

**NATIONAL ENGINEERING COLLEGE, K.R.NAGAR, KOVILPATTI**  
(An Autonomous Institution, Affiliated to Anna University, Chennai)

## **REGULATIONS – 2019**

**OUTCOME BASED EDUCATION & CHOICE BASED CREDIT SYSTEM**



## **POST GRADUATE DEGREE PROGRAMME**

(Applicable to students admitted from the Academic year 2019-2020 and subsequently under Choice-based Credit System)

## **VISION**

- Transforming lives through quality Education and research with human values.

## **MISSION**

- To maintain excellent infrastructure and highly qualified and dedicated faculty.
- To provide a conducive learning environment with an ambience of humanity, wisdom, creativity and team spirit.
- To promote the values of ethical behavior and commitment to the society.
- To partner with academic, industrial and government entities to attain collaborative research.

## NATIONAL ENGINEERING COLLEGE, K.R.NAGAR, KOVILPATTI

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

### 2019 REGULATIONS FOR M.E./M.TECH DEGREE PROGRAMMES

(for the Batches of students admitted in 2019-2020 and subsequently under Choice Based Credit System)

The following Regulations shall be applicable for all the P.G. Degree Programmes offered at National Engineering College, K.R.Nagar, Kovilpatti from the academic year **2019 – 2020** onwards.

#### 1.0 PRELIMINARY DEFINITIONS AND NOMENCLATURE

1. “**Programme**” means Post Graduate Degree Programme, i.e., M.E./M.Tech. Degree Programme.
2. “**Specialization**” means a discipline of M.E. / M.Tech. Degree Programme like Energy Engineering / High Voltage Engineering etc.
3. “**Course**” means a Theory or Practical course that is normally studied in a semester, like Computer Architecture, Advanced Materials Technology, etc.
4. “**Controller of Examinations**” means the authority of the Institution who is responsible for all the activities of the End Semester Examinations of this Institute.
5. “**Dean (Academic)**” means the authority of the Institution/College who is responsible for initiating all the academic activities for the implementation of relevant rules and Regulations.
6. “**Head of the Institution**” means the Principal of the College / Institution.
7. “**Head of the Department**” means Head of the Department concerned.
8. “**University**” means **ANNA UNIVERSITY, CHENNAI**.

#### 2.0 QUALIFICATIONS FOR ADMISSION

- 2.1 Candidates for admission to the first semester of the Post Graduate Degree Programme shall be required to have passed an appropriate qualifying Degree Examination approved by AICTE and recognized by Anna University, Chennai as specified in Tamilnadu Common Admission (TANCA) for post graduate programmes.
- 2.2 They should also satisfy other eligibility rules as prescribed by Anna University, Chennai, from time to time.

#### 3.0 PG PROGRAMMES OFFERED AND MODES OF STUDY

1. M.E. - Energy Engineering
2. M.E. - Computer Science and Engineering
3. M.E. - High Voltage Engineering
4. M.E. - Embedded System Technologies
5. M.Tech. - Information Technology (Information and Cyber Warfare)

#### 3.1 Mode of Study

Candidates admitted under ‘Full Time’ should be available in the Department / College during the entire duration of working hours for the Curricular, Co-curricular and Extracurricular activities.

The Full-Time candidates should not attend any other Full Time / Part Time Programme(s) / course(s) or take up any Full-Time job / Part Time job in any Institution or Company during the period of the Full-Time Programme. Violation of the above rules will result in the cancellation of admission to the PG Programme.

#### 4.0 STRUCTURE OF THE PROGRAMME

The Curriculum and Syllabi under Regulations 2019 are implemented based on the recommendations of **AICTE, New Delhi and UGC, New Delhi** with a view of standardizing the structure of the PG programmes and widening the employability Skill of students by enhancing engagement of industry in developing innovations and problem solutions. Further, by keeping in mind, the Outcome-Based Education (OBE) and Choice Based Credit System (CBCS), the structure of the programme is designed. The course content of each course is modified by the Program Educational Objectives (PEOs), Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs).

The CBCS enables the students to earn credits across programmes and provides flexibility for slow and fast learners in registering the required number of credits in a semester. The CBCS facilitates the transfer of credits earned in different departments / Centres of other recognized / accredited universities or institutions of higher education in India and abroad either by studying directly or by online method.

#### 4.1 Categorization of Courses

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

**TABLE 1 - CATEGORY OF COURSES**

| Sl. No | Coursework - Subject Area                 | The range of Total credits % |
|--------|---|------------------------------|
| 1.     | Program Core Courses                      | 23% – 33%                    |
| 2.     | Program Elective Courses                  | 22% – 28%                    |
| 3.     | Open Elective Courses                     | 4.41%                        |
| 4.     | Research Methodology and IPR              | 2.94%                        |
| 5.     | Mini Project with Seminar                 | 2.94%                        |
| 6.     | Project Work - I & II /Industrial Project | 29% - 38.2%                  |
| 7.     | Audit Courses                             | (Non- Credit)                |

- i. **Programme Core Courses (PCC)** include the core courses relevant to the chosen programme of study and the Employability Enhancement Courses such as Project, Seminar and Inplant Training / Internship.
- ii. **Programme Elective Courses (PEC)** include the elective courses relevant to the chosen programme of study.
- iii. **Open Elective Courses (OEC)** include the Inter-disciplinary courses which are offered in other PG degree programmes.
- iv. **Audit Courses (AC)** include Yoga, Value education, Disaster management, Sanskrit, Pedagogy, Constitution of India, Personality development through Indian culture and courses covering subjects for developing the desired attitude among the learners is on the line of initiatives such as Unnat Bharat Abhiyan.

