

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE – 641 049.



**Academic Regulations 2015
(Norms and Rules)**

(29.06.2016)-V2

**B.E. / B. Tech Programmes
(2015 onwards)**

APPROVED

Principal

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KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE - 641 049.

REGULATIONS 2 015

B.E. / B. Tech Programmes CHOICE BASED CREDIT SYSTEM (CBCS)

These regulations are applicable to students admitted into B.E. / B. Tech Programmes from the academic year 2015 – 2016 onwards

Preamble

India has become a permanent member of Washington Accord. As an educational institution we are adopting the "Outcome Based Education (OBE) Process" to ensure that the required outcomes (knowledge, skills and attitude / behaviour) are acquired by the learners of a programme. With the OBE process in mind, our educational system has been framed to provide the needful scope for the learners through the CBCS that will pave the path to strengthen their knowledge, skills and attitude / behaviour. CBCS offers flexibility to learners by including interdisciplinary electives and industry based courses.

Objectives of CBCS

- To offer the right blend of Core, General, Engineering Sciences and Technical Arts and Basic Science courses to facilitate the learners to acquire the needful outcomes.
- To make the curriculum interdisciplinary.
- To facilitate students to learn at their own pace and acquire more than the required credits.
- To offer programmes in an academic environment with purpose, the needful foundation, breadth (exposure for optimal learning) and professionalism.

1. Definitions and Nomenclature

1.1 University

University means the affiliating university, ANNA UNIVERSITY, Chennai

1.2 Institution

Institution means KUMARAGURU COLLEGE OF TECHNOLOGY, Coimbatore, an autonomous institution affiliated to Anna University, Chennai

1.3 Head of the Institution

Head of the Institution means the Principal of the institution who is responsible for all academic activities and for the implementation of relevant rules of this regulation.

1.4 Programme

Programme means Degree Programme, that is, B.E / B. Tech Degree Programme.

1.5 Branch

Branch means specialization or discipline of B.E / B. Tech Degree Programme such as, Civil Engineering, Textile Technology, etc.

1.6 Course

Every paper / subject of study offered by various departments is called a course. (E.g. Operations Research)

1.7 Curriculum

The various components / subjects / papers studied in each programme that provides appropriate outcomes (knowledge, skills and attitude/behaviour) in the chosen branch is called curriculum

1.8 Credits

Course work is measured in units called credit hours or simply credits. The number of hours of a course per week is the number of credits for that course. One credit per lecture hour per week is assigned for each theory course. Laboratory, tutorial courses, etc., are assigned 0.5 credits per hour per week. Laboratory and Tutorial hours shall be of either 2 hours or 4 hours duration per week.

Table 1

Nature of course		L	T	P	C
Theory		3	0	0	3
		4	0	0	4
Theory+ Tutorial		3	2	0	4
		2	2	0	3
Practical		0	0	2	1
		0	0	4	2
Project		0	0	24	12
Note: No laboratory integrated theory courses					
Total number of credits	Regular	To be between 182 to 190 (preferably closer to 182)			
	Lateral entry	To be between 134 to 142 (preferably closer to 134)			
Number of credits per semester	21 to 24				

Number of courses per semester (for semesters 1 and 2)	06 theory + 02 laboratory Or 06 theory + 03 laboratory
Number of courses per semester (for semesters 3 to 7)	05 theory + 02 laboratory Or 06 theory + 02 laboratory Note: [Project work (Phase-I) to be in 7 th semester with maximum 02 credits]
Number of courses for semester 8	02 theory + Project work Or 03 theory + Project work (Phase-II)
Note: Total number of courses not to exceed 10 in any semester	

1.8.1. Earning additional credits

1. In a semester, a student is permitted to register for a **maximum of 30 credits**.
2. It is mandatory to satisfy the pre-requisites (if any), prescribed in the curriculum and syllabus to register for courses to earn additional credits.
3. One credit means one hour per week.

2. Admission

2.1 First Year B.E. / B. Tech and Lateral Entry

The norms for admission, eligibility criteria such as marks, number of attempts, physical fitness and mode of admission will be as prescribed by the University.

- 2.2 For students readmitted from **2009, 2013** and **2014** Regulations (due to discontinuation for different reasons) to **2015** regulation, a course committee will be constituted by the Principal to decide the Courses exempted and additional Courses to be appeared by the concerned student.

3. Branches of Study

The following branches of study approved by the University are offered by the institution.

B.E. Degree Programmes

- Aeronautical Engineering
- Automobile Engineering
- Civil Engineering
- Computer Science and Engineering

- Electronics and Communication Engineering
- Electrical and Electronics Engineering
- Electronics and Instrumentation Engineering
- Mechanical Engineering
- Mechatronics Engineering

B.Tech Degree Programmes

- Biotechnology
- Information Technology
- Textile Technology
- Fashion Technology

4. Curriculum Structure

4.1 According to the National Board of Accreditation (NBA), India, for each undergraduate (UG) programme, the curriculum has to be evolved after finalizing the Programme Educational Objectives (PEOs) and the corresponding Programme Outcomes (POs). The POs have been directly listed by NBA for undergraduate programmes. Programme Specific Outcomes (PSOs) are to be evolved. The curriculum that evolves should broadly ensure the achievement of the POs and PSOs, and thus the PEOs of the programme.

