

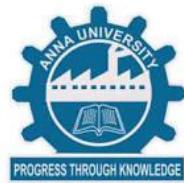


HINDUSTHAN INSTITUTE OF TECHNOLOGY

REGULATIONS 2022

CHOICE BASED CREDIT SYSTEM

**Common to all B. E. / B. Tech. Full-Time Programmes
(For the students admitted from the Academic Year 2022-2023)**



DEGREE OF BACHELOR OF ENGINEERING / BACHELOR OF TECHNOLOGY

This Regulation is applicable to the students admitted to B.E/B.Tech. Programmes at this institution from the academic year 2022 - 2023 onwards.

1. PREAMBLE

Present day students are much different from the students of the past in many ways. Today, they like to make decisions on their own and plan their future by themselves. However, student aspirations on one hand and the demands of the work place on the other have become highly diverse. Employers expect students to have multi-disciplinary competency, leadership skills, and be ICT (Information and Communication Technology) ready. The rigid, cohort system of learning, offers little flexibility to students in selecting the courses of their choice and helps little in becoming a well-rounded personality.

Choice Based Credit System (CBCS) is a proven, flexible mode of learning in higher education which facilitates a student to have guided freedom in selecting his/her own choices of courses in the curriculum for completing a degree program. This regulations, curriculum and syllabi have been carried out further to make it more flexible and adaptive to the technology advancements happening in the world. CBCS offers a flexible system of learning.

CBCS not only offers a wide choice for students to build their own curriculum, but also enhances their skill in planning. A Proctor / faculty advisor helps the student in identifying the courses to be studied in each semester based on program requirement, course prerequisites, the student's academic ability, interest in various disciplines, past academic history, proposed course offerings and other related criteria.

In this regulation most of the courses will have project component as an integral part of the course structure. All courses are made student-centric instead of teacher-centric. Learning becomes more 'experiential' by carrying out a project (Project Based Learning) as part of most of the courses. 'Learning by doing' enhances understanding the concepts discussed in the class and make multi- and cross-disciplinary applications possible. Students will be able to take up real world problems as their course projects and apply their key learning in identifying better solutions. All courses will be designed to bring

out the importance of application to engineering/technological problems, creativity and innovation, developing entrepreneurial skills, rather than by routine learning methodology.

2. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In these Regulations, unless the context otherwise requires:

- I) "Programme" means Degree Programme that is B.E./B.Tech. Degree Programme.
- II) "Discipline" means specialization or branch of B.E./B.Tech. Degree Programme, like Civil Engineering, Chemical Technology, etc.
- III) "Course" means a theory or practical subject that is normally studied in a semester, like Mathematics, Physics, etc.
- IV) "Dean Academics" means the authority of the University who is responsible for all academic activities of the Academic Programmes for implementation of relevant rules of this Regulation pertaining to the Academic Programmes.
- V) "Head of the Institution" means the Principal of the College.
- VI) "Head of the Department (HoD)" means the Head of the Department concerned.
- VII) "Controller of Examinations (CoE)" means the authority of the institution who is responsible for all activities of the Institute Examinations.
- VIII) "University" means ANNA UNIVERSITY, CHENNAI.

3. ADMISSION

3.1 Candidates seeking admission to the first semester of the eight semesters B.E./ B.Tech. Degree Programme:

Should have passed the Higher Secondary Examinations of (10+2) Curriculum (Academic Stream) prescribed by the Government of Tamil Nadu with Mathematics, Physics and Chemistry as three of the four subjects of study under Part-III or any examination of any other University or authority accepted by the Syndicate of Anna University as equivalent thereto.

(OR)

Should have passed the Higher Secondary Examination of Vocational stream (Vocational groups in Engineering / Technology) as prescribed by the Government of Tamil Nadu.

3.2 Lateral entry admission

The candidates who possess the Diploma in Engineering / Technology awarded by the State Board of Technical Education, Tamil Nadu or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech., as per the rules fixed by Government of Tamil Nadu.

(OR)

The candidates who possess the Degree in Science (B.Sc.) (10+2+3 stream) with Mathematics as a subject at the B.Sc. Level are eligible to apply for Lateral entry admission to the third semester of B.E. / B.Tech.

Such candidates shall undergo two additional Engineering subject(s) in the third and fourth semesters as prescribed by the Academic Council.

4. PROGRAMMES OFFERED

The following are the programmes of study offered

B.E

1. Aeronautical Engineering
2. Computer Science and Engineering
3. Electronics and Communication Engineering
4. Mechanical Engineering

B.Tech

1. Information Technology
2. Pharmaceutical Technology
3. Artificial Intelligence and Data Sciences

4.1 STRUCTURE OF PROGRAMMES

Every B.E. / B. Tech. Programme will have a curriculum with syllabi consisting of theory and practical courses that shall be categorized as follows:

- (i) **Humanities, Social Sciences and Management Courses (HSMC):** A course, which should compulsorily be studied by a candidate to improve the writing /speaking skill of the language used as a medium of instruction and gain knowledge on the human values/ethics, is termed as Humanities and Social science Course.

