

ANNA UNIVERSITY :: CHENNAI 600 025

REGULATIONS 2009

CREDIT SYSTEM

UNIVERSITY DEPARTMENTS

DEGREE OF BACHELOR OF ENGINEERING / TECHNOLOGY

(PART-TIME – 7 SEMESTERS)

(Applicable To All Students Admitted From January 2009 Onwards)

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) **“Discipline”** means the **“Branch”** of B.E. / B.Tech. (Part-Time -7 Semester) Degree Programme, like Civil Engineering, Information Technology, etc.
- III) **“Course”** means a theory or a practical course 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 Departments like formulation and implementation of relevant Rules and Regulations.
- V) **“Head of the Institution”** means the Dean of the Campus.
- VI) **“Chairman”** means Head of the Faculty.
- VII) **“Head of the Department”** means Head of the concerned Department of the University.
- VIII) **“COE”**- Controller of Examinations”
- IX) **“University”** means ANNA UNIVERSITY,CHENNAI – 600 025.

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 obtained, marks and 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 1st 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 shall have a minimum level of proficiency in Mathematics, Physics, Chemistry and the relevant branch of study as may be prescribed by the University from time to time.
- (iv) Shall have employment or work place within a radial zone of 90 Km from the University Campus.
- (v) Shall have to 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 to pass 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.

4. BRANCHES OF STUDY

A candidate may be offered, at the time of admission, one of the following disciplines of study, subject to his / her eligibility and availability of the course.

(I) FACULTY OF B.E. CIVIL ENGINEERING

SL. No.	PROGRAMME AND DISCIPLINE	QUALIFYING DIPLOMA
1.	B.E. Civil Engineering	Diploma in Civil Engineering / Civil Engineering (Sandwich) / Civil & Rural Engineering /Civil Engineering (Architecture)/ Civil Engineering (Rural Technology) / Architecture (Sandwich) / Architectural Assistantship/ Architectural Assistantship (sandwich) / Civil Architecture & Interior Design of S.I.C.V.E.T., Tiruchirapalli. / Environmental and Pollution Control Engineering.

(II). FACULTY OF MECHANICAL ENGINEERING

SL. No.	PROGRAMME AND DISCIPLINE	QUALIFYING DIPLOMA
2.	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
3.	B.E. Manufacturing Engineering	
4.	B.E. Automobile Engineering	
5.	B.E. Industrial Engineering	
6.	B.E. Production Engineering	
7.	B.E. Printing Technology	

(III) FACULTY OF ELECTRICAL ENGINEERING

SL. No.	PROGRAMME AND DISCIPLINE	QUALIFYING DIPLOMA
8.	B.E. Electrical And Electronics Engineering	Diploma in Electrical Engineering / Electrical Engineering (Sandwich)/ Electrical and Electronics Engineering / Electrical and Electronics Engineering (Sandwich) / Electronics Engineering / Electronics and Communication Engineering
9.	B.E. Electronics and Instrumentation Engineering	Diploma in Electrical and Electronics Engineering / Electronics and Communication Engineering / Instrumentation Engineering / Instrumentation and Control Engineering / Electronics and Instrumentation Engineering/ Electronics Engineering(Instrumentation) / Electrical Engineering (Instrumentation & Control) / Instrumentation Technology

(IV) FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING

SL. No.	PROGRAMME AND DISCIPLINE	QUALIFYING DIPLOMA
10.	B.E. Electronics and Communication Engineering	Diploma in Electrical Engineering / Electrical and Electronics Engineering / Electronics Engineering / Electronics and Communication Engineering / Electronics Engineering (Instrumentation)/ Instrumentation Technology.

11.	B.E. Computer Science and Engineering	Diploma in Electrical and Electronics Engineering / Electronics and Communication Engineering / Instrumentation and Control Engineering/ Instrumentation Engineering / Computer Science / Computer Technology/ Information Technology.
12.	B.Tech Information Technology	

(V) FACULTY OF TECHNOLOGY

SL. No.	PROGRAMME AND DISCIPLINE	QUALIFYING DIPLOMA
13.	B.Tech. Chemical Engineering	Diploma in Chemical Engineering / Chemical Technology / Chemical Technology (Sandwich) / Petroleum Engineering / Petro-Chemical Technology / Plastic Engineering (Sandwich) / Plastic Mould Technology / Polymer Technology / Polymer Technology (Sandwich) / Pulp & Paper Technology / Sugar Technology
14.	B.Tech. Textile Technology	Diploma in Textile Technology / Textile Technology(Sandwich) / Textile Technology (Knitting) / Textile Technology (Knitting and Garment Technology) / Textile Engineering / Textile Processing / Textile Processing (Sandwich) / Textile Manufacturing / Textile Design & Weaving /Man Made fiber Technology / Knitting Technology / Garment Technology / Fashion Design & Clothing Technology / Apparel Technology / Handloom Technology / Khadi and Handloom Technology / Fashion Technology / Shuttleless Weaving / Home Textiles.
15.	B.Tech. Leather Technology	Diploma in Leather Technology

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.

