

J.N.N INSTITUTE OF ENGINEERING

Autonomous Institution, Affiliated to Anna University



UG Regulation 2022 (Revision 1)

Applicable to Students admitted AY 2022-23 onwards

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J.N.N INSTITUTE OF ENGINEERING

AUTONOMOUS

NAAC 'A' Grade | Approved by AICTE | Affiliated to Anna University

B.E. /B.Tech. Regulation 2022

(Approved by 4th Academic Council meeting held
on 5-10-2024)



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Clause No.	Content	Page No.
1.0	Preliminary Definitions and Nomenclature	5
2.0	Programmes and Branches of Study	7
3.0	Admission Requirements	7
4.0	Structure of the Programme	8
5.0	Duration of Programme	20
6.0	Attendance Requirements for Completion of the Semester	21
7.0	Course Registration for the Examination	22
8.0	System of Examination	22
9.0	Requirements for Appearing to ESE	41
10.0	Requirements for Completion of Semester	42
11.0	Provision for Withdrawal from Examinations	43
12.0	Provision for Break of Study	43
13.0	Passing Requirements	44
14.0	Class Counselor	45
15.0	Faculty Advisor	45
16.0	Departmental Consultative Committee	45
17.0	Class Committee	45
18.0	Course Committee (COCM) for Common Courses	47
19.0	Department-Level Committees	47
20.0	College Level Committees	48
21.0	Attendance Record	49
22.0	Conduct of Academic Audit	49
23.0	Questions Based on HOTS	50
24.0	Viewing Internal Assessment Marks	50
25.0	Revaluation of Answer Scripts	50
26.0	Supplementary Examination	51
27.0	Provision of A Scribe	51
28.0	Award of Letter Grades	51
29.0	Eligibility for the Award of Degree	53
30.0	Classifications of Degree Awarded	53
31.0	Malpractices in Tests and Examinations	55
32.0	Discipline	55
33.0	Revision of Regulation and Curriculum	55
34.0	Relaxation of Rules for Female Candidates	56



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Preamble

The Academic Regulation 2022 (Revision 1) has been updated for implementation beginning with the 2024–2025 academic year, applicable to students admitted from the 2022–2023 academic year onwards. This regulation includes adequate scope for B.E./B. Tech. (Honors) and Minor with specialization. It adheres to the guidelines set forth by the TN State Council for Higher Education and Anna University, ensuring ample opportunities for autonomous learning and applied learning through internship programs. Furthermore, it introduces innovative assessment procedures and policies aimed at fostering holistic development.

Vision

Lead the transformation of engineering and management learning experience to educate the next generation of innovators and entrepreneurs who want to make the world a better place.

Mission

- To develop the required resources and infrastructure and to establish a conducive ambience for the teaching-learning process.
- To nurture professional and ethical values in the students and to instil in them a spirit of innovation and entrepreneurship.
- To encourage a desire for higher learning and research in the students and to equip them to face global challenges.
- To provide opportunities for students to learn job-relevant skills to make them industry-ready.
- To interact with industries and other organizations to facilitate the transfer of knowledge and know-how.

Our Core Values

We, the J.N.N Institute of Engineering community, are committed to:

- Excellence in Education – Offer a rigorous, high-quality education to all students
- Student Success – Place learner needs at the center of our academic and service planning, policies, and programs

- Education Access – Provide all qualified students with access to higher education
- Diversity – Achieve multicultural understanding as a priority of educational and civic life
- Integrity – Operate with fairness, honesty, and the highest ethical standards to sustain a community of trust
- Civility – Support a civil, engaging, and respectful campus climate
- Environmental Sustainability – Model environmentally responsible and sustainable operations and education

CHOICE BASED CREDIT SYSTEM

(For the students admitted to B. E./B. Tech. Programme)

The Regulation 2022 (R22) includes various components of the Choice Based Credit System (CBCS) and is based on AICTE Model UG Curriculum 2018. This regulation is applicable to all the students admitted into B.E. / B.Tech. programmes from the academic session 2022-2023 onwards.

1.0 PRELIMINARY DEFINITIONS AND NOMENCLATURE

The regulations here under are subject to amendments as may be made by the Academic Council (AC) of the College from time to time, keeping the recommendations of the Board of Studies (BoS) in view. Any or all such amendments will be effective from the date of amendment and will be applicable to the batches of students who are admitted to the programmes during the year in which amendments are made. They might be applicable even to those who are already undergoing the programmes, as may be decided by the Academic council.

- i. “Academic Autonomy” means autonomy granted by the University Grants Commission (UGC) and Anna University, Chennai to J.N.N Institute of Engineering, in all aspects of conducting its academic programmes for promoting excellence.
- ii. “Autonomous College” means a college notified as an autonomous college by the University, as per the Anna University Autonomous College Statute.
- iii. “Branch” means Specialization or discipline of B.E. / B. Tech. degree programme such as Computer Science and Engineering and Information Technology.
- iv. “Commission” means University Grants Commission.
- v. “Council” means All India Council for Technical Education.
- vi. “COEs (COE)” means authorized person who is responsible for all examination related activities of the College.

- vii. “Course” means every paper/subject of study offered by various Departments (e.g. Operating Systems).
- viii. “Curriculum” means the various components / courses studied in each programme that provides appropriate outcomes (knowledge, skills and attitude/Behaviour) in the chosen branch is called curriculum.
- ix. “College” means J.N.N Institute of Engineering, Chennai.
- x. “Credit” means a numerical value allocated to each course to describe the candidate’s workload required per week.
- xi. “Dean-Academics” means the authority of the college who is responsible for guiding and leading all academic activities.
- xii. “Grade” means the letter grade assigned to each course based on the marks range specified.
- xiii. “Grade point” means a numerical value (0 to 10) allocated based on the grade assigned to each course.
- xiv. “HOD (HOD)” means HOD concerned.
- xv. “HOI (HOI)” means The Chairman, Academic Council of the college.
- xvi. “Programme” means Degree Programme, that is, B.E. / B.Tech. Degree Programme.
- xvii. “Statute” means Anna University Autonomous College Statute
- xviii. “University” means Anna University, Chennai
- xix. “Department Advisory Committee (DAC)” provides strategic guidance and support to ensure continuous improvement in quality
- xx. “Programme Assessment Committee (PAC), a department committee responsible for the academic program's quality
- xxi. “Project Review Committee (PRC)” plays a crucial role in overseeing and ensuring the quality of student projects.
- xxii. “Quality Improvement Panel (QIP)” plays a critical role in enhancing the quality and ensuring continuous improvement of academic process by improving faculty competencies.
- xxiii. “Standing Committee” periodically to plan and review academic-related matters, progress and status of the students.
- xxiv. “Internal Quality Auditing Committee (IQAC)” plays a pivotal role in ensuring quality enhancement and sustenance in all academic and administrative activities.
- xxv. “Grievance Redressal Committee (GRC)” provide a fair and transparent process for

addressing grievances of students and faculty members and resolving disputes promptly and effectively.