- (ii) **Basic Sciences Courses** (BSC): A course, which should compulsorily be studied by a candidate to strengthen the fundamental concepts to comprehend the engineering subjects, is termed as Basic Science Course.
- (iii) **Engineering Sciences Courses** (ESC): A course, which should compulsorily be studied by a candidate to understand the basic concepts of the core engineering subjects, is termed as Engineering Science Course.
- (iv) **Professional Core Courses** (PCC): A course, which should compulsorily be studied by a candidate in the main discipline/subject of study as a core requirement, is termed as a Professional Core Major Core course.
- (v) **Professional Core Minor Course** (PCC minor): A course, which should compulsorily be studied by a candidate in the unrelated discipline/subject as a core requirement, is termed as a Professional Core Major Core course.
- (vi) **Professional Elective Courses** (PEC): A course which can be chosen from a pool of courses and which may be very specific / specialized / advanced or supportive to the discipline/subject of study is termed as Professional elective course includes the elective courses relevant to the chosen specialization / branch.
- (vii) **Skill Enhancement Courses** (SEC): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.
- (viii) **Ability Enhancement Courses** (AEC): A course which enhances the practical skills and ability to pursue a vocation in the subject of specialization is termed as ability enhancement course.
- (ix) **Employability Enhancement Courses** (EEC): A course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.
- (x) **Mandatory courses** (MC): include the courses such as Constitution of India, Sangam literature etc.
- (xi) **Massive Open Online Course** (MOOC): These courses are chosen from the pool of courses available online which provides an affordable and flexible way to learn new skills to bridge the gap between industry and academia.

- (xii) **Value Added Courses (VAC):** These courses complement student's knowledge and skills in their field of study which are offered based on current trends, relevance and value in the job-market.

4.2 Personality and Character Development

All students shall enroll, on admission, in any one of the personality and character development programmes NCC/NSS/NSO/YRC and undergo training / conduct activities for about 80 hours and attend a camp of about seven days. The training shall include classes on hygiene and health awareness and also training in first-aid. Alternately, activities of science, literature and arts also help for personality and character development. So, students shall conduct and participate actively in Science club/Literary Forum/Fine Arts activities and social service for 80 hours and participate in at least ONE event.

National Cadet Corps (NCC) will have about 20 parades.

National Service Scheme (NSS) will have social service activities in and around the College / Institution.

National Sports Organization (NSO) will have Sports, Games, Drills and Physical exercises.

Youth Red Cross (YRC) will have activities related to social services in and around College/Institution.

While the training activities will normally be during weekends, the camp will normally be during vacation period.

Science club shall organise activities of popularisation of science and scientific temper through activities related to astronomy, works of great scientists from India and abroad, observing National Science Day, etc.

Literary Club like 'Tamil Ilakkiya Mandram' shall be formed, which shall organise colourful literary events to propagate good humanist values, morals and ethics reflected in the literature.

Fine Arts Club like music, painting and documentary films with social themes shall be encouraged.

Students who enroll and take active participation in anyone of the above activities for 80 hours will be given a certificate by the Head of the Institution and the copy of the same shall be forwarded to the Controller of Examinations for the purpose of record and scrutiny.

4.3 Number of courses per semester

Each semester curriculum shall normally have a blend of lecture courses not exceeding 6 Theory courses and Laboratory integrated theory courses and 4 Employability Enhancement Course(s) and

Laboratory Courses. However, the total number of courses per semester shall not exceed 10. Each Course shall have credits assigned as per clause 4.4

4.4 Credit Assignment

Each course is assigned certain number of credits based on the following:

Table 4.1 Credit Assignment

Contact period per week	CREDITS
1 Lecture Period	1
1 Tutorial Period	1
1 Laboratory Period (also for EEC courses like Seminar / Project Work /Case study / etc.)	0.5

The minimum prescribed credits required for the award of the degree is specified below:

Table 4.2 Minimum Credit Requirement

Programme	Prescribed Credit Requirement
B.E Aeronautical Engineering	167
B.E Computer Science and Engineering	162
B.E Electronics and Communication Engineering	167
B.E Mechanical Engineering	168
B.Tech Artificial Intelligence & Data Sciences	165
B.Tech Information Technology	162
B.Tech Pharmaceutical Technology	166

4.5 Industrial Training/ Internship

4.5.1 The students may undergo Industrial training for a period as specified in the Curriculum during the summer / winter vacation. In this case, the training has to be undergone continuously for a period of at least two weeks in an organization.

The students may undergo Internship at a Research organization / Industry (after due approval from the Head of the Institution) for the period prescribed in the curriculum during the summer / winter vacation, in lieu of Industrial training. Attendance Certificate mentioning the period of Industrial Training / Internship and signed by the competent authority of the industry, as per the format provided to be submitted to the Head of the Institution. The attendance certificate shall be forwarded to the COE, for processing results.

4.5.2 If Industrial Training/ Internship is not prescribed in the curriculum, the student may undergo Industrial Training/ Internship optionally and the credits earned will be indicated in the Grade Sheet. If the student earns three credits in Industrial Training/ Internship, the student may drop

one Professional Elective (only one professional elective can be dropped). In such cases, Industrial Training / Internship need to be undergone continuously from one organization or with a combination one two week and one four week from one/two organizations. However, if the number of credits earned is 1 or 2, then these credits shall not be considered for classification of the degree. Students shall get permission from the Head of the Institution for taking Industrial Training/Internship and the Certificate of completion of Industrial Training / Internship shall be forwarded to the COE.

Table 4.3 Internship Time Duration and Credit Allotment

DURATION OF TRAINING/INTERNSHIP	CREDITS
2 Weeks*	1
4 Weeks	2
6 Weeks	3

***1 Week = 40 Internship Hours**

4.6 Industrial Visit

Every student is required to go for at least one Industrial Visit every semester starting from the second year of the Programme. The Heads of Departments shall ensure that necessary arrangements are made in this regard.

