

UNIVERSITY DEPARTMENTS

REGULATIONS RUSA 2018

**B.E. (Computer Science and Engineering) – RUSA Innovative Curriculum
(For the students admitted to the B.E. Programme at the University Departments
from the Academic year 2018 - 2019 onwards)**

1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In this Regulation, unless the context otherwise specifies:

- I. **“Programme”** means Degree Programme (i.e) B.E. Degree Programme.
- II. **“Discipline”** means Branch or Specialization of B.E. Computer Science and Engineering Degree Programme.
- III. **“Course”** means a Theory, Theory cum Laboratory Integrated or Laboratory subject that is normally studied in a semester, like Mathematics, Physics, Engineering Graphics, Operating Systems, etc.
- IV. **“Director, Academic Courses”** means the authority of the University who is responsible for all academic activities for the implementation of relevant rules and regulations.
- V. **“Additional Controller of Examinations”** means the Authority of the University who is responsible for all activities of the End Semester Examinations of the University Departments.
- VI. **“Head of the Institution”** means the Dean of the campus.
- VII. **“Chairman”** means Head of the Faculty.
- VIII. **“Head of the Department”** means Head of the University Department concerned.
- IX. **“University”** means ANNA UNIVERSITY, CHENNAI.

2. ADMISSION PROCEDURE

- 2.1 Students for admission to the first semester of the eight semester B.E. Degree Programme shall be required to have a pass in Higher Secondary Examination (Academic 10 + 2) Curriculum or its equivalent examinations with Mathematics, Physics and Chemistry.
- 2.2. The eligibility criteria such as marks, number of attempts and physical fitness shall be as prescribed by the Syndicate of the University from time to time.

3. PROGRAMMES OFFERED

A student may be offered admission to any one of the programme of study approved by the University and offered at various campuses of the University. This regulation governs only the students admitted from the academic year 2018-2019 onwards in B.E. Computer Science and Engineering in the University Departments.

4. STRUCTURE OF THE PROGRAMME

4.1 Categorization of Courses

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

- i. **Humanities and Social Sciences (HS)** courses include Technical English, Employability Skills, Engineering Ethics and Human Values, Communication skills, Environmental Science and Engineering.
- ii. **Basic Sciences (BS)** courses include Mathematics, Physics, Chemistry, Biology, etc.
- iii. **Engineering Sciences (ES)** courses include Engineering Graphics, Basics of Electrical / Electronics / Mechanical / Computer Engineering, Instrumentation etc.
- iv. **Hard Core (HC)** courses include the core courses relevant to the chosen specialization/ branch which all the students are expected to undergo compulsorily.
- v. **Soft Core (SC)** courses are courses grouped together as Mathematics based Soft Core courses (MSC) and Professional Soft core (PSC) courses. The students have an option to choose the required number of courses from these two types of soft core courses. There will be a minimum requirement on the number of credits that a student has to earn from each of these groups.
- vi. **Professional Elective (Track based) (PE)** courses include the elective courses relevant to the chosen specialization/ branch offered under different tracks. A student will have to undergo the required number of electives, making sure to choose at least one course from a specified number of tracks. The students can decide to have a broad coverage from multiple tracks, or have a detailed study in a few tracks. There will be a minimum requirement on the number of credits that a student has to earn from these professional electives.
- vii. **Open Elective (OE)** courses include the courses which a student can choose from the curriculum of other B.E. / B. Tech. / B. Arch. programmes and courses offered by the Departments under the Faculty of Science and Humanities.
- viii. **Employability Enhancement Courses (EEC)** include Project Work and/or Internship, Creative and Innovative Project, Seminar, Professional Practices, Case Study and Industrial/Practical Training.
- ix. Certain courses might have **prerequisites** specified. In case a first course is specified as a prerequisite to a second course, the student is not permitted to register for the second course, unless he/she has cleared the first course.

4.2 Mandatory Requirements of courses/credits

Every student is expected to undergo all the **Humanities and Social Sciences (HS)** courses, **Basic Sciences (BS)** courses, **Engineering Sciences (ES)** courses and **Hard Core (HC)** courses. Apart from these courses, the student has to earn the minimum required credits under the **Mathematics Soft Core (MSC)**, **Professional Soft Core (PSC)**, **Professional Electives (PE)**, **Open Electives (OE)** and **Employability Enhancement Skills (EEC)** categories. The students have to satisfy the minimum credit requirements for the Professional Electives, by necessarily choosing from at-least four different tracks. The table below shows the minimum credit requirements that the student has to earn.

