

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY
(An Autonomous Institution Affiliated to Anna University)
Coimbatore, Tamil Nadu, India
REGULATIONS 2019 (with Amendments)
B.E. / B.Tech. DEGREE PROGRAMMES
(CHOICE BASED CREDIT SYSTEM)

The regulations here under are effective from the academic year 2019- 2020 and applicable to Students admitted in Hindusthan College of Engineering and Technology, an Autonomous Institution Affiliated to Anna University, Chennai. The regulations are subject to amendments as may be made by the Academic Council of the Institution from time to time. Any or all such amendments will be effective from such date to such batches of students (including those already in the middle of the programme) as may be decided by the Academic Council.

1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In this Regulation, unless the context otherwise specifies

- i. **“Programme”** means Degree Programme, i.e. B.E. / B.Tech. Degree Programme.
- ii. **Choice Based Credit System** : The Choice Based Credit System provides a “cafeteria” type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an Interdisciplinary approach to learning.
- iii. **“Discipline / Branch”** means Specialization or Discipline of B.E. / B.Tech. Programme like Civil Engineering, Mechanical Engineering, Electrical Engineering, etc.
- iv. **“Course”** means a Theory or Practical subject like Mathematics, Physics, Engineering Graphics, etc. that is normally studied in a semester.
- v. **“Head of the Institution”** and **“Chairman- Academic Council”** mean the Principal of the College.
- vi. **“Head of the Department”- HoD** means Head of the Department concerned.
- vii. **“Controller of Examinations”- CoE** means the authority who is responsible for all activities of the End Semester Examination.
- viii. **“University”** means Affiliated University i.e., ANNA UNIVERSITY, CHENNAI.
- ix. **“CIA”** means Continuous Internal Assessment
- x. **“ESE”** means End Semester Examinations

2. ADMISSION PROCEDURE

2.1 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.

2.2 Lateral Entry Admission:

a. Passed Diploma examination with at least 45% marks(40% marks in case of candidates belonging to reserved category) in ANY branch of Engineering and Technology.

b. Passed B.Sc Degree from a recognized University as defined by UGC, With at least 45% marks(40% marks in case of candidates belonging to reserved category) and passed 10 + 2 examination with Mathematics as a subject.

c. Provided that the students belonging to B.Sc. Stream, shall clear the subjects Engineering Graphics / Engineering Drawing and Engineering Mechanics of the First Year Engineering Programme along with the Second Year subjects.

d. Provided that the Students belonging to B.Sc Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.

e. Passed D.Voc in the same or allied sector.

f. In the above cases, suitable bridge courses, if required such as in Mathematics or basic Engineering Foundation courses may be suitable designed and implemented.

3. MEDIUM OF INSTRUCTION

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

4. BRANCHES OF STUDY

Regular students shall be admitted to one of the following Branches of study at the beginning of the First Year and the Lateral Entry students are admitted at the beginning of the Second year (Third Semester). The Programme shall provide a Degree of Bachelor of Engineering / Bachelor of Technology of Anna University, Chennai. The allotment of Branch to a student is final and the students are not permitted to change the Branch of study.

Branches of Study

B.E. Programmes

- i. Aeronautical Engineering
- ii. Agricultural Engineering
- iii. Automobile Engineering
- iv. Biomedical Engineering
- v. Civil Engineering
- vi. Computer Science and Engineering
- vii. Electrical and Electronics Engineering
- viii. Electronics and Communication Engineering
- ix. Electronics and Instrumentation Engineering
- x. Mechanical Engineering
- xi. Mechatronics Engineering

B. Tech. Programmes

- i. Information Technology.
- ii. Food Technology.
- iii. Chemical Engineering .
- iv. Artificial Intelligence and Machine Learning.

5. STRUCTURE OF THE PROGRAMMES

Every B.E./B.Tech. Programme will have a Curriculum with a Syllabi consisting of Theory courses, Practical courses, Theory courses with Practical Component and Employability Enhancement Courses prescribed by the respective Board of Studies from time to time.