#### 4.2 Number of Courses per Semester

The Curriculum of the semester shall normally have a blend of theory / integrated and laboratory courses. Each course may have credits as per **clause 4.3**.

### 4.3 Credit System

In the credit system, one credit refers to

- One period of lecturing per week for a theory course
- One period per week for *Tutorial*
- Two periods per week for *Lab/project*

The length of the semesters shall be 18 to 20 weeks. The credit for a course shall vary from 1 to 4. The L: T: P pattern followed for various courses is given below:

**TABLE 2 – CREDIT PATTERN**

| Type of course | Lectures (Periods / week) | Tutorials (Periods/ week) | Practical work (Periods/ week) | Credits (L:T:P) | Total credits | Total (Periods/ week) |
|----------------|---------------------------|---------------------------|--------------------------------|-----------------|---------------|-----------------------|
| 1 credit       | 1                         | 0                         | 0                              | 1:0:0           | 1             | 1                     |
|                | 0                         | 0                         | 2                              | 0:0:1           | 1             | 2                     |
| 1.5credit      | 0                         | 0                         | 3                              | 0:0:3           | 1.5           | 3                     |
| 2 Credit       | 2                         | 0                         | 0                              | 2:0:0           | 2             | 2                     |
|                | 1                         | 0                         | 2                              | 1:0:1           | 2             | 3                     |
| 3 Credit       | 3                         | 0                         | 0                              | 3:0:0           | 3             | 3                     |
|                | 2                         | 1                         | 0                              | 2:1:0           | 3             | 3                     |
|                | 2                         | 0                         | 2                              | 2:0:1           | 3             | 4                     |
|                | 0                         | 0                         | 6                              | 0:0:3           | 3             | 6                     |
| 4 Credit       | 2                         | 1                         | 2                              | 2:1:1           | 4             | 5                     |
|                | 3                         | 1                         | 0                              | 3:1:0           | 4             | 4                     |
|                | 3                         | 0                         | 2                              | 3:0:1           | 4             | 5                     |

### 4.4 Project Work/ Dissertation

The project work/Dissertation is an important component of a post graduate programme. The Dissertation for M.E. / M.Tech consists of Project Work–I & Project Work–II. The Project Work–I is to be undertaken during the III semester of M.E. / M.Tech and Project Work–II, is to be undertaken during the IV semester.

- 4.4.1** The Project work / Dissertation (Project Work-II) shall be pursued for a minimum of 16 weeks during the final semester.
- 4.4.2** Project work shall be carried out under the supervision of a faculty member possessing a Ph.D. degree or PG degree with a minimum of 3 years of experience in teaching.
- 4.4.3** A student may, however, in certain cases, be permitted to work on a project in an Industry / Research Organization, on the recommendations of the Head of the Department. In such cases, the Project work shall be jointly supervised by a supervisor of the department and an expert as a joint supervisor from the organization. The student shall be instructed to meet the supervisor periodically and to attend the review committee meetings conducted in the department for the evaluation of the project work.

#### 4.5 Online Courses

- 4.5.1 Students may be permitted to earn credit through online courses (which are provided with certificate) with the approval of Head of the Department and Dean (Academic) subject to a maximum of three credits. The credit may be transferred with the due approval procedures. However, the course for which he/she is requesting credit transfer should not be handled by the department concerned in any one of the semester. One Online Course of 3 credits can replace one Open elective or Programme elective course. However, the students are not permitted to redo the courses which are undertaken in the UG programme.
- 4.5.2 If a student has a publication in SCI-listed journals as the first author, he/she shall be exempted from one elective course.

#### 4.6 Industrial Training/Internship

The interested students may undergo Industrial Training/ Internship for a specific period during summer/winter vacation at Industry/ research organization/university.

#### 4.7 One credit courses

One credit elective course shall be offered by the department itself or in collaboration with the industry/research organizations / higher learning institutions. If more number of such one-credit courses are offered by any department, three elective courses of 1 credit shall replace a 3 credit elective course as given in **Table-3**. (The courses which are studied in the UG programme may not be repeated).

**TABLE 3 – EARNING OF CREDITS**

| Number of one credit earned |                             | Eligible to replace |                 |
|-----------------------------|-----------------------------|---------------------|-----------------|
| Core electives              | Interdisciplinary electives | PEC (3 credits)     | OEC (3 credits) |
| 3                           | 0                           | 1                   | -               |
| 2                           | 1                           | 1                   | -               |
| 1                           | 2                           | -                   | 1               |
| 0                           | 3                           | -                   | 1               |

#### 4.8 Medium of Instruction

The medium of instruction shall be English for all the courses, examinations, seminar, presentations, and project/thesis/dissertations reports.