TABLE 1 - Minimum Credit Requirements

Category of Courses	HS	BS	ES	OE	HC	MSC	PSC	PE	EEC	Total
Minimum Credits to be earned	10	25	12	8	62	10	20	31	12	190

4.3 B.E. (Honours)

A Student can opt for **B.E (Honours)** at the end of the fourth semester of B.E programme subject to the conditions prescribed by the Syndicate from time to time. In addition to the requirements specified for the B.E regulations, the B.E. (Honours) students must earn a minimum of 20 additional Soft Core/Professional Elective Category credits and should not have obtained "SA", "U" grade in any of the courses.

4.4 Personality and Character Development

All students shall enroll, on admission, in any one of the personality and character development programmes (NCC/NSS/NSO/YRC) and undergo training for about 80 hours and attend a camp of about seven days. The training shall include classes on hygiene and health awareness and also training in first-aid.

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

National Service Scheme (NSS) will have social service activities in and around the College / Institution. The activities will include practical projects on recycling and reusing biodegradable and dry waste.

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

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

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

4.4.A Mandatory Two Week Induction Programme

The students are expected to undergo a Mandatory Two Week Induction Programme comprising of Physical activity, Creative Arts, Universal Human Values, Proficiency Modules, Lectures by Eminent People, Visits to Local Areas and Familiarization to Department/Branch & Innovations immediately after admission.

4.5 Number of courses/credits per semester

The curriculum of a semester shall normally have a blend of 4 to 6 Theory courses, Theory cum Laboratory integrated courses and/or laboratory courses. In addition, Employability Enhancement Course(s) may also be included. Each course may have credits assigned as per clause 4.6. A student has to earn the total number of credits specified in clause 4.2 in order to be eligible to obtain the degree. However, if the student wishes, then the student is permitted to earn more than the total number of credits prescribed in the curriculum of the student's programme. From the III to VIII semesters, the student has the option of registering for additional courses or dropping existing courses. The maximum number of courses a student is permitted to register per semester is restricted to 7. A student has to register for a minimum of 20 credits per semester. However, in cases where the student has already earned additional credits and meets the minimum requirement for award of degree, the student can register for lesser number of credits.

4.6 Credit Assignment

Each course is assigned certain number of credits based on Tables 2. and 3.

TABLE 2 – Credit Assignment

Contact period (of 50 minutes Duration) per week	CREDITS
1 Lecture Period	1
1 Tutorial Period	1
2 Practical Periods (Laboratory / Seminar / Project Work / etc.)	1
3 Units of External Learning	1

TABLE 3 - Credit Mapping

Nature of Course	Credit Hours per Week				
	Lecture	Tutorial	Practical	External Learning (EL)	Total Credits
Lecture + EL	3 (4)			3	4 (5)
Lecture +Tutorial +EL	3 (4)	1		3	5 (6)
Lecture +Practical + EL	3		2(4)	3	5 (6)
Lecture +Tutorial +Practical + EL	3	1	4	3	7
Lecture +Tutorial +Practical + EL	2	1	4	3	6
Practical + EL	-	-	4	3	3
L+Practical +EL	1		4	3	4
Project			12	9	9

External Learning – The students are expected to put in effort outside the class room to thoroughly comprehend the subject material, do the home work, etc. Thus, a course when associated with External Learning of 3 units would get 1 credit for doing so.

4.7. Industrial Training / Internship

4.7.1 The students may undergo Industrial training for a period as specified in the Curriculum during summer / winter vacation. In this case the training has to be undergone continuously for the entire period.

The students may undergo Internship at Research organization / University (after due approval from the Department Consultative Committee) for the period prescribed in the curriculum during summer / winter vacation, in lieu of Industrial training.

4.7.2 If Industrial Training / Internship is not prescribed in the curriculum, the student may undergo Industrial Training / Internship optionally and the credits earned will be indicated in the Mark Sheet. If the student earns three credits in Industrial Training / Internship, the student may drop one Professional Elective. In such cases, Industrial Training / Internship needs to be undergone continuously from one organization only. However, if the number of credits earned is 1 or 2, these credits shall not be considered for classification of the degree. The student is allowed to undergo a maximum of 6 weeks Industrial Training / Internship during the entire duration of study.

TABLE - 4

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

4.8 Industrial Visit

Every student can choose to go for one Industrial Visit every year starting from the second year of the Programme, subject to a minimum of 1 Industrial visit during the programme. The Heads of Departments shall ensure that necessary arrangements are made in this regard. The faculty advisors are requested to maintain records of their wards' Industrial visit.

4.9 Value Added Courses

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

4.10 Online Courses / Self Study Courses

4.10.1 Students can opt to credit one Online course (provided with certificate) with the approval of the Departmental Consultative Committee and the Centre for Academic Courses. In case of credits earned through online mode from a University / Authority approved by Anna University, the credits (and equivalent grades) may be transferred after due approval procedures from the Departmental Consultative Committee and the Centre for Academic Courses.

Two week courses offered under the Global Initiative of Academic Networks (GIAN) program of MHRD can be considered instead of electives.