2.0 PROGRAMMES AND BRANCHES OF STUDY

The following programmes and branches of study approved by Anna University, Chennai and All India Council for Technical Education, New Delhi are offered by the College. Under the autonomous status, the institution offers the following Programmes in the Academic year 2022-23:

Undergraduate Programmes

Table 1: Undergraduate Programmes offered

S. No.	Programmes
1	B.Tech. – Agricultural Engineering
2	B.Tech.- Artificial Intelligence and Data Science
3	B.E. – Biomedical Engineering
4	B.E. – Computer Science and Engineering
5	B.E.- Computer Science and Engineering (Cyber Security)
6	B.E. – Electronic and Communication Engineering
7	B.E. - Robotics and Automation
8	B.E. – Electronic Engineering (VLSI Design and Technology)

3.0 ADMISSION REQUIREMENTS

3.1 First Semester Admission

The candidates seeking admission to the 1st semester to the 8th semester B.E./B.Tech. degree Programme:

Should have passed the Higher Secondary Examination (10+2) in the academic stream with Mathematics, Physics and Chemistry as three of the four subjects of study under Part-III subjects of the study conducted by the Government of Tamil Nadu or any examination of any other University or authority accepted by the Anna University, Chennai as equivalent thereto.

(OR)

Should have passed the Higher Secondary Examination of Vocational stream (Vocational groups in Engineering / Technology) as prescribed by the Government of Tamil Nadu.

They should also satisfy other eligibility conditions as prescribed by the Anna University, Chennai

and Directorate of Technical Education, Chennai from time to time.

3.2 Lateral Entry Admission

The candidates who hold a Diploma in Engineering / Technology awarded by the State Board of Technical Education, Tamilnadu or its equivalent are eligible to apply for Lateral entry admission to the third semester of B.E. / B. Tech degree programmes.

(OR)

The candidates who hold a BSc degree in science (10+2+3 stream) with mathematics as one of the subjects at the BSc level from a recognized University are eligible to apply for Lateral entry admission to the third semester of B.E. / B. Tech degree programmes. Such candidates shall undergo two additional Engineering courses in the third and fourth semesters as prescribed by the college.

They should also satisfy other eligibility conditions prescribed by the Anna University, Chennai and Directorate of Technical Education, Chennai from time to time.

4.0 STRUCTURE OF THE PROGRAMME

4.1 Categorization of Courses

B.E. / B.Tech. programme shall have a curriculum with syllabi comprising of theory, theory cum practical, theory cum project, lab cum project, practical courses in each semester, professional skills training/industrial training, project work, internship, etc. that have been approved by the respective Board of Studies and Academic Council of the College. All the programmes have well defined Programme Outcomes (PO), Programme Specific Outcomes (PSO) and Programme Educational Objectives (PEOs) as per the Outcome Based Education (OBE). The content of each course is designed based on the Course Outcomes (CO). The courses shall be categorized as follows

- i. Humanities, Social Sciences and Management Courses (HSMC) include Professional English, Communication skills etc.
- ii. Basic Sciences Courses (BSC) include Mathematics, Physics, Chemistry, Biology, Environmental Science etc.
- iii. Engineering Sciences Courses (ESC) include Engineering Practices, Engineering Graphics, Basics of Civil / Mechanical / Electrical / Electronics / Instrumentation, Computer Science and Engineering, etc.
- iv. Professional Core Courses (PCC) include the core courses relevant to the chosen specialization/branch.
- v. Professional Elective Courses (PEC) include the elective courses relevant to the chosen specialization/ branch.

- vi. Open Elective Courses (OEC) include the courses offered by a branch to other branches from the list specified in the respective curriculum of the B.E. / B. Tech. Programmes.
- vii. Employability Enhancement Courses (EEC) include project work, internship, professional skills training/industrial training, comprehensive test & viva, and entrepreneurs/startups that are needed for the students to gain/exhibit knowledge/skills.
- viii. Mandatory Courses (MC) include Student Induction Program and Environmental Science, etc. must be completed with a satisfactory grade by all students but they have no credit.
- ix. Online courses (OC) offered by NPTEL/SWAYAM, etc.
- x. Industry/other University/agency offered courses.
- xi. Mini project, Main project, Socially relevant project, make a product, startup, Entrepreneurship etc.
- xii. Industry/Institution Offered Courses, one-credit, two-credit three-credit courses etc.
- xiii. Internship, in-plant training, professional Skills Training courses etc.

4.2 Course Registration

4.2.1 Number of Courses per Semester

The curriculum of each semester shall normally have a blend of lecture courses not exceeding **Seven** theory courses, theory-integrated laboratory courses, theory-integrated project courses, project-integrated laboratory courses, Four laboratory courses and Employability Enhancement Courses. However, the total number of courses per semester shall not exceed 10.

The institution is responsible for registration of the courses that each student is proposing to undergo in the ensuing semester. Each student has to register for all courses to be undergone in the curriculum of a particular semester (with the facility to drop courses to a maximum of 6 credits (vide clause 4.7)). The courses dropped in earlier semesters can be registered in the subsequent semesters when offered.

The registration details of the student shall be approved by the HOI and forwarded to the COE. This registration is for undergoing the course as well as for writing the End Semester Examinations (ESE).

The courses that a student registers in a particular semester may include

- i. Courses of the current semester.
- ii. Courses dropped in the lower semesters

The maximum number of credits that can be registered in a semester is 36.

