

# **ERODE SENGUNTHAR ENGINEERING COLLEGE**

**(An Autonomous Institution, Affiliated to Anna University)**

(Approved by AICTE, New Delhi, & Accredited by NAAC &  
National Board of Accreditation (NBA), New Delhi.)

**PERUNDURAI, ERODE 638 057**

## **REGULATIONS FOR UG DEGREE PROGRAMME (For B.E. / B.Tech. Programme)**



### **REGULATIONS - 2019**

## **Choice Based Credit System (CBCS)**

(For the students admitted during the  
Academic year 2019 - 20 and onwards)

Regulations 2019 have been prepared in accordance with the guidelines given by the University Grants Commission, All India Council for Technical Education and affiliating University with features of the Choice Based Credit System (CBCS). The "Regulations 2019" is applicable to the Students admitted to the Bachelor of Engineering (B.E.) / Bachelor of Technology (B.Tech.) Degree Programmes of the Institution in the academic year 2019-20 onwards.

The regulations hereunder are subjected to amendments as may be decided by the Academic Council of the Institution from time to time. Any or all such amendments will be effective from such date and to such batches of students (including those already in the middle of the programme) as may be decided by the Academic Council.

# ERODE SENGUNTHAR ENGINEERING COLLEGE: ERODE 638 057

(An Autonomous Institution, Affiliated to Anna University)

## REGULATIONS 2019

### CHOICE BASED CREDIT SYSTEM

#### Common to all B.E. / B.Tech. Full-Time Programmes

(For the students admitted to B.E. / B.Tech. Programme during the Academic year 2019-20 and onwards)

## 1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In this regulation, unless the context otherwise specifies:

- **“University”** means ANNA UNIVERSITY Chennai.
- **“College”** means Erode Sengunthar Engineering College.
- **“Programme”** means B.E. /B.Tech. Degree Programme.
- **“Branch”** means specialization or discipline of B.E./B.Tech. Degree Programme, like Civil Engineering, Information Technology, etc.
- **“Course”** means a Theory or Practical subject that is normally studied in a semester like Engineering Mathematics, Engineering Mechanics etc..
- **“Credit”** means a numerical value allocated to each course to describe the Student’s workload required per week.
- **“Grade”** means the letter grade assigned to each course based on the marks range specified
- **“Grade point”** means a numerical value (0 to 10) allocated based on the grade assigned to each course.
- **“Principal”** means the authority of the Institution who is responsible for all academic activities for the implementation of relevant rules and regulations.
- **“Controller of Examinations”** means the Authority of the Institution who is responsible for all activities of the End Semester Examinations of all Departments and hereafter called COE.
- **“Head of the Department”** means Head of the Under Graduate Programme Concerned and hereafter called HoD.

## 2. ADMISSION PROCEDURE

**2.1 (a)** Students for admission to the first semester of the eight semester B.E. / B.Tech. Degree Programme shall be required to have a pass in Higher Secondary Examination (Academic 10 + 2) Curriculum or its equivalent examinations with Mathematics, Physics and Chemistry.

**(b)** Candidates for admission to the Second year of the Four year B.E. / B.Tech

Degree course shall be required to have passed, The Diploma Examination in Engineering conducted by the State Board of Technical Education and Training, Tamil Nadu

**2.2.** The eligibility criteria shall be as prescribed by Anna University, Chennai and Government of Tamil Nadu from time to time.

### **3. BRANCHES OF STUDY**

A student may be offered admission to any one of the branches of study approved by the Authorities. Details of the branches of study currently being offered by the Institution are listed below:

1. B.E. Civil Engineering
2. B.E. Mechanical Engineering
3. B.E. Electrical and Electronics Engineering
4. B.E. Electronics and Communication Engineering
5. B.E. Electronics and Instrumentation Engineering
6. B.E. Computer Science and Engineering
7. B.E. Bio medical Engineering
8. B.Tech. Chemical Engineering
9. B.Tech. Information Technology
10. B.E. Robotics and Automation
11. B.E. Agriculture Engineering
12. B.Tech. Artificial Intelligence and Data Science

### **4. STRUCTURE OF THE PROGRAMMES**

#### **4.1. Categorization of Courses**

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

- **Humanities and Social Sciences including management (HS) :**  
Courses include Technical English, Communication skills, Humanities and management.
- **Basic Sciences (BS) :**  
Courses include Mathematics, Physics, Chemistry, Biology, etc.
- **Engineering Sciences (ES) :**  
Courses include Engineering Practices, Engineering Graphics, Basics of Electrical / Electronics / Mechanical / Computer, etc.
- **Professional Core (PC):**  
Courses include the core courses relevant to the chosen specialization/branch of study.
- **Professional Elective (PE):**  
Courses include the elective courses relevant to the chosen specialization/ branch of

study.

- **Open Elective (OE) :**

Courses are given as a separate list of Elective Courses offered by the Engineering / Science Departments. A student has to choose Open Elective courses from the open electives offered by any BE / B.Tech programme other than his own programme.

- **Employability Enhancement Courses (EEC):**

Courses include Project Work and/or Internship, Seminar, Professional Practices, Case Study and Industrial/Practical Training.

- **Mandatory courses (MC):**

Courses that are to be completed by every student. There are no credits / grades associated with these courses and will neither be included in the CGPA calculation nor be in the classification of Degree.

Courses include Environmental Science and Engineering, Induction training, Indian Constitution, Essence of Indian traditional knowledge. (0 Credits)

#### 4.2. Number of courses per semester

Curriculum of a semester shall normally have a blend of 5 or 6 Lecture Courses and 2 to 3 Laboratory Courses. In addition, Employability Enhancement Course(s) may also be included. Each course may have credits assigned as per Clause 4.3.