5.1 Categorization of Courses

- **Humanities and Social Sciences including Management Courses(HMSC)** include Technical English, Engineering Ethics and Human Values, Environmental Science and Engineering, Communication skills and Management Courses.
- **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 Engineering, Instrumentation etc.
- **Professional Core (PC)** courses include the core courses relevant to the chosen Specialization / Branch.
- **Industry Core (IC)** may include core courses relevant to the industry standards.
- **Professional Elective (PE)** courses include the elective courses relevant to the chosen specialization/ branch.
- **Open Elective (OE)** courses include the courses from other Branches which a Student can choose from the list specified in the curriculum of B.E. / B. Tech. / B. Arch. Programmes.
- **Mandatory Course (MC):** Includes the courses like (i) Constitution of India and (ii) Essence of Indian Traditional Knowledge which are non-credit courses.
- **Employability Enhancement Courses (EEC)** includes Project Work, Internship, Career Development Skills, Creative and Innovative Project, Seminar, Professional Practices, Case Study and Industrial/Practical Training.
- **Audit Courses(AC)** expose the students to Unnat Bharathi Abhiyan, Constitution of India, Essence of Indian Knowledge Traditional, Yoga, English for Research Paper Writing, Value Education, Pedagogy Studies, Stress Management and Personality Development through Life Enlightenment Skills. Registration to Minimum of one course is mandatory to Students in Semester I to IV.

5.2 Personality and Character Development

- All students shall enroll, on admission, in any one of the Personality and Character Development Programmes (NCC/NSS/YRC.etc) and undergo training 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.

- **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 / Institutions.

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

5.3 Mandatory Two Week Induction Programme

The Students are expected to undergo a mandatory two week induction programme comprising of physical activity, creative arts, universal human values, proficiency modules, lectures by eminent people, visits to local areas and familiarization to Department / Branch & Innovations immediately after admission.

5.4 Number of courses per semester

Each semester curriculum shall normally have a blend of Theory Courses, Theory courses with Lab Component not exceeding 6 and Laboratory courses and Employability Enhancement Course(s) not exceeding 4 or 3. Each Employability Enhancement Course may have credits assigned as per clause 7.1. However the **total number of courses per semester shall not exceed 10** including Fast Track course.

5.5 Industrial Training / Internship

5.5.1 The students may undergo Industrial training for a period as specified in the Curriculum during Summer/Winter vacation. In this case, a student may undergo Industrial Training / Internship for a minimum period of three weeks from Third semester to Fifth semester during vacation.

5.5.2 The students may undergo Internship at Research organization/Department approved Industries / Premier Institutions for the period prescribed in the curriculum during Summer/Winter vacation.

5.6 Industrial Visit

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

5.7 Value Added Courses

- The 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 Head of the Institution / COE.**

- The details of the Syllabus, Time Table and Faculty may be sent to the Controller of Examinations after approval from the **Head of the Institution** at least one month before the course is offered. **Students can take a maximum of two ‘one credit courses’ / one ‘two credit course’** during the entire duration of the Programme.

5.8 Online Courses

- Students may be permitted to take only one Online Course from NPTEL/Edx/Coursera/MOOC etc., of 3 credits with the approval of Head of the Institution. The students can study the online courses between 3rd semester and 7th semester. The list of online courses will be provided by the respective Departments and approved by the Head of the Institution from time to time.
- The details regarding online courses taken up by students shall be sent to the Controller of Examinations (Autonomous) well in advance for the award of additional credit. At the end of Seventh semester the evaluation will be done. The student needs to submit the certificate and attend Viva voce Examinations to be conducted by a Evaluation Committee.

5.9 Fast Track Learning System:

In order to facilitate VIII semester students to take up the Industry based Projects / Training / Internships the Fast Track Learning system is introduced. **The student shall undergo the Eighth Semester courses in the fifth, sixth and seventh semesters for fast track learning.**

They should satisfy the following conditions.

- The student should not have History of Arrears and shall have CGPA of 8.00 and above(or)The student should not have standing arrears but had only one arrear in the past(Due to ill health or accident) and shall have CGPA of 8.5 and above .
- The students shall be permitted to carry out their final semester Project work for the entire semester in Industry/Research organizations or in College itself.
- The Head of Department, in consultation with the faculty handling the said courses shall forward the proposal recommended by the Head of Institution to the Controller of Examinations for approval at least 4weeks before the commencement of the fifth / sixth / seventh semester of the programme.

5.10 Credit Transfer Courses

- a.) Students may be permitted to take upto 10% online courses (only theory) in V to VII semester with prior approval of Departmental Consultative Committee, Dean Academics and Office of the Controller of Examinations.
- b.) The Students are permitted to undergo **ONE Professional Elective Course** in NPTEL/SWAYAM/MOOCs etc. during VI Semester with the prior approval of Departmental Consultative Committee, Dean Academics and Office of the Controller of

examinations. The student shall take up Assessments and End Semester Examinations conducted by NPTEL/SWAYAM/ MOOCs and transfer the grades and credits.