#### 5.0 DURATION OF THE PROGRAMME

- 5.1 The minimum and maximum period for completion of the PG Programmes are given in **Table-4**.

**TABLE 4 - DURATION OF THE PROGRAMME**

| Programme                   | Minimum No. of Semesters | Maximum No. of Semesters |
|-----------------------------|--------------------------|--------------------------|
| M.E. / M.Tech. (Full –Time) | 4                        | 8                        |

- 5.2 Each semester normally consists of 90 working days. In any contingent situation, the number of working days per semester shall not be less than 65 days. The Principal is given the discretionary powers to decide the number of working days in such contingencies. The Principal shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus and that the teacher teaches the full content of the specified syllabus for the course being taught.

- 5.3** For the purpose of regulations, the academic year has been divided into two semesters, the Odd semester normally spanning from June to November and the even semester from December to May.
- 5.4** The First semester of M.E. / M.Tech. Degree Programme normally spans from August to December and Second semester from January to May.
- 5.5** The total duration 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 20.1**) or prevention (**vide clause 7.4**) in order that the student may be eligible for the award of the degree (**vide clause 17.0**).
- 5.6** The curriculum of every programme shall be designed with the total number of credits **68 (Annexure-I)**.

## **6.0 REGISTRATION**

- 6.1** Each student, on admission, shall be assigned to a Faculty Advisor / Mentor (**Vide clause 8**) who shall advise her/him about the academic programs and counsel on the choice of courses considering the academic background and student's career objectives. With the advice and consent of the Faculty advisor, the student shall register for a set of courses he/she plans to take up for the Semester.
- 6.2** Every student shall enroll for the courses of the succeeding semester during the last week of the current semester. However, the student shall confirm the enrollment by registering for the courses within the first five working days after the commencement of the concerned semester.
- 6.3** If a student is prevented from writing end semester examination of a course due to lack of attendance, the student has to register for that course again, when offered next, attend the classes and fulfill the attendance requirements as per **clause 7**.
- 6.4** If the theory course in which the student has failed/has been prevented from writing end semester examination due to lack of attendance in a programme elective course or in an open elective course, then the student may register for the same or any other programme elective or open elective course respectively in the subsequent semesters.
- 6.5** If a student finds that he/she has registered for more courses than his/her capability to study in a semester, he/she can withdraw one or more of courses before the end of the 2<sup>nd</sup> week of the semester.
- 6.6** In any department, the preference for registration shall be given to the students of that department for whom the course is a programme core course.
- 6.7** The registration for any course shall be on first come, first served basis, provided the student fulfills prerequisites for that course if any. The number of students to be registered shall be based on the class room and laboratory capacity. Every effort shall be made by the Department / Centre to accommodate as many students as possible.
- 6.8** No course shall be offered by a department unless a minimum of 5 students registered for that course. However, this restriction does not apply if the class strength is less than 5.
- 6.9 Flexibility to Add or Drop Courses**
- 6.9.1** 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 the student wishes, the student is permitted to earn more than the total number of credits prescribed in the curriculum of the student's programme.

- 6.9.2** From the second to final semesters, the student has the option of registering for additional courses or dropping existing courses. A total number of credits of such courses cannot exceed 3. However, the student shall register for a minimum of 15 credits and a maximum of 21 credits in a semester.
- 6.9.3** The student shall register for the Project work-I during the third semester and Project Work-II during the IV semester. However, the student shall be required to have earned a minimum of 24 credits to register for the Project Work-I for all M.E. / M.Tech. Degree programmes.
- 6.9.4** If the candidate has not earned the requisite minimum credits as specified in **Clause 6.9.3**, he/she has to complete the arrears (at least to the extent of earning the minimum credits successfully), the candidates can undertake Project Work-I again in the subsequent semester.
- 6.9.5** In case of candidates of M.E. / M.Tech. Programmes not completing the course Project Work-I successfully, the candidates can undertake Project Work-I again in the subsequent semester. In such cases, the candidates can enroll for the course Project Work-II only after successful completion of Project Work-I.

## **7.0 REQUIREMENTS FOR APPEARING FOR END SEMESTER EXAMINATION OF A COURSE**

A student who has fulfilled the following conditions (**vide Clauses 7.1 - 7.2**) shall be deemed to have satisfied the 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 in all the courses. However, he/she shall secure not less than 75% attendance in each course in that semester.
- 7.2** If student secures attendance of 65% and above but less than 75% in any course in the current semester 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 Principal/competent authority shall be given exemption from the prescribed attendance requirement and he/she shall be permitted to appear for the semester examinations of that course.
- 7.3** A candidate shall normally be permitted to appear for the End Semester Examination of the course if he/she has satisfied the attendance requirements (**subject to clause 7.1-7.2**) and has registered for the examination in those courses of that semester. A candidate 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.
- 7.4** Those students who have not satisfied the conditions specified in **Clause 7.1 - 7.2** and who secure **less than 65%** attendance in a course will not be permitted to write the End Semester Examination (ESE) of that course. The student has to register and repeat this course in the subsequent semester when it is offered next (as per **Clause 6.4**)

## **8.0 FACULTY ADVISER (MENTOR)**

Facilitating the students in choosing their courses of study and for general advice on the academic Programme, the Head of the Department will allocate a fixed number of students to a teaching faculty of the Department who shall function as Mentor for them throughout their period of study. Mentors shall advise the students in registering of courses, monitor their attendance and progress, and counsel them periodically. If necessary, the Mentor may also discuss with or inform the parents about the progress of the students through the concerned Head of the Department.