#### 4.3. Credit Assignment

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

Contact period per week	Credits
1 Lecture Period	1
1 Tutorial Periods	1
1 Practical Periods (Laboratory / Project Work / etc.)	0.5

#### 4.4. Range of Credits

A range of credits from 160 to 165 for a student is eligible to get the Under Graduate degree in Engineering. A student will be eligible to get Under Graduate degree with honours in the branch of study concerned if he/she earns an additional 20 credits through MOOCs/NPTEL/SWAYAM/Other online courses approved by Academic Council. A student will be eligible to get Under Graduate degree in the major branch of study with minor Engineering in a chosen branch of Engineering, if he/she earns an additional 20 credits through MOOCs /NPTEL/SWAYAM/Other online courses in that minor branch of engineering. Credits earned through MOOC/NPTEL/SWAYAM/Other online courses from third semester onwards will be considered for awarding honors/minor engineering. The credits earned through MOOC MOOCs/NPTEL/SWAYAM/Other online courses in a semester cannot exceed

SIX.

#### **4.5. Industrial Training / Internship**

**4.5.1.** The students may undergo Industrial training/ Internship for a period as specified in the curriculum during summer / winter vacation. In this case, the training has to be undergone continuously for the entire period. The students may undergo Internship at Research organization/ University / Government & private Hospitals /Reputed firms satisfying prescribed qualifications set by the department (after due approval from the HoD) for the period prescribed in the curriculum during summer / winter vacation.

**4.5.2.** If Industrial Training / Internship (Industry for internship should be approved by the department) 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. In such cases, Industrial Training / Internship needs to be undergone continuously from one organization only at least a period of one week. If the student earns three credits in Industrial Training / Internship, the student may drop one Professional Elective. However, if the number of credits earned is 1 or 2, these credits shall not be considered for classification of the degree. The student is allowed to undergo a maximum of 6 weeks Industrial Training / Internship during the entire duration of study. The students should complete 4 weeks of Industrial Training / Internship and Inter/ Intra Institutional Training during Summer/Winter Vacation or Academic session to become eligible for the award of degree.

<b>Duration of Industrial Training / Summer Projects / Case Study / Internship</b>	<b>CREDITS</b>
2 Weeks	1
4 Weeks	2
6 Weeks	3

#### **4.6. Industrial Visit**

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

#### **4.7. Online Courses / Self Study Courses**

**4.7.1.** Students may be permitted to enroll for one Online Course or Self Study Course with the approval of the respective Boards of Studies.

**4.7.2.** The student has to register for the credit transfer of the online course during the course registration. The online course(s) which is/are successfully completed by the student in a particular EVEN/ODD semester during the course of study is/are eligible for credit transfer in the immediate next ODD/EVEN or next EVEN/ODD semester (i.e. an online

course is eligible for credit transfer for two subsequent semesters).

**4.7.3.** The student can opt for Self Study Course from the list of Professional Electives provided, the student does not have any standing arrears and the CGPA should be 7.5 and above. The purpose of the course is to permit the student to study a course of the student's choice. The students shall study on their own under the guidance of a faculty member. No formal lectures need to be delivered. One Faculty member assigned by the HOD shall be responsible for the periodic monitoring and assessment of the student in that course.

**4.7.4.** The Self Study Course or Online Course of 3 credits can be considered instead of one Professional Elective Course

#### **4.8. Medium of Instruction**

The medium of instruction is ENGLISH for all Courses, Examinations, Seminar Presentations and Project / Thesis / Dissertation Reports.

### **5. DURATION OF THE PROGRAMMES**

**5.1(a).** A student is normally expected to complete the B.E. / B.Tech. Programme in 4 years (8 Semesters) but in any case not more than 7 years (14 Semesters).

**5.1(b).** A Lateral Entry student is normally expected to complete the B.E. / B.Tech Programme in 3 years (6 Semesters) but in any case not more than 6 years (12 Semesters). The duration of B.E. / B.Tech Programme shall be three academic years with semester pattern. The courses of study for the Lateral Entry Diploma candidates shall be both theory and practical and shall be in accordance with the prescribed syllabus of Third to Eighth semesters of the Full Time Four year B.E / B.Tech. Degree Programme of the respective branches. The courses of study for the Lateral Entry Science Graduates shall be both theory and practical and shall be in accordance with the prescribed syllabi of the Full Time Four year B.E. / B.Tech. Degree Programme of the respective branches, but the additional courses offered will be decided by the respective Chairman, Board of Studies.

**5.2.** Each semester shall normally consist of 75 working days or 540 periods including Continuous Assessment test periods. The HOD shall ensure that every teacher imparts instruction as per the number of contact periods specified in the syllabus covering the full content of the syllabus for the course being taught.

**5.3.** The total duration for completion of the programme reckoned from the commencement of the first semester to which the student was admitted shall not exceed the maximum duration specified in clause 5.1 irrespective of the period of break of study (vide Clause 16) or prevention (vide Clause 7.4) in order that the student may be eligible for the award of the degree (vide Clause 14).

**5.4.** The Curriculum of U.G. Programmes shall be so designed that the prescribed credits required for the award of the degree, which depends on the branch of study, shall be within

the limits specified below:

<b>PROGRAMME</b>	<b>PRESCRIBED CREDIT RANGE</b>
B.E./B.TECH (Regular)	160-165
B.E./B.TECH (Lateral Entry)	117-125

## **6. COURSE ENROLLMENT AND REGISTRATION**

**6.1.** Each student, on admission shall be assigned to a Student Counsellor (vide clause 8) who shall advise and counsel the student about the details of the academic programme and the choice of courses considering the student's academic background and career objectives.

**6.2.** Every student shall enroll for all the courses (including additional courses and excluding dropping courses) in the previous Semester for the next Semester of study. Students who rejoined the programme after availing permitted Break of Study or Readmitted by DOTE/University need not submit new Enrollment Form, but they have to submit the course registration form within the first 10 working days after the publications of the results of the previous semester examinations.

**6.3.** The student shall confirm the enrollment by registering for the courses within the first ten working days after the publications of results including revaluation results of the previous semester examinations.