4.7 Value Added Courses

The students may optionally undergo Value Added Courses (VAC) over and above the topics covered in the curriculum to obtain practical and industry specific knowledge. The credits earned through the Value Added Courses shall be over and above the total credit requirements prescribed in the curriculum for the award of the degree. One / Two credit courses shall be offered by the Department with the prior approval from the Head of the Institution. Students can take a maximum of two one credit courses / one two credit course during the entire duration of the Programme.

4.8 Online Courses

The list of online courses is to be approved by Chairman, Academic Council on the recommendation of BoS of the respective programmes at the beginning of a semester. If necessary, subject to ratification in the next Academic council meeting. Candidates may do an online course and obtain certification from the third semester onwards. The online courses shall be chosen from the MOOC / NPTEL / SWAYAM platform, provided the offering organization conducts regular examination and provides marks. The credits earned shall be

transferred and the marks earned shall be converted into grades and transferred, provided the student has passed in the examination as per the norms of the offering organization. The details regarding online courses taken up by the student and marks/credits earned and the approval for the course from the respective department BoS shall be sent to the Controller of Examinations, in the subsequent semester(s). If a student(s) fails to complete the online course in maximum of two consecutive attempts, He/She must appear for the examination conducted by the office of the CoE for the syllabus as specified by the course provider.

4.9 Mandatory courses

The students should undergo audit courses prescribed by the respective BoS and it will be mentioned in the Grade Sheet as Mandatory Courses. The mandatory courses are evaluated in external mode only. However, it will not be considered for computation of CGPA.

4.10 B.E. / B. Tech. (Hons) Specialisation in the same discipline, B.E. / B. Tech. (Hons) and B.E. / B. Tech. minor in other specialisation.

(i) B.E./B.Tech. Honours (*specialisation in the same discipline*):

- a. The student should have earned additionally a minimum of 18 credits from a vertical of the same programme.
- b. Should have passed all the courses in the first attempt.
- c. Should have earned a minimum CGPA of 7.50.

(ii) B.E / B.Tech. Honours

- a. The students should have earned additional courses (minimum of 18 credits) from more than one vertical of the same programme.
- b. Should have passed all the courses in the first attempt.
- c. Should have earned a minimum CGPA of 7.50.

(iii) B.E./B.Tech. (*Minor in other specialisation*)

The student should have earned additionally a minimum of 18 credits in any one of the verticals of other B.E/B.Tech programmes.

4.10.1 Students can earn maximum of 6 credits in online mode (SWAYAM platform), out of these 18 credits as approved by respective BoS and Academic council of the institute.

4.10.2 B.E./ B. Tech. (Hons) Specialisation in the same discipline, B.E / B.Tech. Honors and B.E./B.Tech. Minor in other specialisation degree will be optional for students.

4.10.3 For the categories (i) to (ii), the students will be permitted to register the courses from V

Semester onwards provided the marks earned by the students until III semester should be of CGPA 7.50 and above and cleared all the courses in the first attempt.

4.10.4 For the category (iii), the students will be permitted to register the courses from Semester V onwards provided the marks earned by the students until Semester III is 7.50 CGPA and above.

4.10.5 If a student decides not to opt for Honours, after completing certain number of additional courses, the additional courses studied shall be considered instead of the Professional Elective courses which are part of the curriculum. If the student has studied more number of such courses than the number of Professional Elective courses required as per the curriculum, the courses with higher grades shall be considered for the calculation of CGPA. Remaining courses shall be printed in the mark sheet, however, they will not be considered for calculation of CGPA.

4.10.6 If a student decides not to opt for Minor, after completing certain number of courses, the additional courses studied shall be considered instead of Open Elective courses which are part of the curriculum. If the student has studied more number of such courses than the number of open electives required as per the curriculum, the courses with higher grades shall be considered for calculation of CGPA. Remaining courses shall be printed in the mark sheet, however, they will not be considered for calculation of CGPA.

4.11 Medium of Instruction

The medium of instruction is English for all courses, examinations, Seminar presentations and Project Work reports except for the programmes offered in other languages.

5. DURATION OF THE PROGRAMME

5.1 A student is ordinarily expected to complete the B.E. / B.Tech. Programme in 8 semesters (for HSC students) and six semesters (for Lateral Entry students) but in any case not more than 14 Semesters for HSC (or equivalent) students and not more than 12 semesters for Lateral Entry students.

5.2 Each semester shall normally consist of 75 working days or 540 periods of 50 minutes each. The Head of the Institution 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.

5.3 The Head of the Institution may conduct additional classes for improvement, special

coaching, conduct of model test etc., over and above the specified periods. But for the purpose of calculation of attendance requirement for writing the end semester examinations (as per clause 6) by the students, following method shall be used.

$$\text{Attendance} = \frac{\text{Percentage of } \frac{\text{Total no. of periods attended in all the courses per semester}}{\text{together for all courses of the semester}}}{(\text{No. of periods / week as prescribed in the curriculum}) \times 15}$$

- 5.4 The total period for completion of the programme reckoned from the commencement of the first semester to which the student was admitted shall not exceed the maximum period specified in clause 5.1 irrespective of the period of break of study (vide clause 18) in order that he/she may be eligible for the award of the degree (vide clause 16).

6. COURSE REGISTRATION

- 6.1** Each student has to register for all courses to be undergone in the curriculum of a particular semester (with the facility to drop courses to a maximum of 6 credits (vide clause 6.3)). The courses dropped in earlier semesters can be registered in the subsequent semesters when offered.