5.1 The Curricula and Syllabi of all the U.G./Part-Time Programmes shall be approved by the Academic Council of Anna University.

The number of credits to be earned for the successful completion of the Programme shall be as specified in the Curriculum of the respective Branch of U.G./Part-Time Programmes.

5.2 Credits will be assigned to the courses for different UG / (Part-Time modes of study) as given below:

- 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.

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, etc., the student is expected to earn a minimum of at least 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 60% and 69% in one particular semester due to medical reasons (prolonged hospitalization / accident / specific illness) may be permitted to appear for that particular semester examinations subject to the condition that the candidate shall submit the medical certificate attested by the Head of the Department concerned. The same shall be forwarded to the Controller of Examinations, Anna University, Chennai – 25. for record purposes.
- 6.3 Candidates who could secure **less than 60%** overall attendance and candidates who do not satisfy the **clauses 6.1 & 6.2** are to be declared as 'Prevented' and will not be permitted to write the end-semester examinations of that particular semester and are not permitted to go to the subsequent academic semester. They are required to repeat the semester in which he / she is prevented during the subsequent academic year.

7. CLASS ADVISER

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

8. EVALUATION OF THE PERFORMANCE OF CANDIDATES

- 8.1 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.

8.2 PROCEDURE FOR AWARDING MARKS FOR CONTINUOUS ASSESSMENT

8.2.1 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) 200 shall be, that is reduced to 15 marks (**vide clause 8.1**) and rounded to the nearest integer. (The remaining 5 marks shall be distributed for attendance as prescribed in **clause 8.2.5**)

8.2.2 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 a minimum of TEN experiments conducted in the particular laboratory courses. There shall be at least one mid-semester test. The criteria for arriving at the internal assessment marks shall be decided (based on the recommendations of the class advisor) by the Head of the Department and shall be announced at the beginning of every semester. The maximum marks 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 **8.2.5**), and the remaining 5 marks may be distributed for completion of record and neatness.

8.2.3 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 **10** marks and the third test mark shall be reduced to **5** marks. The sum of these two test / assessment rounded to the nearest integer will be taken as the internal **15** marks. (The remaining 5 marks shall be distributed for attendance as prescribed in **clause 8.2.5**).

8.2.4 PROJECT WORK:

The total internal assessment marks shall be 20 and there shall be three assessments (each 100 marks) during the semester to be conducted by a review committee. The Head of the Department concerned 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 8.2.5**)

8.2.5. DISTRIBUTION OF 5 MARKS FOR THOSE WHO ARE HAVING ATTENDANCE ABOVE 70%

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

9. DISCIPLINE:

9.1 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.

9.2 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.

- 9.3 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.

10 REQUIREMENTS FOR APPEARING FOR THE 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 even if he / she happen to have been 'prevented' in the current semester for lack of attendance.

- (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 (as per clause 6.1 & 6.2) and
 - ii) He / She has registered for the end semester examinations in all the courses of the current semester and also in all arrear courses, if any.

11. PASSING REQUIREMENTS

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

- 11.2 If the candidate fails to secure a pass in a particular course as per **clause 11.1**, it is mandatory that candidate shall register and re-appear for the examination in that course during the subsequent semester when examination is conducted for that course. Further the candidate should continue to register and reappear for the examination till he / she secures a **pass** in such arrear Courses.

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 secures a pass.

- 11.3. 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 3rd 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.

12 WEIGHTAGE

- 12.1 The following will be the weightage 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%
Evaluation of Project Report by external examiner	-	30%
Viva-Voce Examination	-	50%

13 AWARD OF LETTER GRADES

13.1 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 specified, will be awarded as per the range of total marks (out of 100) obtained by the candidate (Regular or Arrear), 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	57 – 60
E	5	50 – 56
U	0	< 50
I	0	
W	0	

A student is deemed to have passed and acquired the corresponding credits in a particular course if he / she **obtained** any one of the following grades: “S”, “A”, “B”, “C”, “D”, “E”.