**6.4.** Students shall attend the classes, satisfy the attendance requirements, earn Continuous Assessment marks and appear for the End Semester Examinations.

**6.4.1.** Each student on admission shall register for **all the courses prescribed in the curriculum** in the student's **first Semester of study**. (**Third Semester of study** for students admitted **under lateral entry stream**)

**6.4.2.** The enrollment for all the courses of the Semester II will commence 10 working days prior to the last working day of Semester I. The student shall confirm the enrollment by registering for the courses within the first ten working days after the publications of results including revaluation results of the previous semester examinations

**6.4.3.** The enrollment for the courses of the Semesters III to VIII will commence 10 working days prior to the last working day of the preceding semester. The student shall enroll for the courses with the guidance of the student's Counsellor. If the student wishes, the student may drop or add a course from V semester (vide clause 6.5) within **ten** working days after the commencement of the semester concerned and complete the registration process duly authorized by the Student Counsellor and HoD

### **6.5. Flexibility to add or drop courses**

**6.5.1.** A student has to earn the total number of credits specified in the curriculum of the respective Programme of Study in order to be eligible to obtain the degree. However, if a student

wishes, the student is permitted to earn more than the total number of credits prescribed in the curriculum of the student's Programme.

**6.5.2.** From the V to VII semesters, the student has the option of registering for additional courses or dropping existing courses with prior approval from HoD and the Principal. Such dropped courses can be taken up in the subsequent semester. However backlogged dropped courses registered in the current semester cannot be dropped. Adding or Dropping of courses is only an option given to the Students. Total number of credits of such courses cannot exceed 6.

## **6.6. Reappearance Registration/Re-enrollment Registration**

**6.6.1.** If a student fails in a theory/practical course, the student shall do reappearance registration for that course in the subsequent semester and attend end semester examination. The student shall earn Continuous Assessment marks optionally.

**6.6.2.** The student shall fulfill the continuous assessment criteria to re-earn the continuous assessment marks for the reappearance registration courses, if the student wishes. In such a case, latest Continuous Assessment marks will only be valid. However, the re-earning of attendance is not permitted for such courses.

**6.6.3.** If the theory course, in which the student has failed, is a Professional Elective or an Open Elective, the student may register for the same or any other Professional Elective or Open Elective Course respectively in the subsequent semesters. Such changes can be done only with due approval by the Head of the Department.

**6.6.4.** The student who fails in Project work (Mini Project /Project phase-I/II ) / Seminar other than Practical Courses shall register for the same in the subsequent Semester and reappear for the End Semester Examinations.

**6.6.5.** If a student is prevented from writing end semester examination of a course due to lack of attendance, the student has to re-enroll and register for that course again, when offered next. However, if the overall average attendance of all the courses is below 65%, the student has to rejoin the programme in the next academic year after getting readmission order from the DOTE/University. The student shall attend the classes and fulfill the attendance requirements as per clause 7, earn continuous assessment marks and appear for the end semester examinations. If the course, in which the student has lack of attendance, is a Professional Elective, the student may register for the same or any other Professional Elective Course in the subsequent semesters.

## **7. REQUIREMENTS FOR APPEARING FOR THE END SEMESTER EXAMINATION OF A COURSE**

A student who has fulfilled the following conditions (vide Clause 7.1 and 7.2) shall be deemed to have satisfied the attendance requirements for appearing for end semester examination of a particular Course.



**7.1.** Ideally every student is expected to attend all periods and earn 100% attendance. However, the student shall secure not less than 75% attendance course wise taking into account the number of periods required for that Course as specified in the Curriculum.

**7.2.** A student, who could not satisfy the attendance requirements as per clause 7.1 but has secured 65% and above in a course or courses due to medical reasons (Hospitalization / Accident / Specific Illness) or an authorized outside activity, may be permitted to appear for the examinations after the approval of the Principal. The relevant certificates, with the approval of the HoD and Principal, are to be submitted to the Office of the CoE.

A student shall be able to avail this Provision only twice during the entire duration of the degree programme.

7.2.1 Student's progress is satisfactory.

7.2.2 Student's conduct is satisfactory.

7.3. A student shall normally be permitted to appear for the End Semester Examination of the Course if the student has satisfied the attendance requirements (vide Clause 7.1 – 7.2) and has registered for examination of the Courses in that semester by paying the prescribed fee.

7.4. Students who do not satisfy Clause 7.1 and 7.2 and who secures less than 65% attendance in a Course will not be permitted to write the End-Semester Examination of that course. The student has to register and repeat this course in a subsequent semester when it is offered next (vide Clause 6.6.5).

7.5. However, if the overall average attendance of all the courses is below 65%, the student has to rejoin the programme in the next academic year after getting readmission order from the DOTE/University.

7.6. A student who has already appeared for a Course in a Semester and passed the Examination is not entitled to reappear in the same course for improvement of letter grades / marks.

## **8. STUDENT COUNSELLOR/FACULTY ADVISOR**

To help the students in planning their courses of study and for general advice on the Academic Programme, the HOD of the students will attach a certain number of students to a teacher of the Department who shall function as Student Counsellor/Faculty Advisor for those students throughout their Period of Study. The Student Counsellor/Faculty Advisor shall advise the students in registering and reappearance registering of Courses, authorize the process, monitor their attendance and progress and counsel them periodically. If necessary, the Student Counsellor/Faculty Advisor may also discuss with or inform the parents about the progress / performance of the students concerned.

The responsibilities of the Student Counsellor/Faculty Advisor shall be:

- To inform the students about the various facilities and activities available to enhance the student's curricular and Co-curricular activities.
- To guide student enrollment and registration of the Courses.