The total number of credits that a student can add in a semester is limited to 6, subject to a maximum of 2 courses. Maximum number of credits enrolled in a semester (Honours and Minor) shall not exceed

36. The online courses registered for B.E. / B. Tech. (Hons.) and B.E. / B. Tech. minor shall be over and above this 36 credits.

For a professional elective course and open elective course, minimum number of students enrolment permitted shall be 10. However, the minimum number is not applicable for students enrolling B.E. / B. Tech. (Hons) and B.E. / B. Tech. Minor. For the offer of each professional elective, at least two choices shall be offered.

4.3 Credit Assignment

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

Table 2: Credits per a contact period

S. No.	Course	Contact period per week	Credits
1	Lecture	1	1
2	Tutorial	2	1
3	Laboratory	2	1
4	EEC courses like / Seminar / Project Work /Case study / etc.)	2	1
5	Project	4	1

4.4 Credit Distribution

Table 3: Distribution of different Nature of Courses in the curriculum

Course Area		Range
HSMC	Humanities & Social Science Including Management	11-12
BSC	Basic Science Courses	21-25
ESC	Engineering Science Courses	18-20
PCC	Professional Core Courses	52-55
PEC	Professional Elective Courses	18-21
OEC	Open Elective Courses	10-12
EEC	Employment Enhancement Courses	22-25

MC	Mandatory Courses	Non-Credit
Total Credits		160-165

4.4.1 B.E. / B. Tech. (Hons) Specialization in the same discipline, B.E. / B. Tech. (Hons) and B.E. / B. Tech. minor in other specialization

1. (i) B.E./B.Tech. Honours (specialization in the same discipline):

- a. The student should have earned additionally a minimum of 18 credits from a vertical of the same programme or 12 credits from a vertical of the same programme and two mini projects each equivalent of three credits. The mini projects must be done at different semesters.
- b. Should have passed all the courses in the first attempt.
- c. Should have earned a minimum CGPA of 7.50 upto 4th sem.

(ii) B.E / B.Tech. Honours

- a. The students should have earned additional courses (minimum of 18 credits) from more than one vertical of the same programme or 12 credits from a vertical of the same programme and two mini projects each equivalent to three credits. The mini projects must be done at different semesters.
- b. Should have passed all the courses in the first attempt.
- c. Should have earned a minimum CGPA of 7.50 upto 4th sem.

(iii) B.E./B.Tech. (Minor in other programme specialization)

The student should have earned additionally a minimum of 18 credits in any one of the verticals of other B.E/B.Tech. programmes.

2. B.E./ B.Tech. (Hons) Specialization in the same discipline, B.E / B.Tech. Honours and B.E./B.Tech. minor in other programme specialization degree will be optional for students
3. For the category 4.4.1,1 (iii), the students will be permitted to register the courses from V Semester onwards provided the marks earned by the students until IV Semester is CGPA 7.50 and above and can register for courses from any one of the minor verticals offered by other programme
4. If a student decides not to opt for Honours, after completing certain number of additional courses, the additional courses studied shall be considered instead of the PEC which are part of the curriculum. If the student has studied a greater number of such courses than the number of PEC required as per the curriculum, the courses with higher grades shall be considered for the

calculation of CGPA. Remaining courses shall be printed in the marksheet; however, they will not be considered for the calculation of CGPA.

5. If a student decides not to opt for Minor, after completing certain number of courses, the additional courses studied shall be considered instead of Open Elective Courses (OEC) which are part of the curriculum. If the student has studied a greater number of such courses than the number of open electives required as per the curriculum, the courses with higher grades shall be considered for calculation of CGPA. Remaining courses shall be printed in the marksheet; however, they will not be considered for calculation of CGPA.
6. Out of these 18 credits to be earned by the students opting for either B.E./ B.Tech. (Honours), B.E. / B.Tech. (Honours with specialization) degree and or B.E./B.Tech. with Minor degree in another specialization can earn maximum of **6 credits** (subject to the maximum of two courses) in online mode (like NPTEL/SWAYAM platform), with the approval of the respective HOD and Dean (Academics).

4.5 Employment Enhancement Course

A candidate shall be offered with the EEC like project work, internship, professional skills training/industrial training, comprehensive test & viva, entrepreneurs/startups, and Value-Added Courses (VAC) during the programme to gain/exhibit knowledge/skills.

4.5.1 Professional Skills Training/Industrial Training/Entrepreneurship/Startup/In-plant Training

A candidate may be offered with appropriate training courses imparting programming skills, communication skills, problem solving skills, aptitude skills, etc. It is offered in two phases as phase I in 4th semester and phase II in 6th semester including vacation periods and each phase can carry **Two credits**.

(OR)

A candidate may be allowed to go for training at research organizations or industries for a required number of hours in 5th semester vacation period. Such candidate can earn **Two credits** for this training course in place of Professional Skills Training course II in 5th semester. He / She shall attend the Professional Skills Training Phase I in the 4th semester and can earn **Two credits**.

(OR)

A candidate may be allowed to set up a startup and work part-time for the startups by applying his/her innovations and can become a student entrepreneur during B.E. / B.Tech. programme. Candidates can set up their startup from fifth semester onwards either inside or outside of the college. Such student entrepreneurs may earn **Two credits** in place of Professional Skills Training II. The domain in which the candidate wants to initiate a startup may be interdisciplinary or multidisciplinary. The

progress of the startup shall be evaluated by a panel of members constituted by the HOI through periodic reviews.

4.5.2 Comprehensive Test and Viva

The overall knowledge of the candidate in various courses he/she studied shall be evaluated by (i) conducting comprehensive tests with multiple choice questions (MCQ) generally with a pattern similar to GATE and/or (ii) Viva-voce examination conducted by a panel of experts assigned by the HOD. The members can examine the knowledge of the candidate by asking questions from various domains and the marks will be assigned based on their answers. This course shall carry **Two credits** as per the curriculum.

4.5.3.1 Full-Time Project through Internships

The curriculum enables a candidate to go for full-time project through internship during a part of seventh semester and/or entire final semester and can earn credits vide clause 8.7 and clause 8.9.

A candidate is permitted to go for full-time projects through internship in 7th semester with the following condition: The candidate shall complete a part of the seventh semester courses with a total credit of about 50% of the total credits of 7th semester in the first two months from the commencement of the seventh semester under fast-track mode. The balance credits required to complete the 7th semester shall be earned by the candidate through either approved One-credit/Two-credit/Three credit Courses /Online courses or Add/Drop courses as per clause 4.6 and clause 4.7 respectively.