The registration details of the student shall be approved by the Head of the Institution and forwarded to the Controller of Examinations. This registration is for undergoing the course as well as for writing the End Semester Examinations.

The courses that a student registers in a particular semester may include

- i. Courses of the current semester.
- ii. Courses dropped in the lower semesters and

The maximum number of credits that can be registered in a semester is 36. However, this does not include the number of Re-appearance (U) and Withdrawal (W) courses registered by the student for the appearance of Examination.

6.2 Flexibility to Opt Courses

A student from III to VII Semester may opt online/industry offered courses (Advanced Technology/Cutting Edge Technology/Research Oriented Course) as an alternative for Professional Core / Elective courses subject to the approval of DAC/Dean Academics. The students can do online courses and earn credits from the following:

- i) Online courses (equivalent to 3 credit)

ii) Industry Offered Courses (equivalent to 3 credit)

6.3 Flexibility to Drop courses

- If a student gets his/her research work granted (Product Patent), then the student is eligible to drop the Project Work.
- If a student gets his/her research work published in an SCI/Scopus journal as first author, then the student is eligible to drop a total of 6/3 Credits. The courses the student wishes to drop should be equivalent to the topic in which the Paper is published.
- If a student participates and wins in Innovative Contest in the State/National/International level then the student is eligible to drop a 3/6/9 credit courses respectively.
- The above facility can be availed once in the entire duration of his/her Studies.

7. ATTENDANCE REQUIREMENTS FOR COMPLETION OF THE SEMESTER

- 7.1 A student 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 of all the courses and secure 100% attendance. However, in order to give provision for certain unavoidable reasons such as medical / participation in sports, the student is expected to attend at least 75% of the classes.

Therefore, he/she shall secure not less than 75% (after rounding off to the nearest integer) of overall attendance as calculated as per clause 5.3.

- 7.2 However, a student who secures overall attendance more than 65% and less than 75% in the current semester due to medical reasons (prolonged hospitalization / accident / specific illness) / participation in sports events may be permitted to appear for the current semester examinations, subject to the condition that the student shall submit the medical certificate / sports participation certificate attested by the Head of the Institution. The same shall be forwarded to the Controller of Examinations for record purposes.
- 7.3 Students who secure less than 65% overall attendance shall not be permitted to write the end semester examination and not permitted to move to the next semester. They are required to repeat the incomplete semester in the next academic year, as per the norms prescribed.

8. CLASS ADVISOR

There shall be a class advisor for each class. The class advisor will be one among the course-instructors of the class. He / She will be appointed by the HOD of the department concerned. The class advisor is the ex-officio member and the Convener of the class committee. The responsibilities for the class advisor shall be:

- To handhold the students in their course enrollment process.
- To act as the channel of communication between the HOD and the students of the respective class.
- To collect and maintain various statistical details of students.
- To help the chairperson of the class committee in planning and conduct of the class committee meetings.
- To monitor the academic performance of the students including attendance and to inform the class committee.
- To attend to the students' welfare activities like awards, medals, scholarships and industrial visits.

9. CLASS COMMITTEE

9.1. 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 5 and 7).
- 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 slow-learners, if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such students.

9.2 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 Head of the Institution.

9.3 The class committee shall be constituted within the first week of each semester.

9.4 At least 4 student representatives (usually 2 boys and 2 girls) shall be included in the class committee, covering all the elective courses.

9.5 The chairperson of the class committee may invite the class adviser(s) and the Head of the Department to the class committee meeting.

9.6 The Head of the Institution may participate in any class committee meeting of the institution.

9.7 The chairperson is required to prepare the minutes of every meeting, submit the same to the Head of the Institution 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.

9.8 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 Chairperson shall display the cumulative attendance particulars of each student on the Notice Board 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.

10. 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 the course coordinator. The nomination of the course coordinator shall be made by the Head of the Department / Head of the Institution 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. Wherever feasible, the Course Committee may also prepare a common question paper for the internal assessment test(s).

11. SYSTEM OF EXAMINATION

- 11.1 Performance in each course of study shall be evaluated based on (i) continuous internal assessment throughout the semester and (ii) Examination at the end of the semester.
- 11.2 Each course, both theory and practical (including project work & viva voce examinations) shall be evaluated for a maximum of 100 marks.
 - 11.2.1 For all theory courses, the continuous internal assessment will carry 40 marks while the End Semester Examination will carry 60 marks.
 - 11.2.2 For all theory courses with laboratory component, the continuous internal assessment will carry 50 marks while the End Semester Examination will carry 50 marks.
 - 11.2.3 For all laboratory courses, the continuous internal assessment will carry 60 marks while the End Semester Examination will carry 40 marks.
 - 11.2.4 The continuous internal assessment for the project work will carry 60 marks while the End Semester Examination will carry 40 marks.
- 11.3 Industrial Training and Seminar shall carry 100 marks and shall be evaluated through internal assessment only.
- 11.4 The End Semester Examination (theory and practical) of 3 hours duration shall ordinarily be conducted between October and December during the odd semesters and between

April and June during the even semesters.

- 11.5 The End semester 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 and an internal examiner, followed by a viva-voce examination conducted separately for each student by a committee consisting of the external examiner, the supervisor of the project group and an internal examiner.
- 11.6 For the End semester examination of practical courses including Project Work, the internal and external examiners shall be appointed by the Controller of Examinations.