- To authorize the final registration of the Courses at the beginning of each semester.
- To monitor the academic and general performance of the students including attendance and to counsel them accordingly

## **9. COURSE COMMITTEES**

### **9.1. Common Course Committee**

A theory course handled by more than one teacher shall have a "Common Course Committee", comprising of all teachers teaching that course. One of the teachers shall be nominated as Course Coordinator by the Faculty Chairman, duly approved by the Director, Academic Courses.

The first meeting of the Common Course Committee shall be held within fifteen days from the date of formation of the committee. The nature and weightage of the continuous assessments shall be decided in the first meeting, within the framework of the Regulations. Two or three subsequent meetings in a semester may be held at suitable intervals.

In addition the "Common Course Committee" shall meet to ensure uniform evaluation of continuous assessments after arriving at a common scheme of evaluation for the assessments. Wherever feasible, the common course committee shall prepare a common question paper for the continuous assessment tests also.

### **9.2. Multiple Courses Committee**

Multiple Courses Committee comprises of all teachers handling courses of a particular semester, including common course teachers and two student representatives from the course concerned. One of the above teachers, nominated by the Head of the Department shall coordinate the activities of this committee. The functions of this committee are as follows:

The first meeting of the Multiple Courses Committee shall be held within fifteen days from the date of formation of the committee. The nature and weightage of the continuous assessments shall be decided in the first meeting, within the framework of the regulations. Two or three subsequent meetings in a semester may be held at suitable intervals. During these meetings, the student members shall meaningfully interact and express their opinions and suggestions of all the students to improve the effectiveness of the teaching-learning process. It is the responsibility of the student representatives to convey the proceedings of these meetings to all the students.

### **9.3. Overall Monitoring Committee**

In addition, there shall be an overall monitoring committee for each semester of a programme, which comprises of (i) the Head of the Department (convener), (ii) the Faculty Advisors of the programme and (iii) Multiple Course Coordinator. This overall monitoring committee shall meet periodically to discuss academic related matters, progress and status of the students of the semester concerned. The overall monitoring committee can also invite some of the students for any of the committee meetings if necessary

## 10. ASSESSMENT PROCEDURES FOR AWARDING MARKS

All B.E. / B.Tech. Programmes consist of Theory Courses, Laboratory Courses and Employability Enhancement Courses. Employability Enhancement Courses include Project Work, Seminar, Case Study and Industrial/Practical Training. Appearance in End Semester Examination is mandatory for all courses including Theory, Laboratory and Project Work.

S.No	Category of course	Continuous Assessment	End-Semester Examinations
i.	Theory Courses / Theory Courses with Laboratory component	40 Marks	60 Marks
ii.	Laboratory Courses	60 Marks	40 Marks
iii.	Project Work	60 Marks	40 Marks
iv.	Online Courses/Self Study Courses (Optional)	100 Marks	-
v.	All EEC Courses(Except Laboratory Courses and Project Work )	100 Marks	-
vi.	Value Added One Credit Course (Optional)	100 Marks	-
vii.	Mandatory Courses (Except Induction Program#)	40 Marks	60 Marks

Performance in each Course of Study shall be evaluated based on (i) Continuous Internal Assessment throughout the semester and (ii) End Semester Examination at the end of the semester. For Theory Courses out of 100 marks, the maximum marks for Continuous Assessment is fixed as 40 and the End Semester Examination carries 60 marks. For Laboratory Courses out of 100 marks, the maximum marks for Continuous Assessment is fixed as 60 and the End Semester Examination carries 40 marks. The continuous assessment is 60 marks for the Project Work, and Project Report evaluation and Viva-Voce examination carries 40 marks. All other courses included under Employability Enhancement Courses which are not theory courses are evaluated by Continuous Assessments only. (i.e.) Each course shall be evaluated for a maximum of 100 marks as shown below:

Every course coordinator is required to maintain an "ATTENDANCE AND ASSESSMENT RECORD" for every semester which consists of attendance marked in each theory / Laboratory/EEC class, the assessment marks and the record of class work (topics covered), separately for each Course handled by the teacher.

This should be submitted to the HoD periodically (at least three times in a semester) for checking the syllabus coverage and the records of assessment marks and attendance. The HOD will affix his/her signature and date after due verification. At the end of the semester, the record should be verified by the HoD who shall keep this document after the approval from the Principal in safe custody for eight years. The records of attendance and

assessment of both current and previous semesters should be available for inspection whenever required.

### **10.1. Assessment for theory courses /Theory Courses with Laboratory Component**

#### **10.1.1. Assessment for theory courses including mandatory courses**

For Theory Courses including mandatory courses out of 100 marks, the maximum marks for Continuous Assessment is fixed as 40 and the End Semester Examination carries 60 marks. The End Semester Examination for theory courses including mandatory courses will be of 3 hours duration and shall normally be conducted for a maximum of 100 marks between November/December during the Odd Semesters and between April/May during the Even Semesters. End semester Examination is a mandatory requirement for passing the Course and Every Student should appear for the End Semester Examination for Theory including mandatory courses, Laboratory Courses and Project Work.

Continuous Assessment is to be arrived on the basis of performance of the Students in tests, Model examination, assignments and attendance. In case a student misses the assessment due to medical reasons (hospitalization / accident / specific illness) or due to participation in the College / University / State / National / International level Sports events with prior permission from the HoD, a Reassessment may be given at the end of the semester after getting approval from the Head of the Department through the concerned Course Instructor. To arrive the Continuous Assessment Mark, the following guidelines are to be followed.

<b>Sl.No.</b>	<b>Category Details</b>	<b>CA Marks</b>	<b>Weightage</b>
i.	Test (3 Nos.)- Each test is to be conducted for 50 Marks. Best 2 will be considered.	20 Marks	50%
ii.	Model Examination	10 Marks	25%
iii.	Assignment (2 Nos.)	5 Marks	12.5%
iv	Attendance Percentage ( 75 to 79 : 1 Mark , 80 to 84 : 2 Marks ,85 to 89 : 3 Marks , 90 to 94 : 4 Marks ,95 to 100 : 5 Marks)	5 Marks	12.5%
	<b>TOTAL</b>	40 Marks	100%

If a student has failed (vide Clause 11.1) in a Theory Course, revised Continuous Assessment marks can optionally be earned (vide 6.6.1). In such case the student has to appear for the assessments and earn continuous assessment marks again.