- 8.1** Every student will be under the care and guidance of a faculty who is appointed as his/her Mentor. All the students will be assigned to one Mentor, who will also act as their local guardian and assist them in all matters of academic as well as other activities.
- 8.2** Student counseling plays a vital role in a student's life. Hence, the students are advised to meet their



Mentor frequently and discuss their problems freely with them. They should also take care to see that all information concerning their progress and achievements in the college is duly entered in the student record.

- 8.3 The Mentor will maintain a Student Record Sheet for each of his/her wards. The record sheet will contain all information concerning the students' attendance, grades obtained in the University examinations, monthly tests, achievements if any in Curricular, Co-curricular and Extra-curricular activities and disciplinary proceedings if any taken against the student. The mentor will also maintain the career settlement of the student.

## **9.0 CLASS COMMITTEE**

- 9.1 A Class Committee consists of all teachers handling courses of the concerned class, student representatives - cross-section of students (Academically good, Average, Poor) and a chairperson who is a faculty not handling the course for the class. The overall goal of the Class Committee is to improve the teaching-learning process. The functions of the Class Committee include:

- Solving problems experienced by the students in the classroom and in the laboratories.
- Clarifying the regulations of the degree programme and the details of rules therein.
- Informing the student representatives about the academic schedule, including the date of assessments (Tests & Assignments) and the syllabus coverage for each assessment.
- Analyzing the performance of the students of the class after each test and finding the ways and means of solving problems, if any
- Identifying the weak students, if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such weak students.

- 9.2 The Head of the department concerned normally constitutes the class committee for a class under a particular programme. However, if the students of different programmes are present in a class, the class committee is to be constituted by the head of the department which is conducting the course.

- 9.3 The class committee shall be constituted in the first week of commencement of any semester.

- 9.4 At least two student representatives (usually one boy and one girl) shall be included in the class committee.

- 9.5 The chairperson of the class committee may invite the Mentor and the Head of the Department to the meeting of the class committee.

- 9.6 The Principal may participate in any class committee meeting.

- 9.7 The chairperson is required to prepare the minutes of every meeting, submit the same to HOD within two working days of the meeting, and arrange to circulate among the concerned students and teachers. If there are some points in the minutes requiring action by the management, the same shall be brought to the notice of the management by the Head of the Institution.

- 9.8 The class committee shall meet three times in a semester:

- First meeting - Two weeks after the commencement of the semester
- Second meeting - One week after the first IAT
- Third meeting - One week after the second IAT.

- 9.9 During these meetings, the student members representing the entire class, shall meaningfully interact and express the opinions and suggestions of other students of the class to improve the effectiveness of the teaching-learning process.

## 10.0 COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one group of students shall have a “Course Committee” comprising all the teachers teaching the common course with one of them nominated as Course Coordinator. The nomination of the course Coordinator shall be made by the Head of the Department/Head of the Institution depending upon whether all the teachers teaching the common course belong to a single department / several departments. The “Course committee” shall meet as often as possible and ensure uniform evaluation of the tests and arrive at a common scheme of evaluation for the tests. Wherever it is feasible, the course committee may also prepare a common question paper for the assessment test(s). Guidelines for the evaluation of CO attainment and continuous assessment shall be given by the coordinator of the common course committee.

## 11.0 SYSTEM OF EXAMINATION AND ASSESSMENT PROCEDURE

- 11.1 Performance in each course of study shall be evaluated based on (i) Continuous Assessment (CA) throughout the semester and (ii) End Semester Examinations (ESE) at the end of the semester.
- 11.2 Each course, both theory/integrated and practical, including project work, shall be evaluated for a maximum of 100 marks. For all theory/integrated and practical courses, including the project work, the continuous internal assessment shall carry 50% marks while the End Semester Examinations (ESE) shall carry 50% marks. i.e., each course shall be evaluated for a maximum of 100 marks as detailed in **Table-5**.

**TABLE 5 - ASSESSMENT PROCEDURE**

| S. No. | Category of Course          | Continuous Assessment | End Semester Examinations |
|--------|-----------------------------|-----------------------|---------------------------|
| 1.     | Theory / Integrated Courses | 50 marks              | 50 Marks                  |
| 2.     | Laboratory Courses          | 50 Marks              | 50 Marks                  |
| 3.     | Project work                | 50 Marks              | 50 Marks                  |

- 11.3 The End Semester Examination (Theory & Practical) of 3 hours duration shall ordinarily be conducted between November and January during the odd semesters and between April and June during the even semesters. The end semester question paper shall contain Blooms Taxonomy levels, CO, and Pattern type. The end semester question pattern can be of different types as given in **Table-6**, and it shall be mentioned in the curriculum itself.