- c.) The students are permitted to undergo the One **Open Elective course** in NPTEL/SWAYAM/ MOOCs etc. during VII with the prior approval of Departmental Consultative Committee, Dean Academics and Office of the Controller of examinations. The Student shall take up Assessments and End Semester Examinations conducted by NPTEL/SWAYAM/ MOOCs and transfer the credits.

6. DURATION OF THE PROGRAMME

6.1 A student is ordinarily expected to complete the B.E. / B.Tech. Programme in 8 semesters (four academic years) but in any case not more than 14 Semesters (7 years) for HSC (or equivalent) candidates and not more than 12 semesters(6 years) for Lateral Entry Candidates. Each semester shall normally consist of 80 working days or 560 periods of 50 minutes each.

6.2 The Head of the Department shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus, covering the full content of the specified syllabus for the course being taught.

6.3 The Head of the Department 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 by the students, the following method shall be used.

$$\text{Percentage of Attendance} = \frac{\text{Total Number of Periods attended in all the courses per Semester}}{\text{(Number of Periods as prescribed in all the courses per week) X 15}} \times 100$$

6.4 The total period for completion of the programme reckoned from the commencement of the first semester to which the candidate was admitted shall not exceed the maximum period specified in clause 6.1 irrespective of the period of break of study (vide clause 20.0) in order that he/she may be eligible for the award of the degree.

7. CREDIT ASSIGNMENT

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

Contact period per week	Credit
1 Lecture Period	1
1 Tutorial Period (As per AICTE Norms)	1

3 Practical Periods	1.5
2 Project Work Periods	1
2 Seminar Periods	1

7.1 CREDIT DISTRIBUTION FOR THE CATEGORY OF COURSES:

S.No.	Classification	Total Number of Credits
1	Humanities and Social Sciences	11
2	Basic Sciences	28
3	Engineering Sciences	14
4	Professional core	76
5	Professional Electives	15
6	Open Electives	6
7	Employability Enhancement Courses Project Phase I – 2 Credits Project Phase II – 12 Credits Internship/Industrial Training – 1 Credit	15
8	Audit /Mandatory courses :Induction Training, Indian Constitution, Essence of Indian Traditional Knowledge	Additional credits / Non-credit
Total		165

7.2 TOTAL CREDITS TO BE EARNED FOR THE AWARD OF DEGREE

For the award of degree, a student admitted in a regular stream has to earn a certain minimum number of credits specified in the curriculum of the respective branch of study. The minimum number of credits to be earned for the award of degree is **165**. For Lateral entry students, the minimum number of credits shall not be less than **123**.

7.3 Additional Credits:

A Student can earn a maximum **15** extra credits over and above the total credits. This may be earned through 1 credit courses such as Value added / Online / EEC Courses.

8. COURSE ENROLLMENT AND REGISTRATION FOR ESE.

8.1 The Institution is responsible for registering the courses that each student is proposing to undergo in the ensuing semester. Each student has to register for all courses to be undergone in the curriculum of a particular semester.

8.2 The students can also register for the courses which the student has failed in the earlier semesters. The registration details of the candidates may be approved by the Head of the Institution and forwarded to the Controller of Examinations. This registration is mandatory for undergoing the course as well as for the writing of End Semester Examinations.

- 8.3** No Elective course shall be offered by any department unless a minimum of 35 students registered for the course. However, if the students admitted in the associated Branch and Semester is less than 35, this minimum will not be applicable.

9. FACULTY ADVISOR

To help students in planning their courses of study, the Head of the Department / Senior Faculty Advisor will allot a certain number of students to a teacher of the Department who shall function as Faculty Advisor for those students throughout their period of study. The faculty advisor will supervise the student during Enrollment, Registration of Courses and authorize the final registration of the courses at the beginning of each semester and monitor their attendance and counsel them periodically. If necessary, the Faculty Advisor may also inform the parents about the progress / performance of the students.

10. CLASS COMMITTEE

Every class shall have a class committee consisting of **faculty members of the class** concerned, **six student representatives** (includes girls and students of various categories such as above average, average, slow learner etc) and a **chairperson who is not teaching the course** for the class. The class committee for a class is constituted by the Head of the Department within the first week of each semester. However, the first semester is generally common to all branches; the class committee will be constituted by the HoD (S&H) / Principal. The overall goal of the class committee is to improve the teaching-learning process.