#### **10.1.2. Assessment for Theory Courses with Laboratory Component**

The maximum marks for Internal Assessment for theory courses with Laboratory component is also 40 marks. To arrive the Continuous Assessment Mark, the following

guidelines are to be followed.

<b>Assessment for Theory (T)</b>	<b>Assessment for Laboratory (L)</b>	<b>Assignment (1 No.)</b>	<b>Attendance</b>	<b>End Semester</b>
20 Marks (T) (Two assessments)	10 Marks (L) (One assessment)	5 Marks	5 Marks	60 (T)

### **10.2. Assessment for laboratory courses**

For Laboratory Courses out of 100 marks, the maximum marks for Continuous Assessment is fixed as 60 and the End Semester Examination carries 40 marks. Every laboratory exercise / experiment shall be evaluated based on the student performance during the laboratory class and the student's records shall be maintained. There shall be at least one assessment test. The End Semester examinations for Laboratory Courses will be of 3 hours duration and shall normally be conducted for a maximum of 100 marks. The criteria for arriving at the Continuous Assessment marks of 60 is as given below.

<b>Distribution of marks for Continuous Assessment</b>	<b>Marks</b>
Observation	20
Record	15
Viva - Voce	10
Model Exam	10
Attendance	5
<b>Total Assessment</b>	<b>60</b>

### **10.3. Assessment for project work:**

The Project work shall be carried out under the supervision in the department concerned. A student may, however, in certain cases, be permitted to work on projects in an industrial / research organization, on the recommendations of the head of the department. In such cases, the project work shall be jointly guided by a supervisor of the department and an expert as joint supervisor from the organization and the student shall be instructed to meet the supervisor periodically and to attend the review committee meetings and shall submit attendance particulars from the joint supervisor for evaluating the progress. Absolute grading is adopted for the evaluation of Project Work.

For project work in the total of 100 marks, the maximum marks for continuous assessment carries 60 marks and the End Semester Examination (Project Report Evaluation and Viva- Voce Examination) carries 40 marks. Project work may be assigned to a single student or to a group of students not exceeding 4 per group.

The student(s) is expected to submit the project report on or before the last working day of the semester. The End Semester Examination for project work shall consist of evaluation of the final project report submitted by the student(s) evaluated by an examiners followed by a Viva-Voce Examination conducted separately for each student by a committee

consisting of the external examiner and an internal examiner. The continuous assessment marks for Project Work Phase I#/II will be distributed as indicated below.

**Mini Project/Project Work Phase I#**

<b>Review I (20 Marks)</b>		<b>Review II (20 Marks)</b>		<b>Review III (20 Marks)</b>		<b>Report Evaluation</b>	
Review Committee	Guide	Review Committee	Guide	Review Committee	Guide	Guide	Project Coordinator
15	5	15	5	15	5	20	20

# No End Semester Exams

**Project Work Phase II** (continuous assessment marks)

<b>Review I (20 Marks)</b>		<b>Review II (20 Marks)</b>		<b>Review III (20 Marks)</b>	
Review Committee	Guide	Review Committee	Guide	Review Committee	Guide
15	5	15	5	15	5

The Mark distribution for End Semester Examination (Viva-Voce) will be distributed as indicated below.

<b>End Semester Examination (40 Marks)</b>		
Internal Examiner	External Examiner	
	Project Report Evaluation	Viva – Voce
10 Marks	20 Marks	10 Marks

**10.3.1.** If the project report is not submitted on or before the specified deadline, an extension of the time up to a maximum limit of 10 days may be given for the submission of project work by paying additional fee to conduct separate Viva-Voce Examination with due approval obtained from the Head of the Department. If the project report is not submitted even beyond the extended time then the student(s) is deemed to have failed in the Project Work. The failed student(s) shall reappear for the same in the subsequent semester.

**10.4. Assessment for Industrial Training / Internship**

The Industrial Training / Internship shall carry 100 marks and shall be evaluated through Continuous Assessment only. At the end of Industrial training / internship, the student shall submit a detailed report on the training undergone and a certificate from the organization concerned. 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 HOD. Certificates (issued by the Organization) submitted by the student shall be

attached to the mark list and sent to COE by the HOD with due recommendations. The training will appear in the list of Value Added Courses in the Grade sheet with the credits (additional/extra credits) obtained.

The assessment procedure for End Semester Examination of all EEC is given below.

### Industrial Training

1.	Pre-requisites / Eligibility Conditions	After completion of the III semester, the student may undergo industrial training in reputed organization after getting prior permission from HOD.
2.	Detail of Course Content / Syllabus	In-plant training in any organization like BSNL, TTPS, TNEB, BHEL, NLC, Government & private Hospitals etc., related to their programmes.
3.	Duration of the Course	Two weeks per credit.
4.	Assessment Procedure and Criteria for allocation of grade	Proof for the participation along with a satisfactory completion certificate obtained from the organization concerned is mandatory. In addition <ol style="list-style-type: none"> <li>1. Student has to submit a report.</li> <li>2. Evaluation Committee will be constituted by the respective Head of the Department to assess the report based on the following criteria. <ul style="list-style-type: none"> <li>• Evaluation of report given by the student (40%)</li> <li>• Student's presentation (40%)</li> <li>• Oral Examination (20%)</li> </ul> </li> </ol>
5.	In case of failure	Reappearance is mandatory, if the course is specified in the curriculum.