A candidate is permitted to go for full-time projects through internship during 8th semester. Such candidate shall earn the minimum number of credits required to complete 8th semester other than project through either approved One-credit / Two-credit//Three credit Courses /Online courses / Self Study Courses or Add/Drop courses as per clause 4.6 and clause 4.7 respectively.

The assessment procedure is to be followed as specified in the guidelines approved by the Academic Council.

4.5.3.2 Semester-long Internship in 7 sem.

The students having minimum GCPA 7.0 up to 6th sem. are permitted to take the Semester-long internship during 7th sem., if he/she has an opportunity for the students to convert the internship into placement in that industry. The students are permitted to complete the 7th sem. papers in fast-track mode during the summer and winter vacations with permission of HOI and informed to COE before taking the course and have to pay requisite fees. The HOD will assign a faculty to conduct the course in fast-track mode. The classes will be conducted for the same duration (total no. of periods) and IATs and ESE will be conducted in the same pattern as the other theory courses.

4.5.3 In-plant Training

A student shall go for in-plant training for a duration of two weeks during the entire programme. It is mandatory for all the students.

4.6 One Credit / Two Credit /Three Credit Courses / Online Courses/ Self Study Courses

The candidates may optionally undergo One Credit/Two Credit/Three credit Courses/Online Courses / Self Study Courses as elective courses.

4.6.1 Value Added Courses

One Credit Course / Two Credit /Three Credit Courses: One credit/Two credit/Three credit courses shall be offered by the Department with prior approval from the respective Board of Studies. A candidate can earn a maximum of **Six credits** through One credit/Two credit/Three credit courses during the entire duration of the programme. One credit / Two credit/Three credit courses shall be offered by a Department of an institution with the prior approval from the HOI with use of external expert. The details of the syllabus, time table and course coordinator may be sent to the COE at least one month before the course is offered for approval.

Students shall be allowed to take these courses offered in other Departments also, but with the permission of the HOD and HOD offering the course.

4.6.2 Online Courses: Candidates may be permitted to earn credits from online courses, offered by NPTEL / SWAYAM / a University / Other Agencies/Industries, approved by the respective Board of Studies.

4.6.3 Self-Study Courses: The department may offer an elective course as a self-study course. The syllabus of the course shall be approved by the respective Board of Studies. However, mode of assessment for a self-study course will be the same as that used for other courses. The candidates shall study such courses on their own under the guidance of member of the faculty following due approval procedure. Self-study course is limited to one per programme. **Three credits** can be earned through self-study course.

4.6.4 The elective courses in the final year may be exempted if a candidate earns the required credits vide clause 4.6.1, 4.6.2 & 4.6.3 by registering the required number of courses in advance.

4.6.5 A candidate can earn a maximum of **24 credits** altogether from One-credit courses, Two-credit courses, Online courses, Self-study courses, creative projects, startup, entrepreneurship, etc. If the students studying the Honour with specialisation/Honour/Minor in other specialization can earn an additional **6 credits** from all these courses put together.

4.7 Flexibility to Add or Drop Courses

4.7.1 A candidate has to earn the total number of credits specified in the curriculum of the respective

programme of study in order to be eligible to obtain the degree. However, if the candidate wishes, then the candidate is permitted to earn more than the total number of credits prescribed in the curriculum of the candidate's programme in the Course Category of Professional Elective (PE), Open Elective (OE), Value added course (VAC), Online course (OC) only.

4.7.2. For calculating the CGPA, the best out of the credit scores earned by the students will be taken in the PE and/or OE Category.

4.7.3. The additional credit earned will be reflected in the mark sheet but not accounted for the calculation of CCPA.

4.7.4 From the 5th to 8th semesters the candidates have the option of registering for additional elective/Minor/Honours courses or dropping of already registered additional elective/ Honours/minor courses within Two weeks from the start of the semester. Add / Drop is only an option given to the candidates.

4.8 Max. number of credits the candidate can enroll in a particular semester cannot exceed 36.

4.9 The blend of different courses shall be so designed that the candidate at the end of the programme would have been trained not only in his / her relevant professional field but also would have made him/her to become a socially conscious human being.

4.10 Medium of Instruction

The medium of instruction all the courses, assignments, seminar, examinations and project report shall be in English except for language electives, Heritage of Tamil and Technology in Tamils. They are in their respective languages.

4.11 Semester Abroad Programme (SAP)

4.11.1. Students can visit to an International University with the approval of HOI, Dean Academics and CoE for SAP and do courses/ Project/ Research. University Level Courses (ULC) equivalent to the courses in the institution are permitted for credit transfer. ULC should match the courses in the specific programme of the institution satisfying AICTE/AU norms. If needed additional domain courses to be studied in subsequent semesters as self-study courses and to earn the credits without exceeding the maximum credit limit of 30 in a semester.

4.11.2. The following are the eligibility conditions.

- a) Two years must be completed with a CGPA of 7.5
- b) Have a good score in TOEFL, SAT, IELTS etc.

4.11.3. SAP will be permitted for about 6-12 months duration only.

4.11.4. The medium of instruction under SAP must be in English only.

4.12 Personality and Character Development

All students shall enroll, on admission, in any one of the personality and character development programmes NCC/NSS/NSO/YRC/UBA and undergo training / conduct activities 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. Alternately, activities of science, literature and arts also help for personality and character development. Hence, students shall conduct and participate actively in Science club/Literary Forum/Fine Arts activities for 80 hours and participate in at least one event.

- i. National Cadet Corps (NCC) will have about 20 parades.
- ii. National Service Scheme (NSS) will have social service activities in and around the College / Institution.
- iii. National Sports Organization (NSO) will have Sports, Games, Drills and Physical exercises.
- iv. Youth Red Cross (YRC) will have activities related to social services in and around College/Institution. The training activities will normally be during weekends and the camp will normally be during the vacation period.
- v. Science club shall organize activities of popularization of science and scientific temper through activities related to astronomy, works of great scientists from India and abroad, observing National Science Day, etc.
- vi. Literary Club like 'Tamil Ilakkiya Mandram' shall be formed, which shall organize colorful literary events to propagate good humanist values, morals and ethics reflected in the literature.
- vii. Fine Arts Club like music, painting and documentary films with social themes shall be encouraged.
- viii. Unnat Bharath Abhiyan (UBA) – will have activities related to rural development in and around the College / Institution under UBA Scheme for the five villages adopted by the Institute / College.
- ix. Students who enroll and take active participation in anyone of the above activities for 80 hours and participate at least one event/programme will be given a certificate by the HOI and the copy of the same shall be forwarded to the COE for the purpose of record and scrutiny. No fee shall be charged for all these activities.