The functions of the class committee include:

- Clarifying the Regulations of the Degree Programme and the details of rules therein.
- Resolving difficulties experienced by students in the classroom and in the laboratories.
- Informing the student representatives the academic schedule including the dates of assessments (Tests & Assignments) and the syllabus coverage for each assessment.
- Evaluating the performance of the students of the class after each test and finding the ways and means of improvement.
- Identifying the slow learners, if any, and requesting the faculty handling the course to provide some additional help or guidance or coaching to such slow learners.
- The Principal may participate in any class committee meeting of the institution as and when required.
- The Chair person is required to prepare the minutes of the meeting, signed by the members and submit the same to HOD within two working days of the meeting. HOD will in turn forward the same to the Principal.
- 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 Principal.
- The **first meeting** of the Class committee shall be held within two weeks from the date of commencement of the semester, in order to inform the students about the nature and allocation of marks for CIA within the framework of the regulations.
- The **second meeting** a week after the first test results.

- › The class committee shall meet atleast three times in a semester.
- › The **third meeting** before the last internal test of the semester.

Student representatives of the class committee should collect information regarding the teaching learning process of the class from the fellow students of the class before attending the class committee meeting. Also, during these meetings they shall meaningfully interact and express the opinions and suggestions of the other students of the class to improve the effectiveness of the Teaching-Learning process and also communicate the points discussed in the meeting to their fellow students

11. COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one Discipline / Class, shall have a “Course Committee” comprising all the faculty teaching the common course with one of them nominated as Course Coordinator. The nomination of the course Coordinator shall be made by the Head of the Department. The “Course committee” shall meet in order to arrive at a common scheme of teaching, portion coverage and evaluation for the test. Wherever feasible, the course committee may also prepare a common question paper for the internal assessment test(s).

12. 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 of the semester concerned for any of the committee meetings if necessary.

13. ATTENDANCE REQUIREMENTS FOR COMPLETION OF THE SEMESTER

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

- i.** A student shall be permitted to take the ESE of **any course**, if
 - a. the student secures not less than 75% of attendance in the course during the semester and
 - b. the conduct and character of the student have been satisfactory.

- ii.** A student who has secured attendance between 74% and 65% (both included) due to medical reasons (Hospitalization / Accident / Specific Illness) or due to participation in University / District / State / National / International Level Sports or due to participation in Seminar / Conference / Workshop / Training Programme / Voluntary Service / Extension

Activities or similar programmes with a prior permission obtained from the Principal/Vice Principal shall be permitted to appear for the examination on the recommendation of the concerned. It is mandatory for the HoD to verify and certify the genuineness of the case before recommending the same to the Principal.

- iii. All other students who have secured attendance between 65 % and 74% (both included) upto maximum of three courses shall apply for condonation in the prescribed format with prescribed fee as prescribed by Institution. A student can avail the condonation facility for a maximum of two times during the course period.
- iv. **A student who secures less than 65% of overall attendance of any semester will not be permitted to write any of the current semester courses and also will not be permitted to continue the study in the subsequent semester. But the Student will be permitted to appear for his / her arrear examinations, if any. The student has to redo all the courses of that semester by rejoining the same semester in the subsequent academic year with the recommendation of the Principal and approval of Anna University/DOTE.**
- v. A student shall normally be permitted to appear for the ESE of any semester commencing from I semester if he / she has satisfied the requirements and has registered for ESE examination in all courses of the semester.
- vi. **Registration is mandatory for semester examinations as well as arrears examinations failing which the student will not be permitted to move to the higher semester.**
- vii. Every teacher is required to maintain an “ATTENDANCE AND ASSESSMENT RECORD” for every semester, which consists of attendance marked in each theory or Laboratory / EEC class, the assessment marks and the record of class work (topic covered), separately for each course handled by the teacher. 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 assessment marks and attendance. The Head of the Department will affix his/her signature and date after due verification.
- viii. The Dean-Academic and his team shall check the syllabus covered, attendance of the students and with his comments the log books are sent to the HOD of the concerned department. At the end of the semester, the record should be verified by an Audit team headed by Dean-Academics and return to Head of the Department who shall keep this document in safe custody (for four years). The records of attendance and assessment of both current and previous semesters should be available for any inspection at any time.

14. WEIGHTAGE OF ASSESSMENT COMPONENTS OF A COURSE

Performance in each course of study shall be evaluated based on

- Continuous Internal Assessments (CIA) throughout the semester and
- End Semester Examination (ESE) at the end of the semester.