### Internship

1.	Pre-requisites /Eligibility Conditions	After completion of the III semester, the student may undergo internship training after getting prior permission from the Head of the Department.
2.	Detail of Course Content /Syllabus	Internship Training in R&D organization like CSIR, DRDO, IITs and IISC, Government & private Hospitals etc., related to their programmes.
3.	Duration of the Course	Two weeks per credit.
4.	Assessment Procedure and Criteria for allocation of grade	Proof for the participation along with a satisfactory completion certificate obtained from the organization concerned is mandatory. In addition <ol style="list-style-type: none"> <li>1. Student has to submit a report.</li> <li>2. Evaluation Committee will be constituted by the respective Head of the Department to assess the report based on the following criteria. <ul style="list-style-type: none"> <li>• Evaluation of report given by the student (40%)</li> <li>• Student's presentation (40%)</li> </ul> </li> </ol>

		<ul style="list-style-type: none"> <li>• Oral Examination (20%)</li> </ul>
5.	In case of failure	Reappearance is mandatory, if the course is specified in the curriculum.

### **10.5. Assessment for value added one credit/Two Credit courses**

Students may optionally undergo Value Added Courses and the credits earned through the Value Added Courses shall be over and above the total credit requirement prescribed in the curriculum for the award of the degree. One/Two credit courses shall be offered by a Department with the prior approval from the Board of Studies/Academic Council. The details of syllabus, time table and faculty may be sent to the Board of Studies/Academic Council after approval from the Departmental Consultative Committee concerned. Students can take a maximum of two 'one credit courses' or one 'two credit course'. They shall be allowed to take one/two credit courses offered in other Departments with the permission of the Head of the Department offering the course.

### **10.6. Assessment for Online Courses/ MOOC/SWAYAM/NPTEL courses**

Students may be permitted to take up online courses with a total of three credits with the approval of the respective Chairperson Board of Studies. NPTEL Courses shall have the credit equivalence as: 4 weeks' course is considered equivalent to 1 credit; 8 weeks 'course is considered equivalent to 2 credits; 12 weeks' course is considered equivalent to 3 credits. A student may study a maximum of three NPTEL courses such that credits earned will be 1+1+1 or 1+2 or 3. In such a case, one course with 3 credits maybe dropped in the 8th semester. (The attendance requirement as mentioned in Clauses 7.1-7.3 is not applicable for the online course).

### **10.7. Assessment for self study course**

The faculty member approved by the head of the department shall be responsible for periodic monitoring and evaluation of the self study course. The course shall be evaluated through continuous assessment and end semester examination. The evaluation methodology shall be the same as that of a theory course (vide clause 10.1).

## **11. PASSING REQUIREMENTS**

**11.1.** The passing requirement for a student in a course is determined based on the marks obtained both in continuous assessment and end semester examinations. A candidate who secures not less than 50% of total marks prescribed for the course [Internal Assessment + End semester Examinations] with a minimum of 50% of the marks prescribed for the end-semester examinations, wherever applicable, shall be declared to have successfully passed the course. This is applicable for both theory and practical courses (including project work).

**11.1.1.** If a student fails to secure a pass in a theory course (except electives), the student shall do reappearance registration for that course in the subsequent semester, with an option of re-earning the continuous assessment marks or by retaining the original



continuous assessment marks and attend the end semester examination.

**11.1.2.** If the course, in which the student has failed, is an elective/ online course, the student may be permitted to register for the same or any other elective course/online course in the subsequent semesters. The student shall attend the classes, fulfill the attendance requirements and earn Continuous Assessment marks as per clause 7, if he/she opted for any other elective course (vide clause 6.6.3). However, the change of elective courses is permitted only once.

**11.1.3.** If a student fails to secure a pass in a laboratory course, the student shall do reappearance registration for that course in the subsequent semester, with an option of re-earning the continuous assessment marks or by retaining the original continuous assessment marks and attend the end semester examination (vide clause 6.6.1 and 6.6.2).

**11.1.4.** If a student fails to secure a pass in project work, the student shall register for the course in the subsequent semester/when offered next and repeat the course (vide clause 6.6.4).

**11.2.** The passing requirement for the courses which are assessed only through continuous assessment (EEC except Laboratory and project work), shall be determined based on the marks obtained in the continuous assessment.

### **11.3. Revaluation**

A Student may apply for a photocopy of the answer script of a theory examination, within a time announced from the declaration of results, on payment of a prescribed fee by submitting an application to the Controller of Examinations through the Head of the Department. The photo copy of the answer script may be valued by a faculty member who has handled the course and recommended for revaluation.

Based on the recommendation, the Student can apply 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 through the HOD. Revaluation is permitted only for theory courses.

#### **11.3.1. Challenging the Revaluation**

Challenging the revaluation is permitted for those students who have applied for photocopy of answer script. The copy of the answer script is to be valued by a competent authority and the valued script should be submitted to the COE's office along with the prescribed fee for challenging the revaluation within 2 days after declaration of the Re-valuation results.

## **11. AWARD OF LETTER GRADES**

For awarding the grades UGC/ affiliating university guidelines is followed. It will be changed from time to time based on the guidelines of above affiliating authorities.

The performance of a student will be reported using letter grades, each carrying

certain points as detailed below:

<b>Letter Grade</b>	<b>Grade Points</b>	<b>Marks Range</b>
O (Outstanding)	10	90-100
A+ (Excellent)	9	80-89
A (Very Good)	8	70-79
B+ (Good)	7	60-69
B (Above average)	6	50-59
RA (Reappearance Registration)	0	< 50
SA (Shortage of Attendance)	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".
- 'SA' denotes shortage of attendance (as per clause 7.3) and hence prevention from writing the end semester examinations. 'SA' will appear only in the result sheet.
- "RA" denotes that the student has failed to pass in that course. "W" denotes withdrawal from the exam for the particular course. In both cases the student has to earn Continuous Assessment marks and appear for the End Semester Examinations.
- If the grade W is given to course, the attendance requirement need not be satisfied.
- If the grade RA is given to a core theory course, the attendance requirement need not be satisfied, but if the grade RA is given to a Laboratory Course/ Project work / Seminar and any other EEC course, the attendance requirements should be satisfied.
- For the Co-curricular activities, a satisfactory / not satisfactory grading will appear in the mark sheet. Every student shall put in a minimum of 75% attendance in the training and attend the camp compulsorily. The training and camp 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 during the second year. A satisfactory grade in the above co-curricular activities is compulsory for the award of the degree.
- The grades O, A+, A, B+, B obtained for the one credit course shall figure in the Mark sheet under the title 'Value Added Courses'. The Courses for which the grades are RA, SA will not figure in the mark sheet.