4.2 All India Council for Technical Education (AICTE), New Delhi in its "Model scheme of instructions and syllabus for UG engineering degree programmes" published during October 2012 has prescribed the following curriculum structure for UG E&T degree programmes. This has been shown in Table - 2

Table 2

S.No	Course Work – Subject Area	Range of Total Credits (%)		Suggested Breakdown of Credits (for total = 176) (No.)
		Minimum	Maximum	
1.	Humanities and Social Sciences (HS) including Management	5	10	14
2.	Basic Sciences (BS) including Mathematics, Physics, Chemistry, Biology	15	20	30
3.	Engineering Sciences (ES), including Materials, Workshop, Drawing, Basics of Electrical/Electronics/ Mechanical/Computer Engineering, Instrumentation	15	20	30

4.	Professional Subjects-Core (PC), relevant to the chosen specialization/branch; (May be split into Hard (no choice) and Soft (with choice), if required)	30	40	50
5.	Professional Subjects – Electives (PE), relevant to the chosen specialization / branch	10	15	20
6.	Open Subjects – Electives (OE), from other technical and / or emerging subject areas	5	10	12
7.	Project Work, Seminar and/or Internship in Industry or elsewhere	10	15	20
8.	Mandatory Courses (MC);	Limited to less than 5% of the maximum permissible courses / credit load		8

The suggested Course Work (=176 Credits, at 22/Semester on an average with built-in flexibility of +/- 20% as indicated earlier) in previous table needs to be completed successfully by a student to qualify for the award of the UG E&T Degree from the concerned University/Institution. A widely accepted plan for sequencing the Course Work can be as in table-3.

Table -3: Typical Sequencing Plan for Courses at UG E&T Degree Programmes

Semesters	Subject Area Coverage
I – II	HS, BS and ES Courses common for all Branches; Mandatory Courses
III-IV	HS, BS and ES Courses common for all Branches (to be continued); Also, Mandatory Courses (to be continued, if required); PC (Hard/Soft) Courses in two/three groups (like Electrical, Non- Electrical); area wise Orientation; Add-On Courses
V-VII	PC (Hard/Soft), PE and OE Courses; Branch-wise Orientation; Add-On Courses; Seminar
VIII	PE and OE Courses; Project work and Dissertation, Internship, Seminar, Add-On Courses; Final wrap-up of Programme

The mandatory courses for all the programmes prescribed by AICTE are shown in table-4.

Table – 4: Mandatory Courses (MC)

S.No	Course No.	Course Title	Hrs/Wk L: T: P	Units	Preferred Semester
1.	MC 01	Technical English	3: 0: 0	3	I/II
2.	MC 02	Value Education, Human Rights and Legislative Procedures	3: 0: 0	3	I/II
3.	MC 03	Environmental Studies	3: 0: 0	3	III/IV
4.	MC 04	Energy Studies	3: 0: 0	3	III/IV
5.	MC 05	Technical Communication & Soft Skills	3: 0: 0	3	V/VI
6.	MC 06	Foreign Language	3: 0: 0	3	V/VI

The typical curriculum structure for UG degree programmes based on AICTE and Anna University norms is give in table – 5.

Table – 5

S.No	Course Work Subject Area	Range of Total Credits					
		In %		in NUMBERS assuming total credits = 182		in No. of subjects assuming 3 credit subject	
		Min	Max	Min	Max	Min	Max
1.	Humanities and Social Sciences (HS)	5	10	9	18	3	6
2.	Basic Sciences (BS)	15	20	27	36	9	12
3.	Engineering Sciences (ES)	15	20	27	36	9	12
4.	Professional Core (PC)	30	40	54	72	18	24
5.	Professional Electives (PE)	10	15	18	27	6	9
6.	Open Electives (OE)	5	10	9	18	3	6
7.	Employability Enhancement Courses (EEC)	10	15	18	27	-	-

Humanities and Social Sciences (HS) includes Technical English, Foreign Language, Employability Skills, Engineering Ethics & Human Values, Engineering Economics, Presentation Skills and Technical Seminar, Communication Skills, Environmental Science & Engg.
Basic Sciences (BS) includes Mathematics, Physics, Chemistry, Biology
Engineering Sciences (ES) includes Materials, Workshop, Drawing, Basics of Electrical / Electronics / Mechanical / Computer Engineering, Instrumentation
Professional Core (PC) relevant to the chosen specialization/branch
Professional Electives (PE) relevant to the chosen specialization/ branch
Open Electives (OE) from other technical and/or emerging subject areas
Employability Enhancement Courses (EEC) includes Project Work, Seminar and/or Internship in Industry or elsewhere.

4.3 Semester Curriculum

The curriculum of each semester shall be a blend of theory and practical courses as stated in Table -1.

Electives: Every student shall opt electives from the list of electives relating to their degree programme as given in consultation with the class advisor, Programme Co-ordinator and the HoD. The student will be required to study 2 types of electives called “open electives” and “professional electives” and the electives will spread over from 4th semester to 8th semester. Open electives are the elective courses offered by a department exclusively for students of other branches and professional electives are courses offered by a department to the students of their own branch.

From 4th semester onwards, a student has the option to study additionally or drop a maximum of two theory courses (only electives, if offered) in a semester, subject to the theory course being dropped shall not be a prerequisite course for next semester.

In case of a student dropping a course of study in one semester, they shall register for that course in the next given opportunity and earn necessary attendance in that course exclusively to become eligible to appear for the semester examination in that course.

4.4 Medium of Instruction

The medium of instruction for lectures, examinations and project work is English, except for language courses other than English.

5. Duration of the Programme

- 5.1** Each academic year will consist of **Two** semesters. Each semester shall normally consist of **90** working days or **450** hours or **540** periods of **50** minutes each (including examination days).
- 5.2** The normal and maximum permissible number of semesters for each programme is as given in **Table 6**.

Table 6

Category	Number of Semesters	
	Normal	Maximum Permissible
Regular	8	16
Lateral Entry	6	14

6. Class advisor and Ward Counsellor (Mentor)

6.1 Class advisor

Head of the Department will allot one faculty member to be the class advisor for a particular batch of students throughout their period of study. The role of class advisors is as follows: i) To motivate and closely monitor the performance of the students. ii) To build a strong alumni base for the institution by maintaining a meaningful rapport with students and parents. iii) To maintain all important documents of the students for reference/inspection by all committees. iv) To work closely with the ward counsellors on matters related to students attached to the ward counsellors and update the green cards (overall data base) of the students of the class.