**TABLE 6 – QUESTION PAPER PATTERN**

| Subject Type        | Question pattern | 2 marks | 4 marks | 10 marks                                | 11 marks                               | 12 marks                                 | 20 marks | Total |
|---------------------|------------------|---------|---------|---|--|--|----------|-------|
| Theory (3/4 Credit) | A                | 10      | 5       | --                                      | --                                     | 1 Qn Compulsory & 4 Qns (either or type) | --       | 100   |
| Theory (2 Credit)   | B                | 10      | -       | -                                       | 1 Qn Compulsory & 4Qn (either or type) |  |          | 75    |
| Theory (1 Credit)   | C                | 5       | --      | 1 Qn Compulsory & 1 Qn (either or type) | --                                     | --                                       | --       | 30    |

| Subject Type    | Question pattern | 2 marks | 4 marks | 10 marks | 11 marks | 12 marks | 20 marks                                 | Total |
|-----------------|------------------|---------|---------|----------|----------|----------|--|-------|
| Audit courses   | D                | --      | --      | --       | --       | --       | 5 out of 8                               | 100   |
| Design oriented | E                | --      | --      | --       | --       | --       | 1 Qn Compulsory & 4 Qns (either or type) | 100   |

**11.3.1** For one-credit courses, the End Semester Examination of 1-hour duration shall be conducted as and when the course is completed (if necessary). If an industry expert conducts a course, then a committee consisting of the head of the department, subject expert and industrial expert handling the course may be constituted to normalize the evaluation. The grades earned by the students for the one-credit courses which do not opt for conversion into elective, will not be included in the computation of CGPA.

#### **11.4 Integrated Courses (Theory Courses with Laboratory Component)**

The theory and the practical components of the integrated courses shall be evaluated based on the procedure stipulated for those courses by assigning the weightage for each component in accordance with the credit ratio of those components.

**11.5** The research methodology and IPR course may be evaluated similar to the procedure adopted for Theory / Integrated courses.

**11.6** The End Semester Examination (ESE) of project work for Project Work-I and Project Work –II shall consist of evaluation, of the final report submitted by the student by an external examiner followed by a viva-voce examination conducted by a committee consisting of the external examiner, internal examiner, and supervisor. The common internal examiner and the external examiner shall be appointed by the Controller of Examinations for evaluation from the panel of examiners submitted by the Head of the Department concerned.

**11.7** The End Semester Examinations of practical courses shall be evaluated by *Internal Examiners*.

**11.8** The End Semester Theory Examinations shall be conducted by Chief Superintendent appointed by the Principal. The Hall Superintendents from the college shall invigilate the halls during theory examinations.

**11.9** The students involving in malpractice during end semester examinations shall appear before the enquiry committee, and punishment will be given by the committee as per the college norms.

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

For all the courses, the continuous assessment (CA) shall be made through CO attainment of the individual student. Each course shall have a set of Course Outcomes. The total CO attainment by the student shall be reduced to 50 Marks for theory/integrated /practical courses including project work

#### **12.1 Theory /Integrated Courses**

Continuous assessment for each theory / integrated course shall be evaluated through tests and other appropriate assessment tools like Quiz, Presentation, Open book test, Viva Voce, etc. as per the discretion of the course Instructor. The guidelines for the evaluation of continuous assessment marks in theory/integrated courses shall be implemented as given in **Table-7**.

**TABLE 7 – CA EVALUATION FOR THEORY COURSES**

| CO                                     | Blooms Level | Assessment Test |     | MCQT / ASMT / Tutorial |      | Viva / Seminar / Presentation |      | CES   |      | Total Attainment for CO (100%)<br>Marks |
|--|--------------|-----------------|-----|------------------------|------|-------------------------------|------|-------|------|---|
|  |              | Marks           | wtg | Marks                  | Wtg. | Marks                         | Wtg. | Marks | Wtg. |   |
| 1.                                     |              |                 | 50% |                        | 15%  |                               | 25%  |       | 10%  |   |
| 2.                                     |              |                 |     |                        |      |                               |      |       |      |   |
| :                                      |              |                 |     |                        |      |                               |      |       |      |   |
| N.                                     |              |                 |     |                        |      |                               |      |       |      |   |
| TOTAL ATTAINMENT ( Average of all COs) |              |                 |     |                        |      |                               |      |       |      |   |

Wtg. – weightage; MCQT – Multiple Choice Question Type; ASMT – Assignment; CES – Course End Survey  
**Note:** The procedure enumerated in **Table-7** has to be prepared by the course coordinator before the commencement of the semester, and it should be approved by the class committee.

## 12.2 Practical Courses

Continuous assessment for practical courses shall be evaluated through CO attainment of the student by assessing the student performance during the laboratory class, model examination, and oral examination. For assessing the CO, the class committee has to frame rubrics. The weightages shall be given to each assessment as given in **Table -8** to evaluate attainment of COs.