“U” denotes unsatisfactory grade which requires Reappearance (RA) in the examination for that particular course. (RA will figure in Result sheets & Grade sheets).

The Letter “W” denotes **withdrawal** from the course. (Clause 16)

(“W” will figure in the **Result Sheets and Grade sheets**).

The Letter “I” denotes inadequate attendance (as per clause 6) and hence prevention from writing the End Semester Examination.

(“I” will figure only in the **Result Sheets**).

13.2 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 for a semester is the ratio of the sum of the products of the number of credits for courses acquired and the corresponding points to the sum of the number of credits for the courses acquired in the semester.

$$\text{GPA} = \frac{\text{Sum of [Credits acquired x Grade points]}}{\text{Sum of Credits acquired}}$$

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

$$\text{CGPA} = \frac{\sum_{i=1}^n C_i GP_i}{\sum_{i=1}^n C_i}$$

where C_i – is the Credits assigned to the course

GP_i – is the point corresponding to the grade obtained for each Course

n – is number of all Courses successfully cleared during the particular semester in the case of GPA and during all the semesters in the case of CGPA

14 ELIGIBILITY FOR THE AWARD OF THE DEGREE

14.1 A student shall be declared to be eligible for the award of the Degree if he/she has

- Completed the course requirement as specified in the curriculum as per Regulations in force.
- Successfully gained the required number of total credits (Annexure – I) as specified in the Curriculum corresponding to his/her Programme within the stipulated time.
- No disciplinary action is pending against him/her.
- The award of the degree must have been approved by the Syndicate.

15 CLASSIFICATION OF THE DEGREE AWARDED

15.1 A candidate who qualifies for the award of the Degree (vide **clause 14**) 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**.

15.2 A candidate who qualifies for the award of the Degree (vide **clause 14**) 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 17) will not be counted for the purpose of classification.

15.3 All other candidates (not covered in **clauses 15.1 and 15.2**) who qualify for the award of the degree (vide Clause 15) shall be declared to have passed the examination in **Second Class**.

15.4 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.

15.5 **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 Additional Controller of Examinations (University Departments) through the Head of Department. A candidate can apply for revaluation of answer scripts for not exceeding 5 subjects at a time. The Additional Controller of Examinations (University Departments) will arrange for the revaluation and the results will be intimated to the candidate concerned through the Head of the Department. Revaluation is not permitted for practical courses, seminars, practical training and project work.

16 **PROVISION FOR WITHDRAWAL FROM END-SEMESTER EXAMINATIONS**

16.1 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.

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

16.3 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 Department and approved by the Director, Academic Courses.

16.3.1 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.

16.4 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.

16.5 Withdrawal from the End Semester Examinations is **NOT** applicable to arrear subjects of previous semesters.

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

17 PROVISION FOR AUTHORISED BREAK OF STUDY

- 17.1 **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, Academic Courses in advance**, but not later than the last date for registering for the End Semester Examinations of the semester in question, through the Head of the Department stating the reasons, therefore, and the probable date of rejoining the programme.
- 17.2 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.
- 17.3 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 15**). However, additional break of study granted will be counted for the purpose of classification.
- 17.4 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.
- 17.5 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 17.3** is not applicable for this case.

18. 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.

ANNEXURE – I

B.E. / B.TECH. DEGREE PROGRAMMES OFFERED IN THE UNIVERSITY DEPARTMENTS

Sl. No.	Name of the Programme	MINIMUM TOTAL CREDITS *
FACULTY OF CIVIL ENGINEERING		
1.	B.E. Civil Engineering	102
FACULTY OF MECHANICAL ENGINEERING		
2.	B.E. Mechanical Engineering	106
3.	B.E. Manufacturing Engineering	103
4.	B.E. Automobile Engineering	105
5.	B.E. Industrial Engineering	105
6.	B.E. Production Engineering	108
7.	B.E. Printing Technology	106
FACULTY OF ELECTRICAL ENGINEERING		
8.	B.E. Electrical and Electronics Engineering	99
9.	B.E. Electronics and Instrumentation Engineering	104
FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING		
10.	B.E. Computer Science and Engineering	102
11.	B.E. Electronics and Communication Engineering	108
12.	B.Tech. Information Technology	102
FACULTY OF TECHNOLOGY		
13.	B.Tech. Chemical Engineering	113
14.	B.Tech. Textile Technology	118
15.	B.Tech. Leather Technology	106

* **Minimum Total Credits to be earned by the student admitted to the particular UG programme to become eligible for the award of Degree under Clause 15.1 of Regulations 2009 (UG/Part-Time).**