### **13. GPA AND CGPA CALCULATION**

**13.1.** The Principal & Chairman of the Academic Council shall call for a Result Passing Board

Members meeting after the end-semester examinations, to pass and publish the results. After results are declared, grade sheets will be issued to each student which will contain the following details:

The list of courses registered during the semester and the grades scored.

The grade point average (GPA) for the semester and the cumulative grade point average (CGPA) of all courses registered from first semester onwards. During each Semester, the list of Courses registered and the grades scored in each Course (excluding value added courses) are used to compute the Grade Point Average (GPA). GPA is the ratio of the sum of the products of the number of credits of Courses registered and the grade points corresponding to the grades scored in those Courses, taken for all the Courses (excluding value added courses), to the sum of the number of credits of all the courses in the Semester.

$$GPA/CGPA = \frac{\sum_1^n C_i * GP_i}{\sum_1^n C_i}$$

Where  $C_i$  - is the Credits assigned to the Course

$GP_i$  - is the grade point corresponding to the letter 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.

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

**13.2.** The credits earned through Value Added One Credit Courses shall not be considered for calculating GPA and CGPA.

**13.3.** If a student studies more number of Electives (PE/OE) than required as per the programme of study, the Courses with higher grades alone will be considered for calculation of CGPA.

## **14. ELIGIBILITY FOR THE AWARD OF DEGREE**

### **14.1. ELIGIBILITY FOR THE AWARD OF DEGREE WITH HONOURS/MINOR ENGINEERING**

A student shall be declared to be eligible for the award of the B.E. / B.Tech. Degree with Honours /Minor Engineering provided the student has

- (i) Successfully gained the required number of total credits as specified in the Curriculum corresponding to the programme of study and additional 20 credits earned through MOOC/NPTEL/SWAYAM/Other online courses within the stipulated time.
- (ii) Should have passed the examination in all the Courses including

MOOC/NPTEL/SWAYAM/Other online courses for Honours /Minor engineering of all the eight semesters in the student's First Appearance within five years, which includes authorized break of study of one year. Withdrawal from examination (vide Clause 15) will not be considered as an appearance.

- (iii) Should have secured a CGPA of not less than 8.5
- (iv) Should not have been prevented from writing End Semester examination due to lack of attendance in any of the Courses
- (v) Award of degree must have been approved by the Anna University

#### **14.2. ELIGIBILITY FOR THE AWARD OF B.E. /B.Tech. DEGREE**

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 programme of study within the stipulated time. Total minimum credits needed for each branch of study is as given below.

SL.NO.	BRANCH OF STUDY	TOTAL MINIMUM CREDITS NEEDED FOR SUCCESSFUL COMPLETION	
		Regular Admission	Lateral Entry
1	B.E. CIVIL ENGINEERING	165	124
2	B.E. MECHANICAL ENGINEERING	160	120
3	B.E. ELECTRICAL AND ELECTRONICS ENGG.	162	123
4	B.E. ELECTRONICS AND COMMUNICATION ENGG.	160	120
5	B.E. BIO MEDICAL ENGINEERING	160	120
6	B.E. ELECTRONICS AND INSTRUMENTATION ENGG.	161	121
7	B.E. COMPUTER SCIENCE AND ENGG.	163	120
8	B.Tech. INFORMATION TECHNOLOGY	161	118
9	B.Tech. CHEMICAL ENGINEERING	162	123
10	B.Tech. ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	162	120
11	B.E.ROBOTICS AND AUTOMATION	164	120
12	B.E. AGRICULTURE ENGINEERING	165	121

- (i) Successfully completed the Course requirements, appeared for the End- Semester Examinations and passed all the courses prescribed in all the 8 Semesters within a maximum period of 7 years and 8 years for the students who availed authorized break of study of 1 year reckoned from the commencement of the first Semester to

- which the candidate was admitted.
- (ii) Successfully passed any additional courses prescribed by the Board of Studies whenever readmitted under regulations other than Regulations 2019 (vide clause 16.3)
  - (iii) No disciplinary action pending against the student.
  - (iv) Award of Degree must have been approved by the Anna University.

## **15. CLASSIFICATION OF THE DEGREE AWARDED**

### **15.1. First class with distinction:**

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

- (i) Should have passed the examination in all the Courses of all the eight semesters in the student's First Appearance within five years, which includes authorized break of study of one year. For this purpose the withdrawal from examination (vide clause 15) will not be construed as an appearance. Further, the authorized break of study will not be counted for the purpose of classification.
- (ii) Should have secured a CGPA of not less than 8.50
- (iii) Should not have been prevented from writing End Semester examination due to lack of attendance in any of the Courses.

### **15.2. First class:**

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

- i. Should have passed the examination in all the courses of all eight semesters within five years, which includes one year of authorized break of study (if availed) or prevention from writing the End Semester Examination due to lack of attendance (if applicable).
- ii. Should have secured a CGPA of not less than 7.00

### **15.3. Second class:**

All other students (not covered in Clauses 15.1 and 15.2) who qualify for the award of the degree shall be declared to have passed the examination in **Second Class.**

A student who is absent in the End Semester Examination in a Course / Project work after having registered for the same shall be considered to have appeared in that Examination (except approved withdrawal from End Semester Examinations as per Clause 16) for the purpose of Classification.