Specifically with respect to CBCS, the class advisors will:

- Educate, counsel and guide students to get enrolled and register for courses of a semester.
- Consolidate and submit (through the Head of the Department) the final list of students registered for the courses at the beginning of each semester to the Controller of Exams.

6.2 Ward Counsellor (Mentor)

By guiding and counselling students, teachers can create a greater sense of belongingness amongst our student community. To help the students in planning their courses and for general guidance on the academic programme, the Head of the Department will allot a certain number of students to a teacher of the department who shall function as ward counsellor throughout their period of study.

The ward counsellor will monitor the courses undertaken by the students, check attendance and progress of the students and counsel them periodically. The ward counsellors should ensure that each student is made aware of the various options for growth, students are monitored and guided to become overall performers and students select and work for career choices of their interest. The ward counsellors shall update and maintain the ward counsellor record of each student attached to them. The ward counsellors shall also help the class advisors to update the green card of students attached to them.

The ward counsellor may also discuss with the class advisor and HoD and parents about the progress of the students.

Specifically with respect to CBCS, the ward counsellors will do the following activities along with the class advisors:

- Educate, counsel and guide students to get enrolled and register for courses of a semester.
- Consolidate and submit (through the Head of the Department) the final list of students registered for the courses at the beginning of each semester to the Controller of Exams.

7. Class Committee

7.1 Every class will have a class committee constituted by the HoD. The members of the class committee will be as follows:-

- Chairperson (a teacher who is not normally teaching any course for the class)
- All teachers handling courses for the class
- Students (a minimum of **6** consisting of **3** boys and **3** girls on pro-rata basis)

7.2 The functions of the class committee shall include the following.

7.2.1 Clarify the regulations of the programme and the details of rules therein.

7.2.2 Inform the student representatives, the academic schedule including the dates of assessments and the syllabus coverage for each assessment.

7.2.3 Inform the student representatives the details of Regulations regarding weightage used for each assessment. In the case of practical courses (laboratory/ drawing / project work / seminar etc.) the breakup of marks for each experiment / exercise / module of work, should be clearly discussed in the class committee meeting and informed to the students

7.2.4 Analyze the performance of the students of the class after each test and initiate steps for improvement.

7.2.5 Identify slow learners, if any, and request the teachers concerned to provide additional help / guidance / coaching to such students.

7.2.6 Discuss and sort out problems experienced by students in the class room and in the laboratories.

7.3 The class committee shall be constituted within the first week of commencement of any semester.

7.4 The chairperson of the class committee may invite the class advisor / ward counselor and the Head of the Department to the meeting of the class committee.

7.5 The Principal may participate in any class committee meeting.

7.6 The chairperson is required to prepare the minutes of every meeting, submit the same through the Head of the Department to the Principal within two days of the meeting and arrange to circulate the same among the students and teachers concerned. Points requiring action by the management shall be brought to the notice of the management by the Principal.

7.7 The class committee meetings are to be conducted as scheduled below.

Meeting 1	Within one week from the date of commencement of the semester
Meeting 2	One week before the 1 st internal test
Meeting 3	One week before the 2 nd internal test

During the first meeting of the class committee, the students are to be informed about the nature and weightage of assessments as per the framework of the Regulations. During these meetings the student representatives shall meaningfully interact and express opinions and suggestions of the students of the class to improve the effectiveness of the teaching-learning process.

8. Course Committee for Common Courses

Each common theory course offered to more than one class / branch shall have a Course Committee comprising all the teachers teaching the common course with one of them nominated as Course Coordinator.

SL.No	Nature of common course	Person responsible for forming course committee and nominating course coordinator
1.	For common course / course handled in a particular department	Respective HoD
2.	For common courses handled in more than one department	Controller of Examinations (CoE) to put up the course committee details to the Principal, get the same approved and intimate the concerned faculty

The course committee will ensure that a common question paper is prepared for the tests / exams and uniform evaluation is carried out. The Course committee will meet a minimum of 3 times in each semester.

The course committee should meet at-least 3 times in each semester The schedule for the course committee to meet is as follows.

Meeting 1	Before one week of the start of the semester
Meeting 2	One week before internal test 1
Meeting 3	One week after 2 nd internal test

9. Requirements for Completion of a Semester

9.1. A student who has fulfilled the following conditions shall be deemed to have satisfied the attendance requirements for appearing end semester examination of a particular course.

9.1.1. Ideally every student is expected to attend all periods and earn 100% attendance. However, the student shall secure **not less than 75% attendance course wise** taking into account the number of periods prescribed for that course in the curriculum.

Note: Faculty members have to mark attendance as "**present**" only for those students who are **physically present** in the class.

Note: The need to award On Duty (OD) is eliminated as the student shall benefit from the 25% margin in attendance in each course to take part in co-curricular and extra-curricular activities.

9.1.2. Apart from 25% margin in attendance, an additional 10% relaxation in attendance shall be provided (after being recommended by a central committee constituting of the Class Advisor, an ASP/AP from the Department and two Professors nominated by the Principal) for students who secure attendance greater than or equal to 65% and less than 75% in any course in the current semester due to the following reasons only:

- i) Medical reasons (hospitalization / accident and or illness)
- ii) Due to participation in sports events or design competitions or NCC and or NSS activities with prior written permission from the Head of the Institution through the Head of the Department

The student shall be considered for exemption from the prescribed attendance requirement for the reasons stated above and if exempted the student shall be permitted to appear for the end semester examination of that course. In all such cases, the students should have submitted the required documents on joining after the absence, to the Head of the Department through the Faculty Class Advisor.

9.1.3. A student who secures attendance of less than 75% in any course after considering the exemption from the prescribed attendance requirement for reasons as mentioned in Clause 9.1.2 shall not be permitted to appear for the End-Semester Examination of that course.

9.1.4 In the first attempt of writing the End Semester Examination of a course if a student fails, the student can decide for **any one** of the following **two options**.