For the Co-curricular activities such as National Cadet Corps (NCC)/ National Service Scheme (NSS) / NSO / YRC / Science club / Literary Club/ Fine Arts Club, a 'completed' remark will appear in the Grade Sheet on successful completion of the same. Every student shall put in a minimum of

75% attendance in the training and attend the camp or events of the clubs compulsorily. The training and camp or club events shall be completed during the first year of the programme. However, for valid reasons, the HOI may permit a student to complete this requirement in the subsequent years. Successful completion of any one of the above co-curricular activities is compulsory for the award of degree.

4.13 Sustainable Development Goals – Activity Programme Points

In line with AICTE activity point programme, the following activities are included to the students and they need to fulfill the requirements for getting their degree. These activities may be carried out by the students in teams. AICTE recommends 300 to 400 hrs. of activity during the entire programme of study. Hence, a student shall perform the activity for a duration of 75 to 100 hours in a year (2 semesters). Here 40-45 hrs. is considered as 1 week. This activity has to be carried out under the nomenclature of the institutions These activities may be coordinated by NSS/NCC/YRC/Sports coordinator or by the TAP Cell of the institute.

Following are the suggestive activities as listed by AICTE:

- i. Prepare and implement a plan to create local job opportunities.
- ii. Prepare and implement a plan to improve education quality in villages.
- iii. Prepare an actionable Detailed Project Report (DPR) for doubling the village Income.
- iv. Developing a sustainable water management system.
- v. Prepare and implement a plan to improve health parameters of villagers.
- vi. Developing and implementing low-cost sanitation facilities.
- vii. Prepare and implement a plan to promote local tourism through innovative approaches.
- viii. Implement/develop technology solutions which will improve quality of life.
- ix. Prepare and implement solutions for energy conservation.
- x. Prepare and implement a plan to skill village youth and provide employment.
- xi. Develop localized techniques for reduction in construction cost.
- xii. Prepare and implement a plan of sustainable growth of the village.
- xiii. Setting up an information imparting club for women leading to contribution in social and economic issues.
- xiv. Developing and managing an efficient garbage disposal system.
- xv. Contribution to any national-level initiative of the Government of India, For E.g. Digital India/Skill India/ Swachh Bharat Internship etc.

4.14 Creative Project Work

4.14.1 Make-A-Product (MAP):

(a) Concept: This course is offered to the students to have real-life product development experiences.

It is a teamwork. Each team will consist of 1-4 members. In MAP, each team has to identify a need or product, write down purpose to be met, design and develop the product, and demonstrate that the product has met the required purpose. It can be hardware project or a software application. It can be a new product or an improvement of an existing product. The emphasis is on the product development process and demonstration rather than the successful outcome. The team members can be from various programmes/department for interdisciplinary projects.

(b) Execution: A faculty supervisor allotted by HOD will supervise each MAP team. For interdisciplinary applications, one more faculty supervisor from the relevant department can be a joint supervisor. The MAP work will be carried out during 5th and 6th semester of the course; however, the course is accounted for grading in the 6th semester only. One hour/week in the timetable during 5th semester and 6th semester is allotted. Each programme will have a MAP Coordinator, nominated by the HOD, who will coordinate all the activities related to MAP

4.14.2 Socially Relevant Projects

A Student may be permitted to carry out a socially relevant project during semester II to semester VI in consultation with the Faculty Guide and submit the project report, in the prescribed format, at the end of the Semester for valuation. On successful completion of socially relevant project work, one credit will be indicated in the grade sheet (Additional credits), but these credits will not be considered for computing the CGPA.

4.14.3 Industry-Oriented Courses (IOC)

Students may choose courses offered by industry. These courses are offered by the departments concerned. The departments that wish to offer such courses shall be approved by the Industry Oriented Courses Committee (IOCC) comprising the HOI, Dean Academics, COE and two professors. These courses shall be taught by experts in industry and with experience related to the disciplines of study. IOC may be one, two or three-credit courses depending upon the theory and practical content of these courses. The industry-oriented courses may be taught just like the regular courses (Theory and/or Practical) through periodic, pre-scheduled lectures and hands-on training. These courses shall be conducted during evening hours/ week end /vacation period without affecting the regular class hours. They may also be delivered as special workshops (approved by IOCC). Any number of IOCs can be offered by the departments. However, a student shall transfer one or more IOC equivalent to **3 credits** only to a professional elective course in the curriculum.

If a student earns one or two credits from IOC(s)/self-study course(s), the credit shall be included in the grade sheet under VAC and not included in the calculation of CGPA.

4.14.4 Experiential Skill-Based Courses

Skill based experiential learning courses will be offered in two categories as purely Laboratory Based Courses and Theory Integrated Laboratory Courses with the following credits. One such course will be offered in every semester from V to VII.

Table 4 Nomenclature of Credit Distribution

category	L	T	P	J	C
Laboratory courses	0	0	4	0	2
	0	0	2	0	1
Theory Integrated Laboratory Courses	1	0	2	0	2
Theory Integrated Project Courses	2	0	0	4	3
Laboratory Integrated Project Courses	0	0	2	4	2

A student may accumulate upto 6 credits through such courses, and such credits will be considered in lieu of the Professional Elective and/or Open Elective courses. These courses may be offered with the support of the identified firms/companies and with one course coordinator per course and a mentor from the firm.

Evaluation Procedure: The evaluation of the above-mentioned courses are fully internal and shall be jointly done by the course coordinator from the institution and the mentor from the firm. 20% of the total marks will be included in the internal assessment marks, 30% will be included from the marks provided by the firm and 50% shall be evaluated by the respective Course Coordinators.