## **16. PROVISION FOR WITHDRAWAL FROM EXAMINATION:**

**16.1.** A student may, for valid reasons, (medically unfit / unexpected family situations / Sports approved by Physical Director and 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 with the required documents for approval of the Principal.

**16.2.** The withdrawal application shall be valid only if the student who has no history of arrears and is otherwise eligible to write the Examination (Clause 7) and if it is made within TEN working days before the commencement of the End Semester Examination in that Course or Courses and also recommended by the HOD.

**16.3.** Notwithstanding the requirement of mandatory TEN working 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 considered as an appearance for deciding the eligibility of a student for First Class with Distinction.

**16.5.** The withdrawal is permitted for the End Semester Examinations in the final semester only if the Period of Study, the student concerned does not exceed 5 years as per Clause 14.2.1.

## **17. BREAK OF STUDY FROM A PROGRAMME**

**17.1.** A student is permitted to go on break of study for a single break of one year only.

**17.2.** The student can apply for break of study in advance, in any case, not later than the last date of the first Assessment period. The application duly filled by the student shall be submitted through the Head of the Department for the approval of the Principal & Chairman.

**17.3.** The students permitted to rejoin the Programme after break of study / readmission due to lack of attendance, shall be governed by the Curriculum and Regulations in force at the time of rejoining. The students rejoining in new Regulations shall apply in the prescribed format through HOD at the beginning of the readmitted Semester itself for prescribing additional/equivalent Courses, if any, from any Semester of the regulations in-force, so as to bridge the Curriculum in-force and the old Curriculum.

**17.4.** 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 in order that the student may be eligible for the award of the Degree (vide Clause 14)

**17.5.** In case there is any period of break of study more than the permitted duration of break of study, the student shall be permitted to continue the Programme only if the approval is obtained from the Director of Technical Education / University through the concerned HOD / Principal before the end of the Semester in which the student has taken break of study.

**17.6.** If a student has not reported to the Department for a period of two consecutive Semesters without any intimation, the name of the student shall be deleted permanently from the college enrollment. Such students are not entitled to seek readmission under any

circumstances.

## **18. TRANSFER OF CREDITS**

The courses credited elsewhere, in Indian or foreign University/Institution/ Colleges by students during their study period at ESEC may count towards the credit requirements for the award of degree. The credits thus transferred will reduce the number of courses to be registered by the student at ESEC.

The guidelines for the transfer of credits are as follows:

- Students with consistent academic performance (having a CGPA of 7.0 or above and no arrear) can credit courses in other institutions during 3<sup>rd</sup> and 4<sup>th</sup> year with the approval of the Academic Council of ESEC
- Students can earn external credits only from Institutions of national importance such as IISc/IITs/NITs/IIMs/IISERs and other Indian or foreign Universities/Institutes/Colleges with which ESEC has a MoU (and MoU must have a specific clause for provision of credit transfer)
- The BoS of the concerned department shall evaluate all the details of a course such as course contents, number of contact hours, course evaluation system, and approval or acceptance letter from the other institution and decide the Equivalent Course(s) in ESEC curriculum and the number of Equivalent Credits the student earns for the course. The BoS shall also evolve a method for calculating the Equivalent Grades for the credit transferred courses by taking into account the course evaluation system followed in the other institution. The BoS shall issue a Credit Transfer Certificate mentioning in it the details of Equivalent Courses, corresponding Credits and Equivalent Grades for the credit transferred courses. The complete details will then be forwarded to the Dean (Academics), who in turn will place it in the Academic Council for approval.
- Credits and the Grades earned by the student under this Credits Transfer scheme will be reflected in the corresponding Semester Grade Sheet issued by ESEC by entering the Equivalent Grades for the credit transferred subjects.
- Credit transfer can be considered only for the courses at the Under Graduate level.
- The maximum number of credits that can be transferred by a student shall be limited to 45.
- A student has to get minimum passing grade / marks for such courses for which the credits.

## **19. RANK OF A STUDENT**

A Candidate who qualifies for the Degree by passing the examination in all courses of the entire Programme in first attempt within a period of Four or Five consecutive academic years applicable for the students joined after permitted Break of Study from the date of admission to the Programme can be given his/her position in the class as rank. The Rank is determined from III Semester to VIII Semester end semester examination CGPA. Students transferred from other institutions to this institution in III Semester and Lateral entry

students are not eligible for rank. Students transferred from other institutions beyond III Semester to this institution and students with a history of arrears during the entire programme are not eligible for rank.

## **20. PROCEDURE FOR USING SCRIBE**

If a candidate is physically handicapped (in case of accidents / ill health) at the time of examination, he / she may be permitted to use a scribe to write the examination. In such case 30 minutes extra time will be permitted and if needed additional time will be given. The Scribe shall be a non-engineering student / graduate.

## **21. INDUSTRIAL VISIT**

Every student is required to undergo one Industrial visit, starting from the third semester of the Programme. Every teacher shall take the students at least for one industrial visit in a semester.

## **22. PERSONALITY AND CHARACTER DEVELOPMENT**

All students shall enroll, on admission in any one of the personality and character development programmes (NSS / YRC / RRC / AND OTHER EXTRA CURRICULAR PROGRAMMS). The training shall include classes on hygiene and health awareness and also training in first-aid.

## **23. DISCIPLINE**

**23.1.** Every student is required to observe discipline and decorous behavior both inside and outside the College and not to indulge in any activity which will tend to bring down the prestige of the Institution. The Head of the Institution shall constitute a Disciplinary Committee to enquire into acts of indiscipline and notify the disciplinary action recommended for approval. In case of any serious disciplinary action which leads to suspension or dismissal, then a committee shall be constituted by the Principal for taking final decision.

**23.2.** If a student indulges in malpractice in any of the Examinations, the student shall be liable for punitive action as prescribed by the University from time to time.

## **24. REVISION OF REGULATIONS, CURRICULUM AND SYLLABI**

The Institution may from time to time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of Examinations through the Academic Council.