S.No	Category of courses	CIA	ESE
1.	Theory Courses(FC,PC,IC & PE)	25	75
2.	Laboratory Courses	50	50
3.	Theory Course with Laboratory component	50	50
4.	Mini Project	50	50
5.	Industrial Training/ Internship / Technical Seminar / Survey Camp	0	100
6.	Project Work	100	100

15. CONTINUOUS INTERNAL ASSESSMENT: The performance of students in each course will be continuously assessed in the following components by the respective faculty as per the guidelines given below:

DISTRIBUTION OF MARKS

(i) Distribution of Marks for Attendance

S. No.	Attendance %	Marks
1	91 and above	5.0
2	86 – 90	4.0
3	81 – 85	3.0
4	75 – 80	2.0

(ii) Theory Course:

S. No.	Category	Maximum Marks
1.	Assignment/Technical quiz/Presentation	5
2.	Attendance	5
3.	Internal tests (The TWO internal test marks are averaged to TEN marks and FIVE marks for mid semester examination)	15
Total		25

(iii) Practical Course/Engineering Clinic

S. No.	Category	Maximum marks
1.	Average marks of each experiment based on Rubrics	25

2.	Model Exam	25
	Total	50

(iv) Theory with Lab Component Course

S. No.	Category	Maximum Marks
1.	Average of TWO Internal tests mark conducted each for 50marks reduced to 10marks	10
2.	The sum of Mid semester marks reduced to 5marks	5
3.	All Experiment marks should be converted to 5 marks . Then the End Semester Exam will be conducted for 50 marks and converted to 20 marks (20+5=25 marks).	25
4.	Attendance	5
5.	Assignment	5
	Total	50

16. OTHER EMPLOYABILITY ENHANCEMENT COURSES

16.1 Industrial Training / Internship:

A student may undergo Industrial Training / Internship for a minimum period of three weeks from third semester to fifth semester during Summer/Winter Vacation. On completion of the training, the student has to submit a report on the Training / Internship undergone and a certificate from the organization concerned. At the end of Sixth semester, a three member Departmental Committee constituted by Controller of Examinations will evaluate the report, conduct Viva Voce Examination and award credit points. Non submission of the Industrial Training report shall be considered as reappearance. **Credits will be distributed as under:**

Duration	Credit
From Third Semester to Fifth Semester Three Weeks Internship / Training	1

16.2 The Project work :

- CIA and ESE marks are 100 and 100 respectively. 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.
- For the End semester examination in both Theory and Practical courses including

Project work the Internal and External examiners shall be appointed by the Controller of Examinations.

17. QUESTION PAPER PATTERN FOR INTERNAL & MID SEMESTER EXAM

**(i) ALL UG Papers except
Engineering Graphics, Engineering Drawing & Machine Drawing**

Internal test Maximum Marks : 50	Midterm test Maximum Marks : 100
Part A : 6 x 2 = 12 marks	Part A : 10 x 2 = 20 marks
Part B: 2x14= 28 marks (Either or Pattern)	Part B : 5 x 14 = 70 marks (Either or Pattern)
Part C: 1 x 10 = 10 marks (Either or Pattern)	Part C : 1 x 10 = 10 marks (Either or Pattern)

(ii) For Engineering Mathematics

Internal test Maximum Marks : 50	Midterm test Maximum Marks : 100
Part A : 5 x 2 = 10 marks	Part A : 10 x 2 = 20 marks
Part B : 2 x 16 = 32 marks (Either or Pattern) 1 x 8 = 8 marks (Either or Pattern)	Part B : 5 x 16 = 80 marks (Either or Pattern)

(iii) For Engineering Graphics/Engineering Drawing

Internal test Maximum Marks : 50	Midterm test Maximum Marks : 100
2 x 20 = 40 marks (Either or Pattern) 1 x 10 = 10 Marks (Either or Pattern)	5 x 20 = 100 marks (Either or Pattern)

(iv) For Machine Drawing

Internal Test Maximum Marks : 50	Mid Term Test Maximum Marks : 100
2x 10 = 20 marks (Either or Pattern) 1x 30 = 30 marks (Either or Pattern)	2x 20 = 40 marks (Either or Pattern) 1x 60 = 60 marks (Either or Pattern)

18. DECLARATION OF THE MARKS OF CIA:

At the end of the semester, course Faculty shall tabulate marks allotted to students for CIA, display it on notice board with the signature of the concerned HoD for students reference and rectify grievances if any, and then the CIA mark is to be finalized. Course coordinator/ faculty shall enter CIA marks in the Examination Management System (EMS) and display it on notice board and hand over the copy of the same to the Department coordinator/HoD. He/she shall collect the marks for all Courses in all Semesters, compile them semester wise, and hand over the copy of the same to CoE.

19. ASSESSMENT OF ESE AND PASSING REQUIREMENTS

The courses offered fall under the following categories:

- a). Theory course
- b). Laboratory course
- c). Theory courses with Laboratory component
- d). Mini Project
- e). Project Phase I & II

a) Theory Course: ESE will be held at the end of each semester for each course. The question paper is set for a maximum of 100 marks. A student who secures not less than 50% of total marks prescribed for the course (CIA + ESE) with a minimum of 45% of the marks prescribed for the ESE shall be declared to have passed in the examination.