9.1.4 (a) Retain CAM option: In this case, the student retains the existing CAM and proceed to write the supplementary exams / End Semester Exams as and when they are conducted.

9.1.4 (b) Re-earn CAM option: In this case, the student has to reregister by paying the prescribed fee for the course when it is offered next in the subsequent academic year. The existing CAM will get nullified. The student has to re-earn the CAM by taking-up all the internal tests, assignments and group presentation / minor project / hybrid model assignment. Attending classes is optional. If the student fails in the end semester examination after re-earning CAM, option under "clause 9.1.4(a) - Retain CAM" only will be provided subsequently and the "re-earn CAM option" will not be provided subsequently.

9.1.5 A student will lose the eligibility to proceed to the subsequent semester in the following case:

9.1.5 (a) If a student has lack of attendance in 04(four) or more courses (one credit courses not to be taken in account) offered in a particular semester the student will be detained in that semester in both Theory and Practical courses. The student cannot proceed to the next semester. The student shall seek readmission as per the norms of Anna University / DOTE (Directorate of Technical Education).

9.1.6 The days of suspension of a student on disciplinary grounds will be considered as days of absence for calculating the percentage of attendance for each individual course.

10. Requirements for Appearing for End Semester Examination

10.1. A student will be eligible to appear for the End Semester Examination of a course if the student has satisfied the attendance requirements (vide Clause 9.1.1 & 9.1.2) and has registered for examination in those courses of that semester by paying the prescribed fee.

10.1.1. Students who do not satisfy clause 9.1.1 and 9.1.2 and securing **less than 75%** attendance (after considering the exception as stated in clause 9.1.2) in a course shall not be permitted to appear for the End-Semester Examination of that course. The student has to re-register and repeat such course(s) in the subsequent semesters when it is offered next.

10.1.2. 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, along with regular classes of the current semester, attend the classes and fulfill the attendance requirements for the re-registered courses also as per clause (10.1).

10.1.3. For students who re-register for a course due to lack of attendance, the student has to again earn the CAM marks as per the clauses (10.3) mentioned in the regulations. After gaining the needful attendance in the course, if the student takes up the end semester examination and fails, **the option of re-earning CAM [clause 9.1.4(b)] will not be made available to them.**

10.1.4. If a student fails to clear a course in **four attempts** (one attempt as regular and three attempts as arrears, **that includes the attempt of re-earning CAM**) in a particular course through end semester exams/ supplementary exams, the CAM of that course will cease to be counted from the fifth attempt and the student will be allowed to appear for end semester examination and based on the students performance in the end semester

exam alone the result will be declared (that is, the student has to score a minimum of 50 out of 100 in the end semester exam for being declared to have passed in that course).

10.1.5. If a student has failed to satisfy the attendance requirements in the pre-requisites (if any) in the previous semester, the student shall not be permitted to register for the course with the mentioned prerequisite in a current semester

10.1.6. If the course, in which the student has lack of attendance, is a Professional Elective or an Open Elective, the student may register for the same or any other Professional Elective or Open Elective course (prescribed in the curriculum) respectively in the subsequent semester, whenever it is offered next.

10.1.7. If a student has **lack of attendance as per clause [9.1.5(a)]** the student **will be detained in that semester in both Theory and Practical courses**. The student cannot proceed to the next semester. The student shall seek readmission as per the norms of Anna University / DOTE (Directorate of Technical Education).

10.2. Retests:

A student who has not appeared for any one of the two internal tests (theory courses) shall be permitted to appear for a Retest (only one retest is permitted) only under the following two cases:

Case 1: Automatic exemption: Participation in NCC, NSS, Sports (in the beginning of the year the Physical Director should give the list of students who are in the institution team and who will represent the institution in sports events) or demise of immediate family member

Case 2: Any other reasons: A committee constituting 1 professor, 1 ASP/AP and Class Advisor will scrutinize the case and submit their recommendations to the HoD, who in turn will forward the proposal to the Principal, get the approval and conduct retest. In case the retest is required by more than 10% of the students of a course, a review by a central committee appointed by the Principal and approval is required.

Retests should be permitted only very rarely for genuine reasons with the approval of HoD and Principal. Retest is not permitted for improvement.

10.3. There will be no minimum CAM requirement in a course to register for the end semester examinations. CAM will be earned by a student as follows:

Theory Courses:

Internal marks will be awarded by conducting Two Internal Tests and assignments for all theory courses.

Practical Courses:

Internal marks will be awarded by:

- i) "Continuous assessment" of the performance of the student in each lab exercise/experiment.
- ii) Conducting one model practical exam for every practical course.

Note: The students will be provided with a **laboratory workbook** and this will be the **only document** the student will maintain / get assessed periodically.

11. Provision for Withdrawal from Examination

A student may, for valid reasons (medically unfit / unexpected family situations), be granted permission to withdraw (after registering for the examinations) from appearing for any course or courses in the end semester examination. This facility can be availed **only once** during the entire duration of the degree programme. Withdrawal of application will be valid only if the student is, otherwise, eligible to write the examination and the application for withdrawal is made prior to the examination in the concerned course or courses. The application for withdrawal should be recommended by the Head of the Department and approved by the Principal. Withdrawal will not be considered as appearance for the purpose of classification of degree under **Clause 19**.

12. System of Evaluation

12.1 General Guidelines

The total marks for each course (Theory and Practical) will be 100, comprising two components as given below.