4.10.2 Students can opt for a Self Study course from the V semester onwards, provided the student satisfies the following criteria:

The student does not have current arrears and earns a CGPA of 8.0 and above upto the previous semester. The Department / Centre / Division may offer self study courses. The purpose of the course is to permit the student to study a course / a topic of the student's choice. The students shall study on their own under the guidance of a faculty member. No formal lectures need be delivered. The syllabus of the course (**not part of any of the curricula of the programmes offered in the university**) and mode of assessments shall be approved by the Departmental Consultative Committee and forwarded to the Centre for Academic Courses for the formal approval of the course by the academic bodies. One Faculty member approved by the Head of the Department shall be responsible for the periodic monitoring and evaluation of self study course before the commencement of the semester.

4.10.3 A student can be permitted to do a maximum of two online and self study courses put together. The self study course / online course can be considered instead of elective courses.

4.11 Medium of Instruction

The medium of instruction is English for B.E. Computer Science and Engineering.

5. DURATION OF THE PROGRAMME

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

5.2 Each semester shall normally consist of 90 teaching days (including examination days). The Head of the Department shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus covering the full content of the syllabus for the course being taught.

5.3 The total duration for completion of the programme reckoned from the commencement of the first semester to which the student was admitted shall not exceed the maximum duration specified in clause 5.1 irrespective of the period of break of study (vide clause 16) or prevention (vide clause 7) in order that the student may be eligible for the award of the degree (vide clause 14).

6. COURSE REGISTRATION

- 6.1 Each student, on admission shall be assigned to a Faculty Advisor (vide clause 8.1) who shall advise and counsel the student about the details of the academic programme and the choice of courses, considering the student's academic background and career objectives.
- 6.2 Each student on admission shall register for **all the courses prescribed in the curriculum in the student's first semester of study.**
- 6.3 Every student shall register for the courses of the succeeding semester in the current semester. The registration for all the courses from semester II onwards will commence 30 working days prior to the last working day of the previous semester. Only under unavoidable circumstances, the student will be allowed to change his initial registration. In that case, such changes, if any, will have to be done within five working days of the earlier registration. The registered list of the students shall be finalized by the end of the previous semester. However, the student is allowed to register for additional courses in lieu of the failed courses, for which the results were not available at the time of the earlier registration for this semester. Such changes should be done within five working days from the date of publication of the results.
- 6.3 After registering for a course, a student shall attend the classes, satisfy the attendance requirements, earn Continuous Assessment marks and appear for the End Semester Examinations.
- 6.4 The student shall register for the project work in the VIII semester only.

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

Course wise attendance will be taken till the last working day of the semester. The percentage of attendance, calculated up to this point, will be rounded off. A student who has fulfilled the following conditions (vide clause 7.1 and 7.2) shall be deemed to have satisfied the attendance requirements for appearing for the end semester examination of a particular course.

- 7.1 Ideally every student is expected to attend all periods and earn 100% attendance. However, the student shall secure not less than 75% attendance, course wise, taking into account the number of periods required for that course as specified in the curriculum.
- 7.2 If a student secures attendance between 65% and 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 Chairman, Sports Board and Head of the Department concerned, the student shall be given exemption from the prescribed attendance requirement and the student shall be permitted to appear for the end semester examination of that course. In all such cases, the students should submit the required documents, on joining after the absence, to the Head of the Department through the Faculty Advisor.
- 7.3 A student shall normally be permitted to appear for the End semester examination of the course if the student has satisfied the attendance requirements (vide Clause 7.1 – 7.2) and has registered for the examinations in those courses of that semester by paying the prescribed fee.

7.4 The finalization of attendance will be done by the respective class committee on the next day after the last working day.

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

8. MONITORING BODIES:

8.1 FACULTY ADVISOR

To help the students in planning their courses of study and for general advice on the academic programme, extra and co-curricular activities, the Head of the Department of the student will attach a certain number of students (say 30) to a faculty from the Department of the student, throughout his/her period of study. The Faculty Advisor shall advise the students in registering and reappearance of courses, authorize the processes concerned, monitor their attendance and progress and counsel them regarding academic and other activities periodically. If necessary, the Faculty Advisor may also discuss with or inform the parents about the progress / performance of the students concerned.

The responsibilities for the faculty advisor shall be:

- To inform the students about the various facilities and activities available to enhance the student's curricular and co-curricular activities.
- To guide student registration of the courses.
- To maintain academic records, details of industrial visits, extra-curricular and co-curricular activities of their wards.
- To monitor the academic and general performance of the students including attendance and to counsel them accordingly.

8.2 COURSE INSTRUCTOR

The faculty handling the course is called the course instructor. He/She is responsible for planning the modalities associated with the conduct of the course. The number and types of assessments to be carried out to evaluate the continuous assessment marks need to be decided by all the course instructors handling the course along with the course coordinator. In the case of a single teacher handling the course, he/she is the course coordinator.