12. PROCEDURE FOR AWARDING MARKS FOR INTERNAL ASSESSMENT

For all theory, laboratory courses, theory courses with laboratory component and project work the continuous assessment shall be awarded as per the procedure given below and should be approved by respective board of studies for each and every courses:

12.1 Theory Courses

Two assessments each carrying 100 marks shall be conducted during the semester by the Department concerned. The total marks obtained in all assessments put together out of 200, shall be proportionately reduced for 40 marks and rounded to the nearest integer.

Table 12.1 Procedure for Internal Assessment (Theory)

Description	Marks
Continuous Internal Assessment I	
Written Test	60
Individual Assignment /Case Study /Seminar / Mini Project/any other experiential Learning	40
Continuous Internal Assessment II	
Written Test	60
Individual Assignment /Case Study /Seminar / Mini Project/any other experiential Learning	40
Total	200

12.2 Laboratory Courses

The maximum marks for Internal Assessment shall be 100 marks in case of practical courses. Every practical exercise / experiment shall be evaluated based on conduct of experiment / exercise and records to be maintained. There shall be at least one test. The criteria for arriving at the Internal Assessment marks of 100 are as follows: 75 marks shall be awarded for successful completion of all the prescribed experiments done in the Laboratory and 25 marks for the test. The total mark shall be converted into a maximum

of 60 marks and rounded to the nearest integer.

Table 12.2 Procedure for Internal Assessment (Practical)

Internal Assessment (100 Marks)	
Evaluation of Laboratory Observation, Record	Test
75	25

12.3 Theory Courses with Laboratory Component / Laboratory Courses with Theory Component

Weightage of internal assessment and end semester examination marks will be 50% each. The distribution of marks for the theory and laboratory components in the internal assessments and end semester examination for different types of courses are provided in the table 12.3.

Table 12.3 Procedure for Internal Assessment (Theory Courses with Laboratory Component / Laboratory Courses with Theory Component)

L	T	P	C	Internal Assessment		End Semester Examination
				Assessment I	Assessment II	
1	0	4	3	Laboratory 25 %	Theory 25 %	Laboratory 50 %
1	0	2	2	Laboratory 25 %	Theory 25 %	Laboratory 50 %
2	0	2	3	Theory 25 %	Laboratory 25 %	Theory 25 % Laboratory 25 %
3	0	2	4	Theory 25 %	Laboratory 25 %	Theory 35 % Laboratory 15 %
2	0	4	4	Theory 25 %	Laboratory 25 %	Theory 15 % Laboratory 35 %

The procedure for the conduct of internal assessments for theory and laboratory components shall be as per the clause 12.1 and 12.2 respectively.

12.4 Project Work

The Project Work for B.E. / B.Tech. Programmes in the 8th semester will be evaluated by continuous evaluation and end semester viva-voce examination. The objective of Project Work & Dissertation is to enable the student to extend further investigative a study on the

project. Three reviews shall be conducted with subject expert and the student(s) shall make a presentation on the progress made by him / her / them during the reviews. Student(s) shall submit a project technical report comprising of title, problem statement, importance of work, methodology, experimental work and outcome of the work carried out during the 3rd review. The work carried out may be either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a supervisor from the department or jointly with a supervisor drawn from other department / academic institution / R& D laboratory / Industry. This is expected to provide a good training for the students in R& D work and technical leadership.

The project reviews (R1+R2+R3) shall carry a maximum of 50 marks. The project report shall be submitted as per the approved guidelines given by the college, the viva-voce examination shall carry 50 marks. Marks are awarded to each student of the project group based on the individual performance in the viva-voce examination.

Table 12.4 Procedure for Internal Assessment & End Semester Assessment (Project)

Review I	Review II	Review III	End Semester Examinations			
			Project Report		Viva-Voce Examination	
20	40	40	Internal	External	Internal	External
			20	20	20	40

*The weighted average for the internal assessment shall be converted into 60 % and end semester assessment into 40%.

The last date for submission of the project report is on the last working day of the semester. If a student fails to submit the project report on or before the specified deadline or the student has submitted the project report but did not appear for the viva-voce examination, it will be considered as fail in the Project Work and the student shall re-register for the same in the subsequent semester.

12.5 Other Employability Enhancement Courses

- (a) The Industrial / Practical Training, Summer Project, Internship, shall carry 100 marks and shall be evaluated through internal assessment only. At the end of Industrial / Practical Training / Internship / Summer Project, the student shall submit an attendance certificate from the organization where he / she have undergone training and a brief report. The evaluation will be made based on this report and a

viva-voce Examination, conducted internally by a three member Departmental Committee constituted by the Head of the Institution consisting of the course coordinator and two experts from the Department. The certificates (issued by the organization) submitted by the students shall be attached to the mark list sent by the Head of the Institution to the Controller of Examinations.

- (b) For all the courses under Employability Enhancement Courses Category, except the Project Work, the evaluation shall be done with 100% internal marks.

12.6 Assessment for Value Added Courses

The one / two credit course shall carry 100 marks and shall be evaluated through continuous assessments only. Two Assessments as per the clause 12.1 or 12.2 shall be conducted by the Department concerned. The total marks obtained in the assessments shall be reduced to 100 marks and rounded to the nearest integer. A committee consisting of the Head of the Department, staff handling the course and a senior faculty member nominated by the Head of the Institution shall do the evaluation process. The list of students along with the marks and the grades earned shall be forwarded to the Controller of Examinations for appropriate action at least one month before the commencement of End Semester Examinations. The grades earned by the students for Value Added Courses will be recorded in the Grade Sheet, however the same shall not be considered for the computation of CGPA.