4.15 Conduct Online Lectures / Training by Adjunct Faculty

The classes delivered by adjunct faculty may be conducted through online platforms / online mode for students. The respective departments shall obtain the approval from the Principal and Dean Academics before conducting such classes.

4.16 Additional Learning

In order to make student learning capabilities more meaningful and activity-oriented, programs like Hack-a-thons, Make-a-thons and other similar activities are conducted on campus. In order to integrate this in academics, additional marks can be awarded to the student by the faculty after due assessment of the performance of the student. The student can benefit through such additional marks, to a maximum of 10, which can be added to the Internal Assessment (IA) mark scored for one course per semester or as per the directions given by the HOI, through circulars. Similarly, additional marks

can be given to students who take up online courses that are relevant to the registered course.

If a student wishes to do a project in courses that do not have an embedded 'J' component and has a tangible output. The effort and output can be considered for the award of additional marks. However, additional learning may not be limited to the above activities. In any case, prior approval from the faculty handling the course and the HOI is essential for the inclusion of additional marks for such categories. This additional learning is course-specific. It is the responsibility of the institution to make sure that additional marks are allotted to only one course for a specified activity. The total internal marks (including the additional marks) are given an upper limit of 60 (40 being the marks given to final assessment). The type of activities that can be considered for additional marks will be modified through circulars by the HOI.

4.17 Industrial Visit

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

4.18 Mandatory Three-Week Induction Programme

The students are expected to undergo a mandatory three-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 immediately after admission and also bridge courses will be conducted during the induction programme to bridge the gap between school and the college.

The completion of the Induction Programme shall be printed in the Grade Sheet as "COMPLETED".

No fee will be charged towards the conduct of the Induction Programme and for including in the STATEMENT OF GRADES for the successful completion of the Induction Programme.

4.19 Course Substitution

If a student receives an 'F' grade in a PE course, and if the student wishes, he/she is permitted to take another PE course from the same basket, in lieu of PE course, the student had failed to clear, in subsequent semesters and clear the new PE course. However, the student has to pay for the substituted course since the student has utilized the opportunity of clearing a course in first attempt. The new PE can be in self-study mode if it is not offered currently.

5.0 DURATION OF PROGRAMME

5.1 A candidate is normally expected to complete the B.E. / B.Tech. degree programme in 8 consecutive semesters/ 4 Years (6 semesters/ 3 Years for lateral entry candidate), but in any case,

not more than 14 semesters/ 7 Years (12 semesters/ 6 Years for lateral entry candidate).

- 5.2** Each semester shall consist of a minimum of 75 working days or 540 periods of 50 min. each including CA test period. The HOD shall ensure that every teacher imparts instruction as per the number of periods specified in 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 candidate was admitted shall not exceed the maximum duration specified in clause 5.1 irrespective of the period of break of study (vide clause 12) or prevention (vide clause 10) in order that the candidate may be eligible for the award of the degree (vide clause 28). Extension beyond the prescribed period shall not be permitted.

6.0 ATTENDANCE REQUIREMENTS FOR COMPLETION OF THE SEMESTER

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

Ideally every student is expected to attend all classes of all the courses and secure 100% attendance. However, in order to give provision for certain unavoidable reasons such as medical / participation in sports, the student is expected to attend at least 75% of the classes. Therefore, he/she shall secure not less than 75% (after rounding off to the nearest integer) of overall attendance

However, a student who secures overall attendance between 65% and 74% in the current semester due to medical reasons (prolonged hospitalization / accident / specific illness) / participation in sports events may be permitted to appear for the current semester examinations, subject to the condition that the student shall submit the medical certificate / sports participation certificate attested by the HOI. The same shall be forwarded to the COE for the record purposes. A candidate can avail this provision only twice during the entire duration of the degree programme.

- 6.2** Students who secure less than 65% overall attendance shall not be permitted to write an examination at the end of the semester and not permitted to move to the next semester. They are required to repeat the incomplete semester in the next academic year, as per the norms prescribed. The attendance percentage can be calculated as follows:

$$\text{Attendance}\% = \frac{(\text{Total no. of periods attended in all the courses per semester}) \times 100}{(\text{No. of periods week as prescribed in the curriculum}) \times \text{No. of Weeks taken together for all courses of the semester}}$$

7.0 COURSE REGISTRATION FOR THE EXAMINATION

- 7.1** Registration for the ESE is mandatory for courses in the current semester as well as for the arrear courses failing which the candidate will not be permitted to move on to the higher semester. This will not be applicable for the courses which do not have an ESE.
- 7.2** The candidates who need to reappear for the courses that have only CA shall enroll for the same in the subsequent semester, when offered next, and repeat the course. In this case, the candidate shall attend the classes, satisfy the attendance requirements ([vide clause 10](#)) and earn CA marks. This will be considered as an attempt for the purpose of classification.
- 7.3** If a candidate is prevented from writing ESE of a course due to lack of attendance, the candidate has to attend the classes, when offered next, and fulfill the attendance requirements as per clause 10 and earn CA marks. If the course, in which the candidate has a lack of attendance, is an elective, the candidate may register for the same or any other elective course in the subsequent semesters and that will be considered as an attempt for the purpose of classification.
- 7.4** A candidate shall register for the chosen courses as well as arrear courses (if any [vide clause 7.2 and 7.3](#)) from the list of courses specified under Honours/Minor degree.

8.0 SYSTEM OF EXAMINATION

The system of examination is semester pattern. Performance in each course of study shall be evaluated based on

- Continuous Assessment (CA) throughout the semester
- End Semester Examination (ESE) at the end of the semester

A student has to compulsorily register for the entire regular courses and all the arrear courses (if any) for appearing in the end semester examinations.