Every course instructor is required to maintain an 'ATTENDANCE AND ASSESSMENT RECORD' for every semester which consists of attendance marked in each theory / Laboratory/EEC class, the assessment marks and the record of class work (topics covered), separately for each course handled by the teacher. This should be submitted to the Head of the Department periodically (at-least three times in a semester) for checking the syllabus coverage and the records of assessment marks and attendance. The Head of the Department will affix his/her signature and date after due verification. At the end of the semester, the record should be verified by the Head of the Department who shall keep this document in safe custody (for eight years). The records of attendance and assessment of both current and previous semesters should be available for inspection.

8.2.1 TEACHING ASSISTANTS

The course instructor will be assisted in multiple ways by teaching assistants. Teaching assistants can be teaching fellows, post graduate students or research scholars. There will be one teaching assistant for every 10 - 20 students. They can help the faculty in monitoring classes, taking attendance, conducting tutorials, practical classes and evaluations. These teaching assistants will be funded based on the funding received and certain norms to be decided in due course.

8.3 COMMON COURSE COMMITTEE

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

The first meeting of the Common Course Committee shall be held at least 10 days before the commencement of the semester. The entire week by week course plan is to be charted out by the common course committee and submitted to the monitoring committee before the commencement of classes. The nature and weightage of the continuous assessments and a common scheme of evaluation for the assessments shall be decided within the framework of the Regulations. All the instructors handling the course need to interact at-least once in two weeks, may be through video conferencing at designated times as indicated in the time table and decide on the action plan for the next two weeks. Wherever feasible, the common course committee shall prepare a common question paper for the continuous assessment tests also. The question paper for the end semester examination is common and shall be set by the Course Coordinator.

8.4 MONITORING COMMITTEE

A separate monitoring committee will be constituted for each semester, comprising of the programme in-charge and at-least two senior professors not associated with teaching the particular class, to be nominated by the Head of the Department. The monitoring committee invites the course instructors/course coordinators for the meeting. The responsibilities of this committee include the following:

- i. Analyse and approve the course plan put forward by the course committee / course instructor
- ii. Suggest modifications to the course plan if needed
- iii. Monitor periodically (once in 2 weeks) whether the courses are conducted according to the course plan and syllabus is completed according to the course plan
- iv. Assess the progress of students
- v. Assess the attendance details of students
- vi. Take corrective action based on the feedback got from the class committee meeting from the students
- vii. Handle the requests put forth by the students after the open day
- viii. Collect the results of the end semester from the course instructors and pass it on to the class committee

8.5 CLASS COMMITTEE

There will be a class committee for every semester with the Head of the Department as the convener and the monitoring committee members as members. At-least two student representatives from each batch will be invited for the class committee meetings. The Class Committees shall meet at least thrice in a semester, once at the beginning of the semester, once after the mid semester examination and once after the end semester examination to finalize the grades. The responsibilities of the class committee include the following:

- i. To review periodically the progress of the classes
- ii. To discuss issues concerning curriculum and syllabi and the conduct of the classes with the students and address their concerns if any

- iii. Communicate the feedback to the course instructors through the monitoring committee members
- iv. Finalization of the grades and passing the result within 15 days from the last date of the examinations. The student representatives will not be present for this meeting.
- v. The results passed will be published by the Head of the Department concerned and forwarded to the ACOE for further action.

8.6 INDUSTRY ADVISORY COMMITTEE

An industry advisory committee comprising of representatives from various industries, chosen from our alumni will be formed. This committee will meet at least once in a semester and discuss how the industrial requirements can be incorporated in the curriculum and also discuss other ways of helping the students - projects, internships, mentor ships, etc. Industries can also create chair positions and can fund professors to teach on campus.

9. ASSESSMENT PROCEDURES FOR AWARDING MARKS

The Programme consist of Theory Courses, Theory cum Laboratory Integrated Courses, Laboratory Courses and Employability Enhancement Courses. Employability Enhancement Courses include Project Work, Seminar, Professional Practices, Case Study and Industrial/Practical Training. Appearance in End Semester Examination is mandatory for all courses including Theory, Theory cum Laboratory Integrated Courses, Laboratory and Project work.

Performance in each course of study shall be evaluated based on (i) Continuous assessments throughout the semester, (ii) Mid-semester examination and (iii) End Semester Examination. One of the evaluation patterns as listed in Table 5 can be chosen for a course, depending on the type of the course.