**TABLE 8 – CA EVALUATION FOR PRACTICAL COURSES**

| CO                                    | Blooms level | Laboratory practice |      | Model Exam |      | Viva-Voce |      | CES   |      | Total Attainment for CO<br>Marks |
|---------------------------------------|--------------|---------------------|------|------------|------|-----------|------|-------|------|----------------------------------|
|                                       |              | Marks               | Wtg. | Marks      | Wtg. | Marks     | Wtg. | Marks | Wtg. |                                  |
| 1.                                    |              |                     | 40%  |            | 30%  |           | 20%  |       | 10%  |                                  |
| 2.                                    |              |                     |      |            |      |           |      |       |      |                                  |
| :                                     |              |                     |      |            |      |           |      |       |      |                                  |
| N.                                    |              |                     |      |            |      |           |      |       |      |                                  |
| TOTAL ATTAINMENT (Average of all COs) |              |                     |      |            |      |           |      |       |      |                                  |

Wtg. – weightage

## 12.3 Project Work

The evaluation of Project work for Project Work - I and Project Work - II shall be done independently in the respective semesters and marks shall be allotted as per the weightages given in **clause 12.3.1**. The project work shall be evaluated for a maximum of 100 marks, of which 50 marks will be through continuous assessment.

- 12.3.1** The continuous assessment for the project shall be evaluated through CO attainment of the student by assessing the presentation made by the students in the review meetings. For assessing the CO attainment, the review committee shall frame the rubrics with the approval of Head of the Department. The CO attainment of the student shall be reduced to 50 marks and rounded to the nearest integer. The Continuous assessment marks for project work, will be distributed in **Table-9**

**TABLE 9 – CA EVALUATION FOR PROJECT WORK**

| CO                                    | BL | Review I |      | Review II |      | Review III |      | CES   |      | Total Attainment for CO |
|---------------------------------------|----|----------|------|-----------|------|------------|------|-------|------|-------------------------|
|                                       |    | Marks    | Wtg. | Marks     | Wtg. | Marks      | Wtg. | Marks | Wtg. | Marks                   |
| 1.                                    |    |          | 30%  |           | 30%  |            | 30%  |       | 10%  |                         |
| 2.                                    |    |          |      |           |      |            |      |       |      |                         |
| :                                     |    |          |      |           |      |            |      |       |      |                         |
| N.                                    |    |          |      |           |      |            |      |       |      |                         |
| TOTAL ATTAINMENT (Average of all COs) |    |          |      |           |      |            |      |       |      |                         |

- 12.3.2** The Head of the Department shall constitute a review committee consisting of Supervisor, Project Coordinator and another faculty member from the department for each programme of study. There shall be three assessments (each 100 Marks, in view of COs) during the semester by the review committee. The student shall make a presentation on the progress made by him/her before the review committee. The total attainment of CO by the student in the three assessments shall be reduced to 50 marks and rounded to the nearest integer.
- 12.3.3** The students may be permitted to work on projects in R&D institutions / Industries. In such cases, the student has to submit a certificate from the organization for the successful completion of the project at the time of submitting the report.
- 12.3.4** The Project Report prepared by the student according to the approved guidelines and duly signed by the Supervisor(s) and Head of the Department shall be submitted to the within the stipulated time.
- 12.3.5** If a candidate fails to submit the project report on or before the specified deadline, he/she is deemed to have failed in the Project Work and shall re-enroll for the same in a subsequent semester. This applies for both Project Work–I & Project Work–II.
- 12.3.6** If a candidate fails in the viva-voce examinations of Project Work–I, he/she has to resubmit the Project Report within 15 days from the date of declaration of the results. If he/she fails in the viva-voce examination of Project Work–II of Project work of M.E. / M.Tech., he/she shall resubmit the Project report within 30 days from the date of declaration of the results. For this purpose, the same Internal and External examiner shall evaluate the re-submitted report.
- 12.3.7** If the candidate fails to obtain 50% of the Continuous Assessment Marks in the Project Work–I & Project Work–II / Final Project, he/she will not be permitted to submit the report for that particular semester and has to re-enroll for the same in the subsequent semester.
- 12.3.8** Every candidate is doing M.E. / M.Tech. shall send a paper for publication in a Journal or National / International Conference. An acknowledgment from the Supervisor for having accepted for publication in the Journal or presented in National or International Conference shall be attached to the report of the project work. Such acknowledgments shall be sent to the Controller of Examinations along with the evaluation marks by the team of examiners without which the thesis shall not be accepted.
- 12.3.9** A copy of the approved project report after the successful completion of viva examinations shall be kept in the department library and central library of the College / Institution.
- 12.4 Online study**
- The student shall undergo online courses (Which are provided with Certificate) with the approval of Head of the Department and Dean (Academic) subject to a maximum of one Open Elective Course from the courses given in **curriculum** through online from II semester onwards in addition to the other electives subject to **clause 4.5.1**.

