - No disciplinary action is pending against him/her.
  - Successfully completed the field visit / industrial training, if any, as prescribed in the curriculum.
  - The award of the degree must be approved by the Syndicate.

## 17. CLASSIFICATION OF THE DEGREE AWARDED

- 17.1 A candidate who qualifies for the award of the Degree (vide **clause 16**) having passed the examination in all the courses in his/her first appearance within the specified minimum number of semesters securing a **CGPA of not less than 8.50** shall be declared to have passed the examination in **First Class with Distinction**.
- 17.2 A candidate who qualifies for the award of the Degree (vide **clause 16**) having passed the examination in all the courses within the specified minimum number of semesters plus one year (two semesters), securing a **CGPA of not less than 6.50** shall be declared to have passed the examination in **First Class**. For this purpose the withdrawal from examination (vide clause 16) will not be construed as an appearance. Further, the authorized break of study (vide clause 19) will not be counted for the purpose of classification.

17.3 All other candidates (not covered in **clauses 17.1 and 17.2**) who qualify for the award of the degree (vide Clause 16) shall be declared to have passed the examination in **Second Class**.

17.4 A candidate who is absent in semester examination in a course / project work after having enrolled for the same shall be considered to have appeared in that examination for the purpose of classification.

17.5 **REVALUATION**

A candidate can apply for revaluation of his/her semester examination answer paper in a theory course, within 2 weeks from the declaration of results, on payment of a prescribed fee through proper application to the Controller of Examinations through the Head of Institution. A candidate can apply for revaluation of answer scripts for not exceeding 5 subjects at a time. The Controller of Examinations will arrange for the revaluation and the results will be intimated to the candidate concerned through the Head of the Institution. Revaluation is not permitted for practical courses, seminars, practical training and for project work.

**18 PROVISION FOR WITHDRAWAL FROM END-SEMESTER EXAMINATION**

18.1 A candidate, may for valid reasons and on prior application, be granted permission to withdraw from appearing for the examination of any one course or consecutive examinations of more than one course in a semester examination.

18.2 Such withdrawal shall be permitted only once during the entire period of study of the degree programme.

18.3 Withdrawal application is valid only if it is made within 10 days prior to the commencement of the examination in that course or courses and recommended by the Head of the Institution and approved by the Director, Academic Courses.

18.3.1 Notwithstanding the requirement of mandatory TEN days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

18.4 Withdrawal shall not be construed as an appearance for the eligibility of a candidate for First Class with Distinction. This provision is not applicable to those who seek withdrawal during VII semester.

18.5 Withdrawal from the End semester examination is **NOT** applicable to arrears subjects of previous semesters

18.6 The candidate shall reappear for the withdrawn courses during the examination conducted in the subsequent semester.

**19. PROVISION FOR AUTHORISED BREAK OF STUDY**

19.1 **Break of Study shall be granted only once for valid reasons for a maximum of one year during the entire period of study of the degree programme.** However, in extraordinary situation the candidate may apply for additional break of study not exceeding another one year by paying prescribed fee for break of study. If a candidate intends to temporarily discontinue the programme in the middle of the semester for valid reasons, and to rejoin the programme in a subsequent year, permission may be granted based on the merits of the case provided he / she applies to the **Director, Student Affairs in advance**, but not later than the last date for registering for the end semester examination of the semester in question, through the Head of the Institutions stating the reasons therefor and the probable date of rejoining the programme.

- 19.2 The candidate permitted to rejoin the Programme after the break shall be governed by the Curriculum and Regulations in force at the time of rejoining. Such candidates may have to do additional courses as prescribed by the Director, Academic courses if the Regulation is changed.
- 19.3 The authorized break of study (for a maximum of one year) will not be counted for the duration specified for passing all the courses for the purpose of classification. (Vide **Clause 17**). However, additional break of study granted will be counted for the purpose of classification.
- 19.4 The total period for completion of the Programme reckoned from, the commencement of the first semester to which the candidate was admitted shall not exceed the maximum period specified in **clause 3.2** irrespective of the period of break of study in order that he/she may be eligible for the award of the degree.
- 19.5 If any student is detained for want of requisite attendance, progress and good conduct, the period spent in that semester shall not be considered as permitted 'Break of Study' and **Clause 19.3** is not applicable for this case.

**20. REVISION OF REGULATIONS AND CURRICULUM**

The University may from time to time revise, amend or change the Regulations, scheme of examinations and syllabi if found necessary through the Academic Council and the approval of the Syndicate.