TABLE - 5 - Evaluation Pattern

Sl. no	Category of Courses	Continuous Assessment	Mid – Semester Assessment	End Semester
1	Theory	40	20	40
2	Theory Integrated with Practical	15(T) + 25 (P)	20	40
3	Practical	60	40	---
4	Practical Integrated with Theory	40(P)	20(T)	40(T/P)
5	Project work	60	-	40

9.1 ASSESSMENT FOR THEORY COURSES

For Theory Courses, the maximum marks for Continuous Assessment is fixed as 40, the mid-semester examination carries 20 marks and the End Semester Examination carries 40 marks.

The End Semester Examination for theory courses will be of 3 hours duration and shall normally be conducted between October and December during the odd semesters and between April and June during the even semesters. End semester Examination is a mandatory requirement for passing the course and every student should appear for the examination.

Continuous Assessment comprises of quizzes, assignments, presentations, evaluation for external learning modules, etc. conducted by the course instructor. The total marks obtained in all these put together shall be reduced to 40 marks and rounded to the nearest integer. One mid-semester examination would be conducted after about 2/3rd working days of the semester for one and a half hours duration.

In case a student misses the assessment due to medical reasons (hospitalization / accident / specific illness) or due to participation in the College / University / State / National / International level Sports events with prior permission from the Chairman, Sports Board a **Reassessment** may be given at the end of the semester after getting approval from the Head of the Department through the concerned course instructor and faculty advisor.

9.2 ASSESSMENT FOR THEORY CUM LABORATORY INTEGRATED COURSES

For courses involving theory and practical components, the evaluation pattern shown in row 2 or 4 of table 5 will be used. In case of evaluation pattern 4, depending on the nature of the course, the end semester examination will be either a theory examination or a laboratory examination. The evaluation pattern will be indicated along with the syllabus for each course. The End Semester Examinations for these courses will be of 3 hours duration and shall normally be conducted between October and December during the odd semesters and between April and June during the even semesters. End semester Examination is a mandatory requirement for passing the course and every student should appear for the examination.

Continuous Assessment comprises of laboratory experiments for the practical component. For the theory component, it comprises of quizzes, assignments, presentations, evaluation for external learning modules, etc. conducted by the course instructor. The total marks obtained in all these put together shall be reduced to 40 marks and rounded to the nearest integer. One mid-semester examination would be conducted after about 2/3rd working days of the semester for one and a half hours duration.

In case a student misses the assessment due to medical reasons (hospitalization / accident / specific illness) or due to participation in the College / University / State / National / International level Sports events with prior permission from the Chairman, Sports Board a **Reassessment** may be given at the end of the semester after getting approval from the Head of the Department through the concerned course instructor and faculty advisor.

9.3 ASSESSMENT FOR PRACTICAL COURSES

For Practical Courses, the maximum marks for Continuous Assessment is fixed as 60 and the mid-semester examination carries the remaining 40 marks. There is no End Semester Examination for such courses.

The laboratory exercise / experiment shall be evaluated based on the student's performance during the laboratory class and the maintenance of laboratory records. The criteria for arriving at the Continuous Assessment marks shall be decided at the respective course committee meetings.

In case a student misses the mid-semester examination 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 Chairman, Sports Board a **Reassessment** may be given at the end of the semester after getting approval from the Head of the Department through the concerned course instructor and faculty advisor.

9.4 ASSESSMENT FOR PROJECT WORK:

For Project work, out of 100 marks, the maximum marks for Continuous Assessment is fixed as 60 and the End Semester Examination (project report evaluation and viva-voce examination) carries 40 marks. Project work may be assigned to a single student or to a group of students not exceeding 4 per group.

There shall be **three assessments** (each 100 marks) during the semester by a review committee. The student shall make presentation on the progress made before the committee. The Head of the Department shall constitute a review committee for each programme. There shall be a minimum of three members in the review committee. The project **Guide** will be one of the members of the Review Committee. The total marks obtained in the three Reviews shall be reduced to 60 marks.

The student(s) is expected to submit the project report on or before the last working day of the semester. The University examination for project work shall consist of evaluation of the final project report submitted by the student or students of the project group by an external examiner followed by a viva-voce examination conducted separately for each student by a committee consisting of the external examiner, the guide of the project group and an internal examiner. The Head of the Department with the approval of the Chairman of the Faculty shall appoint Internal and External Examiners for the End Semester Examinations of the Project Work.

The continuous assessment and End Semester Examinations marks for Project Work and the Viva-Voce Examination will be distributed as indicated in Table 6.

TABLE 6 - Evaluation for Project Work

CONTINUOUS ASSESSMENT			END SEMESTER EXAMINATION	
Review I (20 marks)	Review II (20 marks)	Review III (20 marks)	Report Evaluation (10 marks)	Viva-Voce (30 marks)

9.4.1 If the project report is not submitted on or before the specified deadline, an extension of time up to a maximum limit of 30 days may be given for the submission of project work with due approval obtained from the Head of the Department. If the project report is not submitted even beyond the extended time then the student(s) is deemed to have failed in the Project Work. The failed student(s) shall register for the same in the subsequent semester, when offered next, and repeat the project work again.