If a student fails to secure a pass in a particular course, it is mandatory that he/she shall register and reappear for the examination in that course when examination is conducted by the CoE. He/she should continue to register and reappear for the examination till he/she secures a “pass”.

If a student fails to secure a pass in theory courses in the current semester examination, He/she is allowed to write arrear examinations for the next three consecutive semesters and their internal marks shall be carried over for the above mentioned period of three consecutive semesters. If a student fails to secure a pass in a course even after three consecutive arrear attempts, the student has to forgo with the marks earned during his/her CIA.

Note: The CIA marks obtained by a student in the first appearance shall be retained only for three successive appearances. After that, a student has to secure 50% marks in the ESE so as to declare him/her “pass” in the course concerned. This is applicable for the students who complete the programme with arrears (after eighth semester)

(i). Question Paper pattern for ESE (Except Engineering Graphics & Mathematics)

Maximum Marks : 100
Part A : 10 x 2 = 20 Marks
Part B : 5 x 14 = 70 Marks (Either or Pattern)
Part C: 1 x 10 = 10 Marks (Either or Pattern with no sub division) (Application/Design/Analysis/Evaluation/Creativity/Case Study)

(ii) Question Paper pattern for Engineering Graphics/Engineering Drawing

Maximum Marks : 100

5x 20 = 100 Marks (Either or Pattern)

(iii) Question Paper pattern for Mathematics

Maximum Marks : 100
Part A : 10 x 2 = 20 Marks
Part B : 5 x 16 = 80 Marks (Either or Pattern)

(iv) Question Paper pattern for Machine Drawing

Maximum Marks : 100
2x 20 = 40 Marks (Either or Pattern) 1x 60 = 60 Marks (Either or Pattern)

b). Laboratory Course/Engineering Clinic:

The maximum marks for each laboratory / workshop practice course is 100. The performance of the student shall be continuously assessed throughout the semester for 50 marks based on Rubrics and the remaining 50 marks for the ESE. The ESE is conducted for 100 marks and reduced to 50 marks. A student who secures not less than 50% of total marks prescribed for the course (CIA + ESE) with a minimum of 50% of the marks prescribed for the ESE shall be declared to have passed in the examination.

Mark distribution for End Semester Practical examination

Component	Experiment Preparation / Program Structure	Process of the Experiment / Program Coding & Execution	Result / Output	Viva Voce	Total
Marks	20	50	15	15	100

c) Theory course with Laboratory component:

There is no ESE for laboratory component and shall be conducted in Internal Mode. In the ESE for theory component, a question paper is set for a maximum 100 marks. A student who secures not less than 50% of total marks prescribed for the course (CIA + ESE) with a minimum of 45% of the marks prescribed for the ESE of theory component shall be declared to have passed in the examination.

d). Mini Project:

The Mini Project work shall be carried out in the V / VI semester of B.E / B.Tech. Programme and the evaluation will be done through Presentation and Viva - Voce examination.

- i. CIA - 50 marks
- ii. ESE - 50 marks

In CIA, three reviews are conducted by the concerned Project Supervisor and the marks are awarded by the **Supervisor** based on the performance.

Review I (out of 10Marks)	Review II (out of 20 Marks)	Review III (out of 20 Marks)	Total 50 Marks
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In ESE, the Report Evaluation and Viva - Voce examination will be conducted by a committee constituted by COE. The committee comprises of three faculty members - External Examiner, Supervisor & Internal examiner, but the assessment will be done by External and Internal Examiners.

ESE (50 Marks)	
Report Evaluation (30 Marks)	Viva – Voce (20 Marks)

e). Project Phase I & II:

- The B.E. / B.Tech. Project work shall be carried out in the VII and VIII semester. Report evaluation and the viva - voce examination will be conducted at the respective ESE. Project work may be assigned to a single student or group of students not exceeding 4 in a group.
 - i) CIA - 100 marks
 - ii) ESE – Presentation / Report and Viva - Voce Examination- 100 marks
- There shall be three internal reviews during the semester by a review committee. The student / students of the group shall make presentation on the progress made before the committee.
- The review committee is constituted by the concerned Head of the Department. There shall be a minimum of three members in the review committee including the project Supervisor. The student(s) will have to submit the project report on or before the date specified by the concerned HOD.
- The ESE for project work shall consist of evaluation of the final project report submitted by the student/students of the project group by an external examiner followed by a viva- voce examination conducted separately for each student by a committee consisting of the External examiner and an Internal examiner. The Principal / CoE of the college will appoint the External Examiners.
- If the project report is not submitted in time then the student(s) is deemed to have failed in the Project Work. The failed student(s) shall register for the same in the subsequent semester and repeat the project work.
- A student failing in project work and viva - voce examination for want of marks or due to absence shall register and appear as a supplementary student in the subsequent ESE.
- CIA and ESE marks for Project Work and the Viva-Voce Examination will be distributed as indicated below.