- a) Continuous Assessment Marks (CAM) – 50 Marks
- b) End Semester Exam (ESM) – 50 Marks

12.2 Marks distribution

12.2.1 Procedure for award of Continuous Assessment Marks (CAM) is as follows:

i) Theory courses:

The distribution of marks for theory courses is given in **Tables 7 and 8**

Table-7

S. No.	Components for CAM	Syllabus Coverage for the test	Duration of the test in Hrs.	Marks (max.)	Question Paper Pattern (Three patterns have been listed. The selection of the pattern to be decided by the faculty handling the course)
01.	Internal Test - I	Portions = First 50 % of the syllabus	2	30 (equal weightage for both the tests)	PATTERN – 1 Part A - 10x1 = 10 Marks Q.No.-1 to 10 Multiple choice questions (multiple choice, multiple selection, sequencing type, match the following, assertion – reason type) Part B - 05x2 = 10 Marks Q.No.-11 to 15 (Short Answer) Part C - 03x10 = 30 Marks Q.No.-16 - compulsory Q.No.-17, 18,19 (any two to be answered) Case studies, analytical questions, design or evaluation or analysis or application oriented questions to be given in part C Total = 50 Marks
02.	Internal Test - II	Portions = Remaining 50 % of the syllabus	2		PATTERN – 2 Part A - 20x1 = 20 Marks Q.No.-1 to 20 Multiple choice questions (multiple choice, multiple selection, sequencing type, match the following, assertion – reason type) Part B - 2x15 = 30 Marks Q.No.-21- Compulsory Q.No.-22 and 23 (any one to be answered) Case studies, analytical questions, design or evaluation or analysis or application oriented questions to be given in part B Total = 50 Marks
03.	Retest (only one)	Re Test Portions = Middle 50% of the syllabus	2	Same weightage as one internal test	PATTERN – 3 Part A - 20x1 = 20 Marks Q.No.-1 to 20 Multiple choice questions (multiple choice, multiple selection, sequencing type, match the following, assertion – reason type) Part B - 15x2 = 30 Marks Q.No.-21 to 35 Total = 50 Marks Note: HOTS of Bloom's taxonomy to be followed where applicable in all the patterns
Note: The remaining 20 marks (of the CAM) will be awarded through any one of the following three options.					
Option 1: Assignment (10 marks) + Group presentation (10 marks)					
04.	Assignment	-	-	10	Assignments Note: Assignments pattern for each course to be finalized by the HOD before commencement of the semester and to be included in the course plan. In a semester the Process for awarding marks for assignments shall be based on the following:

					<ul style="list-style-type: none"> 01 Online objective type test to be used in at-least in 02 courses in a semester + 01 Written assignment 02 written Assignments 01 Written Assignment + 01 Written Quiz PATTERN – for online objective type test: Multiple choice questions only 50x1 = 50 Marks Q.No.-1 to 50 (multiple choice, multiple selection, sequencing type, match the following, assertion – reason type) Total = 50 Marks
05	Group presentation	-	-	10	01 group presentations x 10 marks The process for awarding marks for presentations shall be based on the following: 01 group presentation (the number of members in the group should match the number of theory courses in the semester)
Option 2: Minor project (20 marks)					
06	Minor project	-	-	20	It is mandatory to offer 01 minor project in one of the courses of a semester
Option 3: Hybrid model (20 marks)					
07	Hybrid model	-	-	20	The course faculty is provided the option to propose an assignment pattern of their own that is outside the scope of the process through their HoD to an institutional level committee constituted by the Principal. Based on the recommendations of the committee, the Principal will take a decision.
08	Attendance (Refer clause 12.2.1(iv))	Attendance will not contribute to CAM of a course	--		
Total				50	

Pattern for end semester examination:

Table – 8

S. No.	Exam	Syllabus Coverage for the exam	Duration of the exam in Hrs.	Marks (max.)	Question Paper Pattern
01.	End Semester Exam	Full Syllabus	3	50	<p>Part A - 10x1 = 10 Marks Q.No.-1 to 10 Multiple choice questions (multiple choice, multiple selection, sequencing type, match the following, assertion – reason type)</p> <p>Part B - 10x2 = 20 Marks Q.No.-11 to 20 Short Answer</p> <p>Part C - 05x14 = 70 Marks Q.No.-21 -compulsory Q.No.-22 to 27 (any four to be answered) Case studies, analytical questions, design or evaluation or analysis or application oriented questions to be given in part C</p> <p>Note: HOTS of Bloom's taxonomy to be followed where applicable</p> <p>Total = 100 Marks</p>
Total				50	

ii. Practical Courses

Every practical exercise / experiment in all practical courses will be evaluated based on the conduct of exercise / experiment and records maintained by the students. There will be **one model** practical examination.

The criteria for awarding marks for internal assessment are given in **Table 9**

Table – 9

Items	Marks (Maximum)
Continuous assessment #	30
Model practical exams	20
Attendance { Refer-12.1(iv) }	-
Total	50

Continuous assessment norms (for each exercise/experiment):

Parameter	Range
1.Preparation	10 to 20%
2.Conduct of the exercise/experiment	20 to 30%
3.Observations made (data collection)	10 to 30%
4.Calculations, inferences, result	10 to 30%
5. Viva-voce	10 to 20%
Total	100

iii) (a) Project Work

Project work shall be supervised by a faculty of the concerned department.

Phase-I

Internal Assessment

Phase I of the project work will be in the 7th semester of the programme. There shall be a minimum of two assessments (each for 100 marks) by a review committee during the semester. There will be equal weightage for all the assessments. The student shall make presentation on the progress made before the committee. The Head of the Institution will constitute a review committee for each programme of study. These two assessment marks will be added and converted to **100** marks. Phase-I will purely be assessed internally. A separate project report is to be submitted for phase-I.

External Assessment

There will be no terminal examination at the end of Phase I

The grade point thus obtained in the Phase-I evaluation will be entered in the grade sheet of the 7th semester.

Phase II

The marks for assessment for Phase – II of the project work shall be **100**.

Internal Assessment

There shall be three assessments (each for 100 marks) by a review committee. There will be equal weightage for all the assessments. The student shall make presentation on the progress made before the committee. These three assessment marks will be added and converted to **50** marks.