9.5 ASSESSMENT FOR INDUSTRIAL / PRACTICAL TRAINING / INTERNSHIP / SUMMER PROJECT

The Industrial / Practical Training shall carry 100 marks and shall be evaluated through continuous assessment only as per Table 7. At the end of Industrial / Practical training / internship / Summer Project, the student shall submit a certificate from the organization where the student has undergone training and a brief report about the training. The evaluation will be made based on this report, presentation and a Viva-Voce Examination conducted internally by a three member Departmental Committee constituted by the Head of the Department. Certificates (issued by the Organization) submitted by the student shall be attached to the mark list and sent to Additional Controller of Examinations by the Head of the Department.

The Industrial / Practical Training **which is not part of the curriculum**, shall carry 100 marks and shall be evaluated **through internal assessment only** as per Table 7. At the end of Industrial / Practical training / internship / Summer Project, the student shall submit a certified report (evaluated out of 100 marks by a mentor/guide) from the organization where the student has undergone training. The Viva-Voce Examination will be conducted by a three member committee constituted by the Head of the Department. The committee comprises of one expert from an industry/organisation and two members of the Department. Certificates (issued by the Organization) submitted by the student shall be attached to the mark list (with grade) and sent to Additional Controller of Examinations by the Head of the Department.

TABLE 7-Evaluation

REPORT	PRESENTATION	VIVA VOCE
40	30	30

9.6 ASSESSMENT FOR VALUE ADDED COURSES

The one/two credit course shall carry 100 marks and shall be evaluated through **continuous assessments only**. Two Assessments shall be conducted during the semester by the person offering the course. The total marks obtained in the tests shall be reduced to 100 marks and rounded to the nearest integer. The Head of the Department may identify a faculty member as coordinator for the course. A committee consisting of the Head of the Department, staff handling the course (if available), coordinator and a senior Faculty member nominated by the Head of the Department shall monitor the evaluation process. Absolute grading as indicated below will be used for value added courses.

Marks Range	Grade
94-100	O
83-93	A+
72-82	A
61-71	B+
50-60	B
<50	U

9.7 ASSESSMENT FOR ONLINE COURSES

Students may be permitted to credit online courses (which are provided with certificate), only with the approval of the Departmental Consultative Committee and the Centre for Academic Courses. The maximum number of credits is restricted to three. This online course of 3 credits can be considered instead of one professional elective course. The grade equivalence of the online course will be decided by the Departmental Consultative Committee, prior to the approval of the online course, based on the contents of the online course and evaluation methodology.

9.8 ASSESSMENT FOR SELF STUDY COURSES

The Faculty member approved by the Head of the Department shall be responsible for periodic monitoring and evaluation of the course. The course shall be evaluated through Continuous Assessment (as decided by the Departmental Consultative Committee) and End Semester Examination. The evaluation methodology shall be the same as that of a theory course. Absolute grading as indicated in clause 9.6 will be used for assigning grades.

10. PASSING REQUIREMENTS

10.1 The Passing requirement for a student in a course is determined based on the conditions mentioned below.

- (i) The passing minimum, putting together the continuous assessment and end semester examination, is as follows:

Description	Passing minimum
2/3 of class average is less than 35%	35%
2/3 of class average is between 35% and 60%, inclusive of both	2/3 of class average
2/3 of class average is greater than 60%	60%

AND

- (ii) The student must have obtained at-least 40% in the end semester examination, provided the course has an end semester examination.

10.2 If a student fails to secure a pass in a theory course or a theory cum laboratory integrated course (categories 1 and 2 of table 5), the student shall appear for the end semester examination alone in the subsequent semesters, provided the student has obtained at-least 50% in the continuous assessment, and did not have shortage of attendance. This is called Re-appearance. However, in such cases, grading will be done only based on the grading scheme that was used earlier. The number of courses a student does on Re-appearance will not be counted for determining the maximum limit allowed in a semester. Optionally, the student might also register for the course again, earn attendance and continuous assessment marks and write the end semester examination.

10.3 In case of the other three categories of courses, practicals, practicals integrated with theory and project work, the student has to register for that course in the subsequent semester, when offered next, earn continuous assessment marks and attend the end semester examination.

10.4 If the course in which the student has failed, is a soft core, professional elective or an open elective, the student may be permitted to register for the same or any other course under the respective category in the subsequent semesters. In case of registering for a different course, the student has to attend the classes and fulfill the attendance requirements as per Clause 7. In case of the same course, the student has the option of registering for the course again or doing a reappearance alone, i.e. writing the end semester examination alone, provided the student has earned at-least 50% in the continuous assessment.