12.7 Assessment for Online Courses

The online courses shall be chosen from the MOOC / NPTEL / SWAYAM platform, provided the offering organization conducts regular examination and provides marks. The credits earned shall be transferred and the marks earned shall be converted into grades and transferred, provided the student has passed in the examination as per the norms of the offering organization. The details regarding online courses taken up by the student and marks/credits earned and the approval for the course from the respective department BoS shall be sent to the Controller of Examinations, in the subsequent semester(s). The obtained marks can be converted into its equivalent grade as prescribed in table 12.5.

Table 12.5 Grade Calculation for Online Courses

Marks obtained	Equivalent Grade
Greater than 80	O
76 to 80	A+
71 to 75	A
61 to 70	B+
50 to 60	B
41 to 50	C

- 12.9.** Internal marks approved by the Head of the Institution shall be displayed by the respective HODs within 5 days from the last working day.

12.10 Attendance Record

Every teacher is required to maintain an 'ATTENDANCE AND ASSESSMENT RECORD', which consists of attendance marked in each lecture or practical or project work class, the test marks and the record of class work (topic covered), separately for each course. This should be submitted to the Head of the Department periodically (at least three times in a semester) for checking the syllabus coverage and the records of test marks and attendance. The Head of the Department will put his/her signature and date after due verification. At the end of the semester, the record should be verified by the Head of the Institution who will keep this document in safe custody (for five years).

12.11 Conduct of Academic Audit

The institution shall strive for a better performance of the students by conducting the internal assessments as mentioned in Clause 12.

In order to ensure the above, Academic Audit is to be done for every course taught during the semester. For the internal assessments conducted for each course as per details provided in Clause 12, the academic records shall be maintained in the form of documentation for the individual assignments / case study report / report of mini project submitted by each student and assessment test question paper and answer script. Report of industrial training / internship shall also be maintained, if applicable. For laboratory courses students' record shall be maintained. Further, the attendance of all students shall be maintained as a record.

The Head of the Institution shall arrange to conduct the Academic Audit for every course in a semester by forming the respective committees with an external course expert as one of the members drawn from a Technical institution of repute near the institute.

13. REQUIREMENTS FOR APPEARING FOR END SEMESTER EXAMINATIONS

A student shall normally be permitted to appear for the End Semester Examinations for all the courses registered in the current semester (vide clause 6) if he/she has satisfied the semester completion requirements (as per clause 7).

Further, examination registration by a student is mandatory for all the courses in the current semester and all arrear(s) course(s) for the End Semester Examinations failing which, the student will not be permitted to move to the higher semester.

A student who has already appeared for any course in a semester and passed the examination is not entitled to reappear in the same subject for improvement of grades.

14. PASSING REQUIREMENTS

- 14.1 A student who secures not less than 50% of total marks prescribed for the course [Internal Assessment + End Semester Examinations] with a minimum of 45% of the marks prescribed for the End Semester Examination for theory courses and theory courses with laboratory / project component, practical course and project work, shall be declared to have passed the course and acquired the relevant number of credits.
- 14.2 If a student fails to secure a pass in a theory course / laboratory course (except electives), the student shall register and appear only for the end semester examination in the subsequent semester. In such case, the internal assessment marks obtained by the student in the first appearance shall be retained and considered valid for all subsequent attempts till the student secures a pass. However, from the third attempt onwards if a student fails to obtain pass marks (IA + End Semester Examination), then the student shall be declared to have passed the examination if he/she secures a minimum of 50% marks prescribed for the End semester examinations alone.
- 14.3 If the course, in which the student has failed, is a Professional Elective or an Open Elective course, the student may be permitted to complete the same course. In such case, the internal assessment marks obtained by the student in the first appearance shall be retained and considered valid for all subsequent attempts till the candidate secures a pass.

- 14.4 If a student is absent during the viva - voce examination, it would be considered as fail. If a student fails to secure a pass in Project Work-I, the student shall register for the course again in the subsequent semester and can do Project Work-I and II together.
- 14.5 The passing requirement for the courses which are assessed only through purely internal assessments (EEC courses except Project Work and laboratory), is 50% of the internal assessment (Continuous Assessment) marks only.
- 14.6 A student can apply for revaluation of the student's semester examination answer paper in a theory course, as per the guidelines of the COE on payment of a prescribed fee along with prescribed application to the COE through the Head of the Department. The COE will arrange for the revaluation and the results will be intimated to the student concerned through the Head of the Department. Revaluation is not permitted for laboratory course and EEC courses.

15. AWARD OF LETTER GRADES

- 15.1** The award of letter grades will be decided based on relative grading principle for Theory Courses, Theory Courses with Laboratory Component and Laboratory Courses with Theory Component. The relative grading is applicable to ONLY those students who have passed the examination as per the passing requirements enumerated above. For those students who have not passed the examination, Reappearance (RA) shall be awarded as shown in the below Table 15.1. For those students who have passed the course, the relative grading shall be done. The marks of those students who have passed only shall be inputted in the software developed for relative grading. The evolved relative grading method normalizes the results data using the BOX-COX transformation method and computes the grade range for each course separately and awards the grade to each student. For a given course, if the students' strength is greater than 30, the relative grading method shall be adopted. However, if the students' strength is less than 30 then the fixed grading shall be followed with the grade range as specified in table 15.1. For the Project Work / Internship and Laboratory Courses fixed grading procedure shall be followed.