### 12.5 Mini Project Work with Seminar

Mini project work with seminar may be assigned to a single student. The mini project with seminar shall carry 100 marks and shall be evaluated through an internal assessment only. The Head of the Department concerned shall constitute a review committee for each programme. The review committee shall conduct three review meetings per semester. The student shall make a presentation on the progress made to a three-member review committee. The project guide will be one of the members of the review committee. For assessing the CO attainment, the review committee shall frame rubrics with the approval of Head of the Department. The distribution of marks for the evaluation of a mini project with the seminar is detailed in **Table -10**.

**TABLE 10 – CA EVALUATION FOR MINI PROJECT WORK WITH SEMINAR**

| CO                                    | BL | Review I |      | Review II |      | Review III |      | Total Attainment for CO |
|---------------------------------------|----|----------|------|-----------|------|------------|------|-------------------------|
|                                       |    | Marks    | Wtg. | Marks     | Wtg. | Marks      | Wtg. | Marks                   |
| 1.                                    |    |          | 20%  |           | 30%  |            | 50%  |                         |
| 2.                                    |    |          |      |           |      |            |      |                         |
| :                                     |    |          |      |           |      |            |      |                         |
| N.                                    |    |          |      |           |      |            |      |                         |
| TOTAL ATTAINMENT (Average of all COs) |    |          |      |           |      |            |      |                         |

### 13.0 ACADEMIC AUDIT

Each Staff member shall maintain an “**ATTENDANCE AND ASSESSMENT RECORD**” for every semester which consists of attendance marked for each Lecture / Practical / Project work class, the test marks and the record of class work (topic covered), separately for each course. This should be submitted to the Head of the Department periodically (at least three times in a semester). The Head of the Department will verify the details given by the Staff member. At the end of the semester, the record should be verified by the Principal, who will keep this document in safe custody (for five years). The Academic Audit Committee appointed by the Principal may inspect the records of attendance and assessment for both current and previous semesters.

### 14.0 PASSING REQUIREMENTS

- 14.1** A student shall be deemed to have passed a theory course if the total marks secured by him/her are at least 50% of the total Marks. However, the student has to secure a minimum of 50% Marks in the End Semester Examination (ESE).
- 14.2** A student is deemed to have passed a Laboratory Course, including Mini Project with Seminar & Dissertation/Industrial Project if the total mark secured by him/her is at least 50%. However, the student has to secure a minimum of 50% in the End Semester Examination.
- 14.3** If a candidate 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 during the subsequent semester when examination is conducted in that course; he/she should continue to register and reappear for the examinations in the failed courses till he/she secures a pass.
- 14.4** The internal assessment marks obtained by the candidate in the first appearance shall be retained and considered valid for all subsequent attempts till the candidate secures a pass. However, from the third attempt onwards if a candidate fails to obtain pass marks (Internal Assessment + End Semester Examination) as per **clause 14.1**, then the candidate shall be declared to have passed the examination if he/she secures a minimum of 50% marks prescribed for end semester examinations alone.

**15.0 AWARD OF LETTER GRADES**

**15.1** All assessments of a course will be done on an absolute mark basis. However, to report the performance of a candidate, letter grades, each carrying a certain number of points, will be awarded as per the range of marks obtained by the candidate in each course as detailed below:

**TABLE 11 – AWARD OF LETTER GRADES**

| Letter grade                    | Grade points | Marks range |
|---------------------------------|--------------|-------------|
| O (Outstanding)                 | 10           | 91 – 100    |
| A <sup>+</sup> (Excellent)      | 9            | 81 – 90     |
| A (Very Good)                   | 8            | 71 – 80     |
| B <sup>+</sup> (Good)           | 7            | 60 – 70     |
| B (Above average)               | 6            | 50 – 59     |
| RA (Reappearance Registration)  | 0            | < 50        |
| SA (Shortage of Attendance)     | 0            |             |
| AB (Absent)                     | 0            |             |
| W (Withdrawal from Examination) | 0            |             |

'RA' denotes Reappearance registration is required for that particular course / 'SA' denotes Shortage of Attendance (**as per clause 7**) and hence prevented from writing the end semester examination.

**Note:** For converting the marks obtained in the online courses into a letter grade and grade points the same procedure will be followed. However, the Minimum marks for passing the course will be the same as the marks specified by the certifying Authority / Agency conducting the course.

**15.2 Grade Sheet**

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

- The College Name and Affiliated University.
- The list of courses enrolled during the semester, and the grade scored.
- The Grade Point Average (GPA) for the semester.
- The Cumulative Grade Point Average (CGPA) of all courses enrolled from the first semester onwards.

GPA for a semester is the ratio of the sum of the products of the credits assigned to each course and the grade point obtained for that course to the sum of the total number of credits acquired in the semester.

CGPA will be calculated in a similar manner, considering all the courses enrolled from the first semester to last semester rounded up to 2 decimal points. "RA," "SA" and "AB" grades will be excluded for calculating GPA and CGPA.