10.5 For a theory course or a theory integrated with laboratory course where there is an end semester examination, an open day will be conducted within 10 days from the date of the last examination. The date of the open day for each semester will be announced by the Head of the Department concerned. On this day, the students can view their end semester answer papers in the presence of the course instructor and get any clarifications done. In exceptional cases, where the student is not satisfied with the clarifications, the matter can be referred to the monitoring committee. In such cases, the answer paper of the concerned student will be referred to an expert in the subject by the monitoring committee, in consultation with the Head of the Department. In case a student does not attend the open day on the specified date, no further clarifications will be entertained.

11 RE-REGISTRATION AND REAPPEARANCE FOR A COURSE

When the Student does Re-registration for a course that he/she has not cleared, the student shall attend classes, satisfy the attendance requirements, earn continuous assessment marks and then attend the end semester examination. When the student does reappearance for a course, he/she may opt to write the end semester examination alone, provided the student had earned at least 50% of the continuous assessment marks and did not have a shortage of attendance. The grading scheme associated with his/her last registration of the particular course will be used in such cases. Students eligible for reappearance may also optionally decide to re-register for the course.

If a student is prevented from writing the end semester examination of any course due to lack of attendance and that course is a core course (Theory / Laboratory), the student has to register for that course again, when offered next, and repeat the course. In this case, the student shall attend the classes and fulfill the attendance requirements as per clause 7. If the course is a Soft Core, Professional Elective or an Open Elective, the candidate need not opt for the same course.

12 AWARD OF LETTER GRADES

12.1. The performance of a student will be reported using letter grades, each carrying certain points as detailed below:

Letter Grade	Grade Points
O (Outstanding)	10
A + (Excellent)	9
A (Very Good)	8
B + (Good)	7
B (Average)	6
U (Not Cleared)	0
SA (Shortage of Attendance)	0
W (Withdrawal)	0

'U' denotes that the student has not cleared the course.

'SA' denotes shortage of attendance (as per Clause 7) and hence prevented from writing the end semester examination.

'W' indicates withdrawal from the course.

The range of marks for each grade is decided based on the passing minimum defined in clause 10. If 'y' is the passing minimum, then the grade range is defined as:

$$\text{Grade Range (G)} = \text{ceil of } \frac{100 - (y - 1)}{5}$$

Range	Grade
< y	U
y to y + G-1	B
y+G to y+2G-1	B+
y+2G to y+3G-1	A
y+3G to y+4G-1	A+
y+4G to min (y+5G-1, 100)	O

12.2 For the Co-curricular activities such as National Cadet Corps (NCC) / National Service Scheme (NSS) / NSO / YRC, a satisfactory / not satisfactory grading will appear in the mark sheet. Every student shall put in a minimum of 75% attendance in the training and attend the camp compulsorily. The training and camp shall be completed during the first year of the programme. However, for valid reasons, the Head of the Institution may permit a student to complete this requirement in the second year. **A satisfactory completion certified by the competent authority is compulsory for the award of degree.**

12.3 The grades O, A+, A, B+ or B obtained for the one/two credit course shall figure in the Mark sheet under the title '**Value Added Courses**'. The other grades U, W, or SA **will not figure in the mark sheet.**

13. GPA AND CGPA CALCULATION

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

- the list of courses registered during the semester and the grades scored.
- the Grade Point Average (GPA) for the semester and
- the Cumulative Grade Point Average (CGPA) of all courses registered from first semester onwards.

During each semester, the list of courses registered and the grades scored in each course are used to compute the Grade Point Average (GPA). GPA is the ratio of the sum of the products of the number of credits of courses registered and the grade points corresponding to the grades scored in those courses, taken for all the courses, to the sum of the number of credits of all the courses in the semester.

$$\text{GPA} = \frac{\sum_{i=1}^n c_i GP_i}{\sum_{i=1}^n c_i}$$

Where C_i - is the Credits assigned to the course

GP_i - is the grade point corresponding to the letter grade obtained for each course

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

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

- 13.2** The credits earned through one credit courses shall not be considered for calculating GPA and CGPA.
- 13.3** If a student studies more number of courses than required as per the student's programme curriculum, the courses with higher grades alone will be considered for calculation of CGPA.

14. ELIGIBILITY FOR THE AWARD OF DEGREE

- 14.1.** A student shall be declared to be eligible for the award of the B.E. Degree provided the student has
- i. Successfully completed all the courses under the different categories, as specified in the regulations.
 - ii. Successfully gained the required number of total credits as specified in the curriculum corresponding to the student's programme within the stipulated time.
 - iii. Successfully completed the course requirements, appeared for the End-Semester examinations and passed all the subjects prescribed in all the 8 semesters within a maximum period of 7 years reckoned from the commencement of the first semester to which the candidate was admitted.
 - iv. Successfully passed any additional courses prescribed by the Director, Academic Courses whenever readmitted under regulations other than R-2018 (vide clause 16.3)
 - v. Successfully completed the NCC / NSS / NSO / YRC requirements.
 - vi. No disciplinary action pending against the student.
 - vii. The award of Degree must have been approved by the Syndicate of the University.