CIA - 100 Marks					
Review I (20 Marks)		Review II (40 Marks)		Review III (40 Marks)	
Review Committee (Excluding Supervisor)	Supervisor	Review Committee (Excluding Supervisor)	Supervisor	Review Committee (Excluding Supervisor)	Supervisor
10	10	20	20	20	20

ESE – 100 Marks FOR ALL B.E. AND B.Tech. PROGRAMMES		
Report Evaluation (50 Marks)	Viva – Voce (50 Marks)	
External Examiner	External Examiner	Internal Examiner
50	25	25

Note: In all above cases, the total marks obtained (CIA+ESE) shall be converted into corresponding grade point.

20. PROVISION FOR WITHDRAWAL FROM END SEMESTER EXAMINATION

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 to Controller of examinations with the recommendations of HOD and approval of the Principal along with necessary documents.

Withdrawal application is valid if the student secures more than 75% of attendance in that particular semester. A student can withdraw within TEN days prior to the commencement of the examination in that course or courses. Notwithstanding the requirement of mandatory 10 days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

In case of withdrawal from a course / courses the course will figure both in Marks Sheet as well as in Result Sheet. **Withdrawal essentially requires the student to register for the course/courses.** The student has to register for the course, fulfill the attendance requirements earn continuous assessment marks and attend the end semester examination. However, withdrawal shall not be construed as an appearance for the eligibility of a candidate for First Class with Distinction.

21. PROVISION FOR AUTHORIZED BREAK OF STUDY

1. A student is permitted to go on temporary break of study for a maximum period of one year, once in the entire duration of the programme. However, if a student intends to temporarily discontinue the programme in the middle for valid reasons (such as accident or hospitalization due to prolonged ill-health) and wishes to rejoin the programme in a later semester he / she shall apply to the Head of the Institution in advance as per the procedures and norms prescribed by the college authority.
2. The student when permitted to rejoin the programme after the break shall be governed by the rules and regulations in force at the time of rejoining.
3. The duration specified for passing all the subjects for the purpose of classification shall be extended if such break of study is approved by competent authorities.
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 irrespective of the period of break of study in order that he / she may be eligible for the award of degree.
5. If any student is detained for want of required attendance, progress or conduct, the period spent in that semester shall not be considered as permitted "Break of Study" is not applicable for this case.

22. FOR STUDENTS REJOINING THE PROGRAMME

A student who is required to repeat the study of any semester for want of attendance / progress / conduct or who desires to rejoin the course after a period of discontinuance, may join the semester which he/she is eligible or permitted to join, only at the time of its normal commencement for a regular batch of students and after obtaining the approval from Directorate of Technical Education (DoTE) and Anna University, Chennai. In that case he/she has to come under the regulation which is being followed in that Academic year.

23. FOR TRANSFER STUDENTS

Students transferred from other Institutions may be admitted on obtaining the approval from DoTE and Anna University, Chennai. In that case he/she has to come under the regulation which is being followed in that Academic year and also should obtain equivalence from the Controller of Examinations.

24. PROVISION OF SCRIBE:

- i) The Appointment of scribes for the students with disabilities shall be done by the Controller Office. In this connection the student shall submit her/his requisition approved by HoD and Principal to CoE office well in advance prior to the examinations. (At least 15 days

before the commencement of Examinations).

ii) However, students injured during the study holidays and in between the examination period and not able to write, on producing medical certificate from Civil Surgeon will be given Scribe.

25. ELIGIBILITY FOR THE AWARD OF THE DEGREE

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

- Successfully gained the required number of total credits as specified in the curriculum corresponding to the students programme within the stipulated time. Successfully completed the course requirements, appeared for the End-Semester examinations and passed all the subjects prescribed in all the 8 semesters and 6 years in the case of Lateral Entry) reckoned from the commencement of the first (third in the case of Lateral Entry) semester to which the candidate was admitted.
- Successfully passed any additional courses prescribed by the HoD whenever readmitted under Regulations 2019
- Successfully completed the NCC / NSS / NSO / YRC requirements.
- No disciplinary action pending against the student.
- The award of Degree must have been approved by the Syndicate of the University.