8.1 CA and ESE Assessment Procedure

The B.E./B.Tech. programmes consist of theory courses, theory cum practical courses, theory cum project courses, lab cum project, practical courses, comprehensive test and viva, project work, industrial training/professional skills training, internship/in-plant training and entrepreneurships/startups. Performance in each course of study shall be evaluated based on (i) CA throughout the semester (internal) and (ii) ESE at the end of the semester (external) except for the courses which are evaluated based on CA only. Each course shall be evaluated for a maximum of 100 marks. The CA and ESE mark distribution is given below:

Table 5: Distribution of Internal and End Sem Exam. Marks

Sl. No.	Category of Course	CA (Internal)	ESE (External)
1	Theory (T)	40	60
2	Theory cum Project (TJ)	50	50
3	Practical (L)	60	40
4	Practical cum Project (LJ)	60	40
5	Theory cum Practical (TL) (The distribution of marks shall be decided based on the credit weightage assigned to theory and practical components.)	50	50
6	Professional Skills Training / Comprehensive Test & Viva / Entrepreneurship / Startup Project /Mandatory Course/Industrial Training/Language Electives/ One-credit and two-credit courses/industry-offered course/other University-offered courses, etc.	100	---
7	Project /Internship/Industrial Training	60	40
8	One credit course/ Two credit course	The distribution of marks shall be decided based on the credit weightage assigned	
9	All other Courses: EEC, VAC, Online Courses, IOC, IUC, etc.		

8.1.1 Marks for Attendance

Attendance marks (**rounded to the nearest integer**) for the theory and laboratory courses will be awarded as per the procedure given below:

Table 6: Marks for Attendance

Attendance% in each course	Theory Course	Laboratory Course
> 95%	5 Marks	10 Marks
90 - 94%	4 Marks	8 Marks
85 - 89%	3 Marks	6 Marks

80 - 84%	2 Marks	4 Marks
75 - 79%	1 Mark	2 Marks

8.2 Theory Courses

For all theory courses out of 100 marks, the CA shall be 40 marks and the ESE shall be for 60 marks. However, the ESEs shall be conducted for 100 marks and the marks obtained shall be reduced to 60. The CA tests shall be conducted as per the schedule laid down in the academic schedule. The total of the CA marks and the ESE marks shall be rounded off to the nearest integer. However, the assessment pattern for awarding the CA marks may be changed based on the nature of the course and is to be approved by the HOI.

For each theory course, the CA pattern shall be as follows

Table 7: CA Marks Distribution

Parameter	Duration	Syllabus to be Covered	Marks for Evaluation	Weightage of marks
IAT 1 (Internal Assessment Test)	1 hr:30 min	1-2 Units	50	06
IAT 2 (Internal Assessment Test)	1 hr:30 min	3-4 Units	50	06
Model Examination	3 hrs.	1-5 Units	100	12
Individual Assignment / Case study / Seminar / MCQ/Mini project / any other experiential learning *			50	11
Attendance	-	-	05	05
Total Marks				40

* Individual Assignment / Case study / Seminar / MCQ/Mini project / any other experiential learning and Test with each having a weightage of 40% and 60% respectively*

The faculty/HOD and the student will decide on any one option within one week of the start of the semester.

Individual Assignments

Assessing the individual assignments requires a structured and transparent. It might consider the following categories: Understanding of concepts, Application of knowledge, Methodology and approach, Completeness and accuracy, Clarity and presentation, Creativity and originality, and References and citations. :

Seminar Assessment

If it was a seminar, the students must make a digital assignment and present in the classroom. The assessment will be based on assignment content, presentation, confidence/clarity/standard adopted and answering the queries.

MCQ Assessment

The MCQ assessment will be online with 50 questions to be answered in 1 hour 30 min. The MCQ must be spread over the entire syllabus. For MCQ assignments will be assigned in the respective course Google classroom platform as per the schedule by the course handling faculty

Mini Project Assessment

The mini-project must be assessed with two reviews scheduled by the PRC with 30% and 30% of the total marks respectively. The demonstration will be done one week before the lab. practical examination for 40% of the total marks.

8.3 Theory cum Practical Courses

For courses involving theory and practical components, the evaluation pattern is depending on the nature of the course, the ESE shall be conducted for theory and practical components. The apportionment of CA and ESE marks shall be decided based on the credit weightage assigned to theory and practical components approved by HOI.

Table 8: Distribution of Marks in Theory cum Practical Courses

Parameter	Duration	Syllabus to be Covered	Marks for Evaluation	Weightage of Marks
IAT 1	1 hr:30 min	1-2 Units	50	07
IAT 2	1 hr:30 min	3-4 Units	50	07
Model Exam	3 hrs.	1-5 Units	100	11
Model Lab			50	20

Attendance	-	-	05	05
Total Marks				50

8.4 Practical Assessment

For all practical courses out of 100 marks, the CA shall be for 60 marks and the ESE shall be for 40 marks. Every exercise/experiment shall be evaluated based on the candidate's performance during the practical class and the candidate's record.

The assessment pattern for awarding CA marks for each course shall be decided by the course coordinator based on rubrics of that particular course, and shall be based on rubrics for each experiment. The CA marks distribution as follows:

Table 9: Distribution of Marks in Practical Courses

S. No.	Parameter	Weightage of Marks
1	Lab Test-1	15
2.	Quiz-1(Viva)	10
3.	Lab Test-2	15
4.	Quiz-2(Viva)	10
5.	Attendance	10
	Total Marks	60

- The ESE shall be conducted for a maximum of 100 marks for duration of 2 hours and reduced to 40 marks. The appointment of examiners and the schedule shall be decided by the Chairman of Board of Study of the relevant board. The rubric for ESE is given below.

Table 10: Distribution of Marks in Practical Courses

Parameters	Marks
Pre Lab.-Preparation	20
Conduct of Experiment	25
Calculation, Result	20
Viva-voce	10

Total	75
Average of all experiments	75 (rounded to the nearest integer)
Model Practical Examination	100 (to be scaled down to 25)
Continuous Internal Assessment Marks	75+25=100 marks (to be scaled down to 60)

8.5 Theory course with Project

For courses involving theory and project components, depending on the nature of the course, the ESE shall be conducted for theory and the project components. The apportionment of CA and ESE marks shall be decided based on the credit weightage assigned to theory and project components approved by HOI.

Table 11: Distribution of Marks in Theory with Project Courses

Parameter	Duration	Syllabus to be Covered	Marks for Evaluation	Weightage of Marks
IAT 1	1 hr:30 min	1-2 Units	50	07
IAT 2	1 hr:30 min	3-4 Units	50	07
Model Examination	3 hrs.	1-5 Units	50	11
Project			50	10
Attendance	-	-	05	05
Total Marks				40

8.6 Laboratory/practical with Project

For courses involving Laboratory/practical cum project components, the evaluation pattern is depending on the nature of the course, the ESE shall be conducted for laboratory/practical and the project components. The apportionment of CA and ESE marks shall be decided based on the credit weightage assigned to Laboratory/practical and project components approved by HOI.