External Assessment

The evaluation of the Project work at the end of the semester will be based on the project report and a Viva-Voce Examination by a team consisting one internal examiner and one external examiner for each programme. The Controller of Examinations shall appoint the internal examiner and external examiner. The evaluation report from the examiners will be for **50** marks. The breakup of marks for the viva-voce is as follows:

Project report	10 marks
Presentation	10 marks
Response to queries	20 marks
Publication quality	10 marks
Total	50 marks
Marks allotment for publication quality	
Publication in a reputed journal with impact factor	10 marks
International / National Conference Publications which can be located on Internet and /or are included in hard-copy volumes / proceedings, published by reputed publishers	05 marks
Publication in any other journals, including open access journals	05 marks
International / National Conference Publications in hard-copy volumes / Proceedings for conferences conducted by reputed Institutions (like IIT, IISc, NIT, Govt. aided colleges, etc.)	04 marks
Publication in any other conference	02 marks

Along with this external mark for 50, the internal mark with a maximum of 50 will be added to get the marks for 100 and grade will be worked out.

The grade point thus obtained in the phase-II evaluation will be entered in the grade sheet of the 8th semester.

(b) Other points (Project work)

The Project Report prepared according to approved guidelines and duly signed by the supervisor(s) and the Head of the Department shall be submitted to the department as per the deadline announced by the department.

If a student 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-register for the same in a subsequent semester.

If a student registers for the project work viva voce examination and **does not appear** for the examination, they can register for the supplementary examination. If a student **fails** in the project work viva voce examination, they can register for the project work viva voce examination only during the subsequent end semester examinations.

iii) (b) Technical Seminar & Mini Project:

These courses will be evaluated internally

iv) Attendance and assessment record:

Every teacher is required to maintain an "ATTENDANCE AND ASSESSMENT RECORD" for each course handled, which consists of students attendance in each lecture / practical / project work class, the test marks and the record of class work (topics covered). This should be submitted to the Head of the Department periodically (at least three times in a semester) for checking the syllabus coverage and the records of test marks and attendance. The HoD after due verification will sign the above record. At the end of the semester, the record should be submitted to the Principal for verification. After such verification, these records will be kept in safe custody by the respective HoD for five years.

Minimum overall attendance of 75% in a course will be an eligibility criterion to take up end semester examinations and attendance will not contribute to CAM of a course.

12.2.2 End Semester Examination

(a) Theory Courses

The End Semester Examination for theory courses will be conducted with the pattern of Question Paper and duration as stated in Table 8 under clause 12. 2. The evaluation will be for **100 marks**. However, the question paper pattern for courses in engineering graphics and machine drawing will be designed differently to suit the specific need of the courses.

(b) Practical Courses

End semester examination for practical courses will be conducted jointly by one internal examiner and one external examiner appointed by the Controller of Examinations with the approval of the Principal.

The evaluation will be for **100** marks and the weightage for End Semester Practical Course will be **50**.

(C) Question Paper setting (ESM)

50% of theory courses in a semester will be randomly selected for setting question papers by External Examiners with sound knowledge in Revised Bloom's Taxonomy by the Controller of Examination. Head of the Department will give internal list of panel of examiners to set question papers in the remaining 50% of the theory courses.

(D) Evaluation of Answer Book

50% of theory courses in a semester will be randomly selected by the Controller of Examination for evaluation by External Examiners. Head of the Department will nominate senior faculty to evaluate the answer books in the remaining 50% of the theory courses.

12.3 Malpractice

If a student indulges in malpractice in any internal test / end semester examination, he / she shall be liable for punitive action as prescribed by the University.

12.4 Supplementary Examination

The arrear course (practical / theory) examinations of ODD semesters will be conducted soon after the publication of ODD semester regular exam (Nov / Dec) results. Similarly the arrear course examinations of EVEN semesters will be conducted soon after the publication of EVEN semester regular exam (April / May) results. Failed candidates in regular examinations **should compulsorily register** for all the practical / theory courses in the supplementary examinations.

The institution will conduct only the exams for the odd semester courses (one regular exam + one supplementary exam for arrears of the odd semesters) during November / December and will conduct only the exams for the even semester courses (one regular exam + one supplementary exam for arrears of the even semesters) during April / May of an academic year.

Students who have completed the eighth semester will be eligible for attending the **special supplementary exam** for all semester arrear papers (from 1st to 8th semesters) in the even semester examination session soon after their eighth semester regular examination results. Students who have **more than six arrears are not eligible** to appear for the special supplementary exam.

Controller of Examination (CoE) will publish a schedule of supplementary examinations after the last date of registering for the examinations. The pattern of evaluation will be the same as that of end semester examinations.

The revaluation of answer script will not be applicable for supplementary exam. However challenge of evaluation of answer script is allowed. The arrear examination will be termed as supplementary examinations and such appearance in supplementary exam will be treated as another attempt and will be reflected in the grade sheet.

Note: Refer clause 14 for procedure for re-totaling / revaluation / challenge of evaluation.

- 12.5** A student who has appeared and passed any course is not permitted to re-enrol / re-appear in the course / exam for the purpose of improvement of the grades.

13. Pass Minimum

- 13.1** Pass minimum for each theory, practical courses and project work is

- **50%** in the end semester examinations
- **Minimum 50%** of the grand total of continuous assessment marks and end semester examinations marks put together.

- 13.2** For students scoring less than the passing minimum marks in the end semester examinations, the term **"RA"** against the concerned course will be indicated in the grade sheet. The student has to reappear in the subsequent examinations for the concerned course as arrears.

For a student who is absent for theory / practical / project viva- voce, the term **"AB"** will be indicated against the corresponding course. The student should reappear for the end semester examination of that course as arrear in the subsequent semester.

The letter grade **"W"** will be indicated for the courses for which the student has been granted authorized withdrawal (**refer clause 11**).

14. Methods for Redressal of Grievances in Evaluation

Students who are not satisfied with the grades awarded can seek redressal by the methods given in **Table 10**.

Table 10

Note: All applications to be made to CoE along with the payment of the prescribed fee.