25.1. AWARD OF LETTER GRADES

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

Letter Grade	Grade Point	Range of marks
O(Outstanding)	10	91 - 100
A + (Excellent)	9	81 - 90
A (Very Good)	8	71 - 80
B + (Good)	7	61 - 70
B (Above Average)	6	51 - 60
RA (Reappearance)	0	< 50
Absent	0	
Withdrawal	0	
With Held	0	

RA – Reappearance }
AB – Absent } → FAIL

W - Withdrawal from appearing for the examination in the course concerned.

WH – Withheld for Malpractice of any kind

After results are declared, Grade Sheets will be issued to each student.

CALCULATION OF GRADE POINT AVERAGE OF A SEMESTER (SGPA) AND CUMULATIVE GRADE POINT AVERAGE (CGPA)

During each semester, the list of courses registered and the grades scored in each course 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, to the sum of the number of credits of all the courses in the semester.

After the results are declared, grade sheet will be issued to each student which will contain the following details. Grade Point Average (GPA) of a Semester (SGPA) and Cumulative Grade Point Average (CGPA) of a programme are calculated as follows.

$$SGPA = \frac{\text{Sum of the product of the GP by the corresponding credits of the courses offered in that semester}}{\text{Sum of the credits of the courses of that semester}}$$

$$i.e., SGPA = \frac{\sum_i C_i GP_i}{\sum_i C_i}$$

$$CGPA \text{ of the entire programme} = \frac{\text{Sum of the product of the GPs by the corresponding credits of the courses offered for the entire programme.}}{\text{Sum of the credits of the courses of the entire semester}}$$

$$i.e., CGPA \text{ of the entire programme} = \frac{\sum_n \sum_i C_{ni} GP_{ni}}{\sum_n \sum_i C_{ni}}$$

Where,

C_i is the credit fixed for the course 'i' in the any semester

GP_i is the grade point obtained for the course 'i' in any semester

n refers to the semester in which such courses are credited

Note: RA grade will be excluded for calculating GPA and CGPA

25.2 CLASSIFICATION OF THE DEGREE AWARDED

(i) First Class with Distinction:

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

- Should have passed the examination in all the courses of all eight semesters in the student's First Appearance within five years, which includes authorized break of study of one year. If availed withdrawal from examination it will not be considered as an appearance.
- Should have secured a CGPA of not less than **8.50**
- Should NOT have been prevented from writing ESE due to lack of attendance in any of the courses.

(ii) First Class:

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

- 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 ESE due to lack of attendance (if applicable).
- Should have secured CGPA of not less than **7.00**

(iii) Second Class:

All other students, 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 ESE in a course /project work after having registered for the same shall be considered to have appeared in that examination except approved withdrawal from ESE for the purpose of classification.

26. REQUEST FOR PHOTO COPY OF THE VALUED ANSWER SCRIPT/ REVALUATION

A candidate can apply for photocopy of his/her semester examination answer paper in a theory course, within 2 weeks from the declaration of results, on payment of a prescribed fee through proper application to the Controller of Examinations through the Head of Institution.

The answer script is to be valued and justified by a faculty member, who handled the subject and recommend for revaluation with breakup of marks for each question.

Based on the recommendation, the candidate 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 candidate concerned through the Head of the Institutions. Revaluation is not permitted for practical courses and for project work. A candidate can apply for revaluation of answer scripts for not exceeding 6 subjects at a time.

Candidates 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 Controller of Examination through the Head of the Institution. Candidates applying for Revaluation only are eligible to apply for Review.

27. SPECIAL SUPPLEMENTARY EXAMINATIONS

After the publication of VIII Semester ESE and the corresponding revaluation results if a student has **arrears in only one course** for the entire programme, he/she will be permitted to take up the supplementary examination within one month after the publication of the revaluation results.

28. INDUSTRIAL VISITS

Industrial visits shall be arranged for students to help them understand the Academic - Industry environments. This will help them prepare themselves to meet the requirements of Industry when they go for Employment or when they become Entrepreneurs.

29. DISCIPLINE

Every student is required to observe discipline and maintain decorum both inside and outside the College and not indulge in any activity which lowers the prestige of the Institute.

30. MALPRACTICE

If a student indulges in malpractice in the End Semester Examinations he / she shall be liable for punishment as per Anna University **Rules and Regulations**.

31. REVISION OF REGULATIONS AND CURRICULUM

The standing committee/Academic Council of the College reserves the right to revise or change or amend the Regulations, the Scheme of Examinations, the Curriculum and the Syllabi from time to time if found necessary.

CHAIRMAN BOS

DEAN

PRINCIPAL