Table 15.1 Grade Assignment when student strength in below 30

O	A+	A	B+	B	C	U
91 -100	81 – 90	71 – 80	61 – 70	56 – 60	50 – 55	<50

The performance of a student shall be reported using letter grades, each carrying certain points as detailed in table 15.2

Table 15.2 Grade Assignment after relative grading

Letter Grade	Grade Points
O (Outstanding)	10
A + (Excellent)	9
A (Very Good)	8
B + (Good)	7
B (Average)	6
C (Satisfactory)	5
U (Re-appearance)	0
W (Withdrawal)	0

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

“U” denotes that the student has failed to pass in that course. “W” denotes withdrawal from the exam for the particular course. The grades U and W will figure both in the Grade Sheet as well as in the Result Sheet. In both cases, the student has to appear for the End Semester Examinations.

If the grade U is given to Theory Courses/ Laboratory Courses it is not required to satisfy the attendance requirements, but has to appear for the end semester examination and fulfill the passing requirements to earn a pass in the respective courses.

If the grade U is given to EEC (Employability Enhancement Course) (except Project Work), which are evaluated only through internal assessment, the student shall register for the course again in the subsequent semester, fulfill the passing requirements to earn pass in the course. However, attendance requirement need not be satisfied.

- 15.2** For the Co-curricular activities such as National Cadet Corps (NCC)/ National Service Scheme (NSS) / NSO / YRC / Science club / Literary Club/ Fine Arts Club, a

‘completed’ remark will appear in the Grade Sheet on successful completion of the same. Every student shall put in a minimum of 75% attendance in the training and attend the camp or events of the clubs compulsorily. The training and camp or club events shall be completed during the first year of the programme. However, for valid reasons, the Head of the Institution may permit a student to complete this requirement in the subsequent years. Successful completion of any one of the above co-curricular activities is compulsory for the award of degree.

- 15.3** The grades O, A+, A, B+, B, C obtained for the one/two credit course (not the part of curriculum) shall figure in the Grade Sheet under the title ‘Value Added Courses/Internship/Industrial training’. The courses for which the grade obtained is U, will not figure in the Grade Sheet.
- 15.4** For the students who complete the Audit Course satisfying attendance requirement, the title of the Audit Course will be mentioned in the Grade Sheet. If the attendance requirement is not satisfied, it will not be shown in the Grade Sheet.

15.5 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 student has studied
- The list of courses registered 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 acquired for courses and the corresponding points to the sum of the number of credits acquired for the courses in the semester. CGPA will be calculated in a similar manner, considering all the courses registered from first semester. RA grades will be excluded for calculating GPA and CGPA.

$$\text{GPA / CGPA} = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

where C_i is the number of Credits assigned to the course

G_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.

16. ELIGIBILITY FOR THE AWARD OF THE DEGREE

- 16.1 A student shall be declared to be eligible for the award of the B.E. / B.Tech. Degree provided the student has
- i. Successfully gained the required number of total credits as specified in the curriculum corresponding to the student's programme within the stipulated time.
 - ii. Successfully completed the course requirements, appeared for the End Semester examinations and passed all the subjects within the period as prescribed in clause 5.1.
 - iii. Successfully passed any additional courses prescribed by the Academic Council and respective BoS whenever the student is readmitted under Regulations R-2022 from the earlier Regulations.
 - iv. Successfully completed the NCC / NSS / NSO / YRC / Science Club / Literature Club / Fine Arts Club requirements.
 - v. No disciplinary action pending against the student.
 - vi. The award of Degree must have been approved by the Syndicate of the University.

16.2 Classification of Degree Awarded

16.2.1 First Class with Distinction

Table 16.1 First Class with Distinction

Degree	Duration of Programme	Duration permitted	Additional credits above the requirement of curriculum	CGPA	Pass in	Break of study	Prevention due to lack of attendance	Withdrawal from writing end semester examination
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
B.E./B.Tech (Lateral / Regular)	3 / 4 Years (Lateral / Regular)	4 / 5 Years (Lateral / Regular)	Nil	8.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt
B.E./B.Tech (Honours) Specialization in the same discipline	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from any one vertical of the same programme	8.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt
B.E./B.Tech. (Honours)	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from more than one verticals of the same programme	8.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt
B.E/B.Tech. Minor in other specialisation	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from any one vertical of the other programme	8.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt

16.2.2 First Class

Table 16.2 First Class

Degree	Duration of Programme	Duration permitted	Additional credits above the requirement of curriculum	CGPA	Pass in	Break of study	Prevention due to lack of attendance	Withdrawal from writing end semester examination
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
B.E./B.Tech (Lateral / Regular)	3 / 4 Years (Lateral / Regular)	4 / 5 Years (Lateral / Regular)	Nil	6.50	-	One year authorized break of study included in the Duration permitted (iii)	Included in the Duration permitted (iii)	-
B.E./B.Tech (Honours) Specialization in the same discipline	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from any one vertical of the same programme	7.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt
B.E./B.Tech. (Honours)	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from more than one verticals of the same programme	7.50	First Attempt	One year authorized break of study included in the Duration permitted (iii)	Not permitted	Will not be considered as an attempt
B.E/B.Tech. Minor in other specialisation	3 / 4 years (Lateral / Regular)	4 / 5 years (Lateral / Regular)	18 credits from any one vertical of the other programme	6.50	-	One year authorized break of study included in the Duration permitted (iii)	Included in the Duration permitted (iii)	-

16.2.3 SECOND CLASS: -

All other students (not covered in clauses 16.2.1 and 16.2.2) who qualify for the award of the degree (vide Clause 16.1) shall be declared to have passed the examination in **Second Class**.