Sl.No	Redressal Sought	Methodology	
		Regular exam	Arrear exam
1.	Re totalling	Apply for photo copy of answer book / Then apply for re totalling (within 5 days of declaration of result)	Apply for photo copy of answer book /Then apply for re totalling
2.	Revaluation	Apply for photo copy of answer book / Then apply for revaluation after course expert recommendation (within 5 days of declaration of result)	Not permitted
3.	Challenge of evaluation	Apply for photo copy of answer book / Then apply for revaluation after course expert recommendation / Next apply for challenge of evaluation (within 3 days of publication of revaluation result)	Apply for photo copy of answer book /Then apply for challenge of evaluation after course expert recommendation

These are applicable only for theory courses in regular and arrear end semester examinations.

14.1 Challenge of Evaluation

- A student can make an appeal to the CoE for the review of answer scripts after paying the prescribed fee.
- CoE will issue the photo copy of answer script to the student.
- The faculty who had handled the subject will evaluate the script and HoD will recommend.
- A Committee consisting of 2 experts appointed by CoE will review and declare the result.
- If the result is in favour of the student, the fee collected will be refunded to the student.
- The final mark will be announced by CoE.

15. Classification of Performance

Classification of performance of students in the examinations pertaining to the courses in a programme is done on the basis of numerical value of Cumulative Grade Point Average (**CGPA**).

The concept of **CGPA** is based on Marks, Credits, Grade and Grade points assigned for different mark ranges. **Table 11** shows the relation between the range of marks, Grades and Grade points assigned against each course.

Table 11

Range of Marks	Grade	Grade Points (GP)
100-90	O (Outstanding)	10
89-80	A+ (Excellent)	9
79-70	A (Very Good)	8
69-60	B+ (Good)	7
59-50	B (Average)	6
<50	RA (Fail)	0
Absent	AB	0
Withdrawal from examination	W	--

15.1 Semester Grade Point Average (SGPA)

On completion of a semester, each student is assigned a Semester Grade Point Average which is computed as below for all courses registered by the student during that semester.

$$\text{Semester Grade Point Average} = \frac{\sum (C_i \times GP_i)}{\sum C_i}$$

Where C_i is the credit for a course in that semester and GP_i is the Grade Point earned by the student for that course.

The **SGPA** is rounded off to two decimals.

15.2 Cumulative Grade Point Average (CGPA)

The overall performance of a student at any stage of the Degree programme is evaluated by the Cumulative Grade Point Average (**CGPA**) up to that point of time.

$$\text{Cumulative Grade Point Average} = \frac{\sum (C_i \times GP_i)}{\sum C_i}$$

Where C_i is the credit for each course in each of the completed semesters at that stage and GP_i is the grade point earned by the student for that course.

The **CGPA** is rounded off to two decimals.

16. Issue of Grade Sheets

16.1 Separate grade sheet for each semester will be given to the students by the CoE after the publication of the results.

16.2 After the completion of the programme, a consolidated grade sheet will be issued to the student.

16.3 Separate grade sheet for supplementary examination will be issued to the students by the CoE after the publication of supplementary examination result. No separate grade sheet for special supplementary examination will be issued to the students by the CoE after the publication of special supplementary examination result. The result of the special supplementary examination will get reflected only in the consolidated statement of grade (that is, consolidated grade sheet).

17. Temporary Break of Study from a Programme

17.1 Break of study is not normally permitted. However, if a student intends to temporarily discontinue the programme in the middle of a semester / year for valid reasons (such as accident or hospitalization due to prolonged ill health) and wish to rejoin the programme in the next year, he / she shall apply in advance to the Principal through the Head of the Department stating the reasons. The application shall be submitted not later than the last date for registering for the semester examinations in that concerned semester. Break of study is permitted only once during the entire period of the degree programme.

17.2 The student permitted to rejoin the programme after the break shall be governed by the rules and regulations in force at the time of rejoining.

17.3 The duration specified for passing all the courses for the purpose of classification of degree (vide Clause 19) shall be increased by the period of such break of study permitted.

17.4 If a student is detained for want of requisite attendance, progress and good conduct, the period spent in that semester shall not be considered as permitted Break of Study and Clause 17.3 is not applicable for this case.

18. Eligibility for the Award of Degree

A student shall be declared to be eligible for the award of the B.E. / B. Tech. Degree provided the student has successfully completed the course requirements and has passed all the prescribed examinations in all the Eight semesters (**Six** semester for lateral entry) within a maximum period of 8 years (7 years for lateral entry) reckoned from the commencement of the first semester to which the candidate was admitted.

19. Classification of Degree

The degree awarded to eligible students will be classified as given in **Table 12**.

Table 12

S.No.	Class Awarded	Criteria
1.	First class with distinction	a) Passing of the examinations of all the courses in all eight semesters (for regular) and all Six semesters (for lateral entry) in the first appearance. b) CGPA > 8.5 c) One year authorized break of study (Clause 17) and one authorized withdrawal (Clause 11) is permissible.
2.	First class	a) Passing of the examinations of all the courses in all Eight semesters (for regular) and all Six semesters (for lateral entry student) within a maximum of Ten semesters for regular and a maximum of Eight semesters for lateral entry students. b) CGPA > 6.5 c) One year authorized break of study (Clause 17) and one authorized withdrawal (Clause 11) is permissible.
3.	Second class	a) All other students (not covered in clauses at S.No. 1 & 2 under Clause 19) who qualify for the award of the degree (vide clause 18) shall be declared to have passed the examination in Second Class.

Note: A student who is absent for the end semester examination in a course / project work Viva Voce after having registered for the same will be considered to have appeared for that examination for the purpose of classification.

20. Award of Degree

The award of Degree to all eligible students will be approved by the Academic Council of the institution. The degree will be issued by Anna University Chennai. The consolidated Grade Sheet will be issued by institution.

21. Industrial Visit

Every student is expected to undertake one local Industrial visit during the 2nd, 3rd and 4th year of the programme. The faculty in consultation with the Head of the Department will organize the visit. Faculty should accompany the students during Industrial visits.