14.2 CLASSIFICATION OF THE DEGREE AWARDED

14.2.1 FIRST CLASS WITH DISTINCTION:

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

- Should have passed the examination in all the courses of all the eight semesters in the student's First Appearance within **five** years, which includes authorized break of study of one year. Withdrawal from examination (vide Clause 15) 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.

14.2.2 FIRST CLASS:

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

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

14.2.3 SECOND CLASS:

All other students (not covered in clauses 14.2.1 and 14.2.2) who qualify for the award of the degree (vide Clause 14.1) shall be declared to have passed the examination in **Second Class**.

- 14.2.4. A student who is absent in End Semester Examination in a course / project work after having registered for the same shall be considered to have appeared in that examination (except approved withdrawal from end semester examinations as per clause 15) for the purpose of classification.

15. PROVISION FOR WITHDRAWAL FROM EXAMINATION:

- 15.1 A student may, for valid reasons, (medically unfit / unexpected family situations / sports approved by Chairman, sports board and HOD) be granted permission to withdraw from appearing for the end semester examination in any course or courses in **ANY ONE** of the semester examinations during the entire duration of the degree programme. The application shall be sent to the Director, Academic Courses through HOD with required documents.
- 15.2 Withdrawal application shall be valid only if the student is otherwise eligible to write the examination (Clause 7) and if it is made within TEN working days before the commencement of the end semester examination in that course or courses and also recommended by the Head of the Department.
- 15.3 Notwithstanding the requirement of mandatory TEN working days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

15.4 If a student has applied for withdrawal from writing the end semester examination of a course the student shall do reappearance for that course in the subsequent semesters, provided the student has earned 50% of the continuous assessment marks. Optionally, the student may also decide to re-register for the course when it is offered next, earn attendance and continuous assessment marks and write the end semester examination.

15.5 Withdrawal shall not be considered as an appearance for deciding the eligibility of a student for First Class with Distinction.

15.5 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 5 years as per clause 14.2.1.

16. BREAK OF STUDY FROM A PROGRAMME

16.1 A student is permitted to go on break of study for a maximum period of one year either as two breaks of one semester each or a single break of one year.

16.2 The student applies for break of study, the student shall apply to the Director, Academic Courses in advance, in any case, not later than the last date of the first assessment period. The application (downloaded from website) duly filled by the student shall be submitted through the Head of the Department. In the case of short term employment/ training/ internship, the application for break of study shall be approved and forwarded by the Departmental Consultative Committee to the Director, Centre for Academic Courses.

16.3 The students permitted to rejoin the programme after break of study / prevention due to lack of attendance, shall be governed by the Curriculum and Regulations in force at the time of rejoining. The students rejoining in new Regulations shall apply to the Director, Academic Courses in the prescribed format through Head of the Department at the beginning of the readmitted semester itself for prescribing additional/equivalent courses, if any, from any semester of the regulations in-force, so as to bridge the curriculum in-force and the old curriculum.

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

16.5 In case there is any period of break of study more than the permitted duration of break of study, the student shall be permitted to continue the programme only if the approval is obtained from the Director, Academic Courses through the concerned HOD before the end of the semester in which the student has taken break of study.

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

17. CONDUCT OF END SEMESTER EXAMINATIONS

The primary responsibility of conducting the end semester examination lies with the department. The Head of the Department concerned will appoint an **Exam Coordinator** to conduct the end semester examinations every semester. He/she will be responsible for getting the list of registered candidates, preparing the time table, collecting the question papers, assigning invigilators and conducting the examinations. He/she will also be responsible for the distribution of answer scripts for evaluation and also for the open day. The course instructors will hand over the results to the monitoring committee after the open day, which will in turn submit it to the class committee for approval and publishing.

18. DISCIPLINE

- 18.1** Every student is required to observe disciplined and decorous behavior both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the University. The Head of the Institution shall constitute a disciplinary committee consisting of Head of the Institution, Head of the departments to which the student concerned belongs, and the Head of another department to enquire into acts of indiscipline and notify the University about the disciplinary action recommended for approval. In case of any serious disciplinary action which leads to suspension or dismissal, then a committee shall be constituted by the Registrar of the University for taking final decision.
- 18.2** If a student indulges in malpractice in any of the examinations, the student shall be liable for punitive action as prescribed by the University from time to time.

19. REVISION OF REGULATIONS, CURRICULUM AND SYLLABI

The University may from time to time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of examinations through the Academic Council with the approval of the Syndicate.

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