- 16.2.4** Student earned additional 18 credits as per Clause 4.10 (i) and (ii) but does not satisfy the conditions mentioned in 16.2.1 or 16.2.2 shall not be awarded B.E./B.Tech. Honours. In such cases the mark sheet will show the additional courses studied and those courses shall not be considered for CGPA computation. In such case if the student becomes eligible for First Class, while computing CGPA without taking into account the additional course studied, the student shall be awarded B.E. / B.Tech. in First Class only.
- 16.3** A student who is absent in end semester examination in a course / project work after having registered for the same shall be considered to have appeared in that examination for the purpose of classification. (Subject to clause 17).

16.4 Photocopy / Revaluation

A student can apply for photocopy of his/her semester examination answer paper in a theory course, as per the guidelines of the COE, on payment of a prescribed fee through proper application to the Controller of Examinations through the Head of the Department. The answer script is to be valued and justified by a faculty member, who has handled the subject and recommend for revaluation with the breakup of marks for each question. Based on the recommendation, the student can register for the revaluation through proper application to the Controller of Examinations. The Controller of Examinations will arrange for the revaluation and the results will be intimated to the student concerned through the Head of the Department. Revaluation is not permitted for practical courses, Project Work and EEC courses.

16.5 Review

Students not satisfied with Revaluation can apply for Review of his/ her examination answer paper in a theory course, within the prescribed date on payment of a prescribed fee through proper application to the Controller of Examinations through the Head of the Department. Students applying for Revaluation only are eligible to apply for Review.

17. PROVISION FOR WITHDRAWAL FROM END-SEMESTER EXAMINATION

- 17.1 A student may, for valid reasons, (medically unfit / unexpected family situations / sports approved by the Physical Director and the HOD) be granted permission to withdraw from appearing for the end semester examination in any course or courses in **ANY ONE** of the semester examinations during the entire duration of the degree programme. The application shall be sent to the CoE through the Head of the Department along with the approval of the Head of the Institution with required documents.
- 17.2 Withdrawal application is valid if the student is otherwise eligible to write the examination (Clause 7) and if it is made within TEN days after the date of the examination(s) in that course or courses and recommended by the Head of the Institution and approved by the Controller of Examinations. For a student to withdraw from a course / courses, he/she should have registered for the course, fulfilled the attendance requirements (vide clause 7) and earned continuous assessment marks.
- 17.2.1 Notwithstanding the requirement of mandatory 10 days, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.
- 17.3 In case of withdrawal from a course / courses, the courses will figure both in the Grade Sheet as well as in the Result Sheet. However, withdrawal shall not be considered as an appearance for the eligibility of a student for First Class with Distinction.
- 17.4 If a student withdraws from writing end semester examinations for a course or courses, he/she shall register for the same in the subsequent semester and write the end semester examination(s).
- 17.5 If a student applies for withdrawal from Project Work Phase I, he/she will be permitted for the withdrawal only after the submission of project report before the deadline. However, the student may appear for the viva voce examination within 30/60 days after the declaration of results for Project Work I and the same shall not be considered as reappearance.
- 17.6 Withdrawal is not permitted in semester I and VIII.

18. PROVISION FOR AUTHORIZED BREAK OF STUDY

- 18.1 A student is permitted to go on authorized break of study for a maximum period of one

year as a single spell.

- 18.2 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 student may apply for additional break of study not exceeding another one year. If a student intends to temporarily discontinue the programme in the middle of the semester for valid reasons, and to re-join 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 Institution stating the reasons therefore and the probable date of re-joining the programme.
- 18.3 The student permitted to re-join 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 re-joining. The students re-joining in new Regulations shall register for additional courses, if any, as notified by the Academic Council and BoS under change of Regulations. These courses may be from any of the semesters of the curriculum in force, so as to bridge the curriculum in force and the old curriculum. In such cases, the total number of credits to be earned by the student may be more than or equal to the total number of credits prescribed in the curriculum in force.
- 18.4 The authorized break of study is included in the duration specified for passing all the courses for the purpose of classification (vide Clause 16.2).
- 18.5 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 5.1 irrespective of the period of break of study in order that he/she may be eligible for the award of the degree.
- 18.6 If any student is prevented for want of required attendance, the period of prevention shall not be considered as authorized ‘Break of Study’ (Clause 18.1).
- 18.7 If a student in Full Time mode wants to take up a job / start-up / entrepreneurship during the period of study he/she shall apply for authorized break of study for one year. The student shall join the job / start-up / entrepreneurship only after getting approval of the same by the Director, Centre for Academic Courses with due proof to that effect.

18.8 No fee is applicable to students during the Break of Study period.

19. DISCIPLINE

- 19.1 Every student is required to observe disciplined and decorous behaviour both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the University / College. The Head of the Institution shall constitute a disciplinary committee consisting of the Head of the Institution, Two Heads of Department of which one should be from the faculty of the student, to enquire into acts of indiscipline. In case of any serious disciplinary action which leads to suspension or dismissal, then a committee shall be constituted including one representative from Anna University, Chennai. In this regard, the member will be nominated by the University on getting information from the Head of the Institution.
- 19.2 If a student indulges in malpractice in any of the End Semester / Internal examination he / she shall be liable for punitive action as prescribed by the University/Institute from time to time.

20. REVISION OF REGULATIONS, CURRICULUM AND SYLLABI

The institute may from time to time revise, amend or change the Regulations, curriculum, syllabus and scheme of examinations through the recommendations from BoS with the approval of the Academic Council.