22. Personality and Character Development

All students shall enrol, on admission, in any one of the personality and character development programmes (NCC / NSS / Sports / YRC / Club activities) and undergo training.

- National Cadet Corps (NCC) will have parades.
- National Service Scheme (NSS) will have social service activities in and around the institution.
- Sports and games activities will include preparation for inter-collegiate, university level and national level sports events.
- Youth Red Cross (YRC) will have activities related to social services in and around institution. However, YRC will not have special camps of 10 days. While the training activities will normally be during weekends, the camps will normally be during vacation period.
- The various clubs will conduct events in which the student may optionally participate.

23. Discipline

Every student is required to be disciplined and maintain decorum both inside and outside the institution campus. They should not indulge in any activity which can bring down the reputation of the University or institution. The Principal shall refer any act of indiscipline by students to the discipline and welfare committee.

24. Special Provisions

24.1 One credit courses

One Credit Courses: Students can also opt for one credit industry oriented courses for a minimum of 15 hours duration, which will be offered by experts from industry/academics on specialized topics apart from the prescribed courses of study of the programme. Students can complete such one credit courses during the semesters 5 to 7 as and when these courses are offered by any of the departments. The student can register for and successfully complete a maximum of **04** one credit courses during their overall period of study of a programme.

Steps involved in designing and assessment of one credit courses:

Step1: The HOD and industry expert shall decide name and syllabi of the one credit course.

Step2: The concerned HOD collects the name list of the students those are interested in attending the above course. Each batch consists of 10 to 30 students.

Step3: The course shall be taught by industry experts as a course teacher.

Step4: The course teacher shall give assignments and conduct internal tests and viva voce as needed.

Step5: The Course end examination shall be conducted and the evaluation will be done by the same industry expert.

EVALUATION PROCEDURE FOR ONE CREDIT COURSES:

Total 50 Marks

Table 13

Only one course end examination (for two hours) (to be conducted internally)	50 Marks
Proposed frame work for question paper and marks distribution	
Objective type questions (20 x 1 mark)	20 Marks
Application oriented questions (3 x 10 marks)	30 marks
Total	50 marks

The exam for 2 hours duration is to be conducted at the end of the course. Passing criteria is 50% (that is, 50 marks out of 100 marks). If the student passes the course, it will be indicated in the grade sheet with the corresponding grade. The grading system will be same as that followed for the other theory and practical courses. If the student fails to pass the course, the one credit course will not get reflected in the grade sheet. There is no arrear exam for one credit courses. The one credit courses will not be considered for computing CGPA, except for the case mentioned under clause 24.1.1.

24.1.1 Considering 3 one credit courses in lieu of one three credit courses:

- One credit courses may be offered in the 5th, 6th and 7th semesters.
- A pass in 3 one credit courses will be taken in lieu of one professional elective courses offered in 8th semester. This provision will be provided only for one professional elective of 8th semester that will be proposed by the concerned HoD and approved by the Principal.

- Out of the 3 one credit courses so considered in lieu of one professional elective course, all 3 or minimum of 2 one credit courses are to be technical courses and one of the 1 credit courses may be in humanities also.
- The grade for this professional elective course will be the average grade of the 3 considered one credit courses.

Note: Human Excellence courses will be over and above the one credit courses mentioned under clause 24, as these Human Excellence courses are a mandatory part of the curriculum.

24.2 Comprehensive Examination

- Comprehensive examination on a **compulsory** basis has to be taken up in the 7th semester as a self study additional professional elective course for three credits. A student can register for this course only once during the 7th semester and a second attempt to write the examination of this course will not be provided.
- A student who passes in the comprehensive examination can drop one professional elective in the 8th semester.

25. Human excellence courses

Human excellence courses (with one credit for each of the courses, 15 hours duration) will be offered. Credits and grade will be indicated for these courses in the grade sheet and will be considered for computing CGPA.

EVALUATION PROCEDURE FOR HUMAN EXCELLENCE COURSES

25.1 General Guidelines

The total marks for each course will be 100, which will be assessed continuously.

- Continuous Assessment Marks (CAM) – 100 Marks

25.2 Marks distribution

Procedure for award of Continuous Assessment Marks (CAM) has been shown in table 14.

Table 14

S.No	Components for CAM	Marks (Max)	Remarks
1	Practical (Yoga demonstration)	40	Yogasana Practical assessment shall be conducted during regular classes. Criteria for evaluation will be correctness, poise and ease of performing yoga postures.
2	Assignment	10	The class will be divided into maximum seven groups. Each group shall submit a report / concept note on a specific issue (or) individual assignment
3	Term End Written Examination	50	Any one of the following pattern to be used to prepare the test question paper: Pattern 1: 05 descriptive type questions × 10 mark = 50 marks (Any 05 out of 07 questions) Pattern 2: 10 Descriptive type question × 02 mark = 20 marks (Any 10 out of 12 questions) 03 Descriptive type questions × 10 mark = 30 marks (Any 03 out of 04 questions)
Total		100	

25.3 Pass Minimum

Pass minimum for each human excellence courses is

- 50% of CAM

25.4 Lack of attendance

If a student has lack of attendance in human excellence courses, the student should re-register for the course when it is offered next in the subsequent year as per clause 10.1.1.

25.5 Failure in human excellence courses

If a student fails in a human excellence course, the CAM will get nullified. The student has to take up the assessments as stated under **table 14** based on which CAM will be evolved. The schedule for such assessments will be announced by the Controller of Examination as per norms applied for other theory courses.

26. Internationalization

Students are motivated to take-up projects / internships / certifications / courses in reputed universities abroad.

27. Revision of Regulation and Curriculum

The institution may from time to time revise, amend or change the Regulations, scheme of examinations and syllabi, if found necessary. Academic Council assisted by Board of Studies and Standing Committee will make such revisions / changes.

Note: Any ambiguity in interpretation of this regulation is to be put up to the Standing Committee, whose decision will be final.

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