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

where  $C_i$  - is the Credits assigned to the course

$GP_i$  - is the point corresponding to the grade obtained for each Course

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

## 16.0 TRANSPARENCY IN EVALUATION

Before the publication of End Semester results, the students are allowed to verify the answer scripts of all subjects. Consequently, the application for revaluation of the answer scripts for those subjects is not permitted.

The verification of answer scripts is not allowed for practical courses, one credit courses, seminars, practical training, and project work.

## 17.0 ELIGIBILITY FOR THE AWARD OF THE DEGREE

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

- Successfully gained the required number of total credits **68** as specified in the curriculum corresponding to his/her Programme of study within the stipulated time.
- Successfully completed the M.E. / M.Tech. Degree programme within 4 (Four) years (Eight consecutive semesters) from the date of admission to the first semester of the programme
- Successfully passed any additional courses prescribed by Dean (Academic) whenever readmitted under regulations other than R-2019 (**Clause 20.2**)
- No disciplinary action is pending against him/her.
- The award of the Degree must have been approved by the syndicate of the University.

## 18.0 CLASSIFICATION OF THE DEGREE AWARDED

### 18.1 First Class with Distinction

A candidate who satisfies the following conditions shall be declared to have passed the examination in First Class with Distinction.

- Should have passed the End Semester Examination in all the courses of all the four semesters in his/her First Appearance within three years which includes authorized break of study of one year. Withdrawal from examination (vide **clause 19.0**) 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 end semester examination due to lack of attendance in any of the courses.

### 18.2 First Class

A candidate who satisfies the following conditions shall be declared to have passed the examination in First Class.

- Should have passed the End Semester Examination in all the courses of all the four semesters within three 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).
- Should have secured a CGPA of not less than **7.00**.



**18.3 Second Class**

All other candidates (not covered in **clauses 18.1 and 18.2**) who qualify for the award of the degree (vide **clause 17.0**) shall be declared to have passed the examination in second class.

- 18.4** A candidate who is absent in semester examination in a course/project work after having registered for the same shall be considered to have appeared in that examination for the purpose of classification (Subject to **clause 19.0 & 20.0**)

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

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

- 19.2** Such withdrawal shall be permitted only once during the entire period of study.

- 19.3** Withdrawal application is valid only if it is made within 10 working days prior to the commencement of the examination in that course or courses and recommended by the HOD and approved by the Principal. Notwithstanding the requirement of mandatory TEN days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

- 19.4** Withdrawal shall not be construed as an appearance for the eligibility of a candidate for First Class with Distinction.

- 19.5** Withdrawal from the End semester examination is NOT applicable to arrear courses of previous semesters.

- 19.6** The candidate shall reappear for the withdrawn courses during the examination conducted in the subsequent semester.

- 19.7** Withdrawal is permitted for the end semester examinations in the final semester, only if, the period of study of the student concerned does not exceed three years as per **clause 18.1**.

**20.0 PROVISION FOR AUTHORISED BREAK OF STUDY**

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

- 20.2** The candidate is permitted to rejoin the programme after the break shall be governed by the Curriculum and Regulations in force at the time of rejoining. If the Regulation is changed, then, those candidates may have to do additional courses as prescribed by the Dean (Academic).

- 20.3** The authorized break of study (for a maximum of one year) will not be counted for the duration specified for passing all the courses for the purpose of classification. However, an additional break of study granted will be counted for the purpose of classification.

- 20.4** 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 5.1** irrespective of the period of break of study in order that he/she may be eligible for the award of the degree.

**20.5** If any student is detained for want of requisite attendance, progress and good conduct, the period spent in that semester shall not be considered as permitted "Break of Study" or "Withdrawal" is not applicable for this case.

**21.0 DISCIPLINE**

Every student is required to decently dress to observe discipline and decorum both inside and outside the college and not to indulge in any activity which affects the prestige of the college/university.

**22.0 REVISION OF REGULATIONS AND CURRICULUM**

The curriculum and syllabi under this regulation will be for **four years**. However, the 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.

**23.0 SPECIAL CASES**

In the event of any clarification in the interpretation of the above rules and regulations, they shall be referred to the Standing Committee. The Standing Committee will offer suitable interpretations/clarifications / amendments required for special case on such references and get them ratified in the next meeting of the Academic Council. The decision of the Academic Council will be final.

**ANNEXURE-I****MINIMUM TOTAL CREDITS FOR M.E. / M.Tech. DEGREE  
PROGRAMMES OFFERED IN THE INSTITUTION**

| <b>Sl. No.</b> | <b>Name of the Programme</b>                                   | <b>Minimum Total Credits*</b> |
|----------------|--|-------------------------------|
| 1.             | M.E. Energy Engineering  | 68                            |
| 2.             | M.E. Computer Science and Engineering                          | 68                            |
| 3.             | M.E. High Voltage Engineering                                  | 68                            |
| 4.             | M.E. Embedded System Technologies                              | 68                            |
| 5.             | M.Tech. Information Technology (Information and Cyber Warfare) | 68                            |

\* Minimum Total Credits to be earned by the student admitted to the particular PG Programme to become eligible for the award of Degree under **Clause 5.0** of Regulations 2019 (PG).