Table 12: Distribution of Marks in Laboratory with Project Courses

Parameter	Duration	Marks for Evaluation	Weightage of Marks
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Lab Test 1	2 hrs.	50	10
Lab Test 2	2 hrs.	50	10
Model Lab	2 hrs.	50	10
Project	-	50	20
Attendance	-	-	10
Total			60

8.6.1 Theory Courses with Laboratory Component / Laboratory Courses with Theory Component Evaluation Methodology

Weightage of internal assessment and end semester examination marks will be 50% each. The distribution of marks for the theory and laboratory components in the internal assessments and end semester examination for different types of courses are provided in the table.

Table 13: Weightage of Marks in IATs and ESE

L	T	P	J	C	IAT1	IAT2	IAT3	ESE
1	0	4	0	3	T (12.5%)	P (12.5%)	T (25%)	P (50%)
1	0	2	0	2	T (12.5%)	P (12.5%)	T (25%)	P (50%)
3	0	2	0	4	T (15%)	P (10%)	T (25%)	T (35%); P (15%)
2	0	4	0	4	T (12.5%)	P (12.5%)	T (25%)	P (50%)
0	0	2	4	2	J (15%)	P (15%)	J (30%)	J (40%)
1	0	0	4	2	J (12.5%)	T (12.5%)	J (25%)	J (50%)

The procedure for the conduct of internal assessments for theory and laboratory components shall be as per clause 8.2 and 8.3 respectively.

8.7 Project Work (Design/ Major)/ Startup

- i. Project work shall be assigned to a single candidate or to a group of candidates not exceeding four candidates in a group. The project work is mandatory for all the candidates.
- ii. The HOD shall constitute review committee for project work. There shall be assessments by the review committee during the semester. The candidate shall make presentation on the

progress made by him/her before the committee.

- iii. The CA and ESE marks for project work and Viva-Voce examination shall be distributed as:

Table 14: Distribution of marks in Project Reviews and ESE

Review I	Review II	Review III	ESE (External)			
			Project Report		ESE	
10	15	15	Supervisor	External Examiner	Supervisor	External Examiner
			10	10	50%	50%

Table 15: Timeline for Project Work Activities

Activity	Remarks
1st Review (acceptance of project title)	To be held after the completion of pre-final semester model exam
2nd Review	To be scheduled during the CAT-I period of non-final year students
Submission of draft Report to Internal Guide	10 calendar days before the viva voce Exam
Submission of Synopsis	7 calendar days before the viva voce Exam
Report corrections/modifications to be informed to students by Guides	3 calendar days before the viva voce Exam
Submission of Project Report in its final form	-One instructional day before the viva voce exam
3rd Review (Final)	To be scheduled during the Model exam period of non-final year students as Viva-voce examination by the PRC. Of the 50% weightage, 20% goes to project report evaluation by the guide, 5% for poster presentation, 10% for Conf./Jrl publication and 15% goes to the Viva-voce examination conducted by External Examiner

- iv. The project report prepared according to the approved guidelines and duly signed by the supervisor shall be submitted to HOD. The candidate(s) must submit the project report within the specified date as per the academic schedule of the semester. If the project report is not submitted within the specified date, then the candidate is deemed to have failed in the project work and redo it in the subsequent semester.
- v. If a candidate fails to secure 50% of the CA marks in the project work, he / she shall not be permitted to submit the report for that particular semester and shall have to redo it in the subsequent semester and satisfy attendance requirements.
- vi The ESE of the project work shall be evaluated based on the project report submitted by the candidate in the respective semester and viva-voce examination by a committee consisting of an examiner and the supervisor of the project work.
- vii If a candidate fails to secure 50% of the ESE marks in the project work, he / she shall be required to resubmit the project report within 30 days from the date of declaration of the results and a fresh viva-voce examination shall be conducted as per clause 8.7.vi.

A copy of the approved project report after the successful completion of viva-voce examination shall be kept in the department library. The rubrics final evaluation of the project work is given below.

Table 16: Distribution of Marks in Project Work (ESE)

S. No	Components	Max. Marks
1	Demonstration (physical)	20
2	Presentation	15
3	Results / Conclusions	15
4	Project's relevance to Societal applications /Patentable idea /Technology Transfer	10
5	Record	10
6	Viva-voce	15
7	Poster presentation	5
8	Publication	10
	Total	100

The project evaluation shall be carried out with internal examiner and external examiner. Both the examiners shall evaluate the project for 85 marks (excluding the marks for poster presentation and publication). 50% weightage of both the examiners shall be considered. If the project has been carried out in industry, an industry person shall be invited as external examiner. In such cases, 30% and 70% weightage are given for the evaluation done by internal and external examiner respectively.

8.7.1 Poster Presentation

The **poster presentation** is a must for every final year project and carries 5% weightage of the total marks of the project course. This will allow all faculty and students of the campus to know the achievements of students carried out as part of their Project work or Thesis work. Any physical model developed may also be displayed along with the poster. This will also be a motivating factor for the junior students and help to improve the quality of projects. The institution will announce the poster display schedule and venue to all other students and faculty in advance, to enable them to visit and know the work carried out by project students. The institution may create a faculty team to visit the venue and evaluate the posters for the 5% of marks that it carries. Students shall explain their work to the faculty team visiting them for evaluation or other visitors.

8.7.2 Publication of Paper

The HOD/project coordinator (s) shall submit the proof of the publication details to the office of COE, 10 days before the start of the Viva-voce examination. The marks shall be given as below:

- | | |
|--|----------|
| 1. If published in conference proceedings or UGC CARE Journals - | 7 marks |
| 2. If published in Scopus Indexed Proceedings/Journal - | 8 marks |
| 3. If published in WOS indexed proceedings/journal - | 9 marks |
| 4. If applied for patent - | 10 marks |

If a student has submitted the project report but absent in the end semester examination of project work, the student is deemed to be failed. In this case and also if a student attends and fails in the End semester examination of Project work of B.E. / B.Tech, he/she shall attend end semester examination again within 30 days from the date of declaration of the results. The subsequent viva-voce examination will be considered as reappearance with payment of exam fee. In case, the student fails in the subsequent viva-voce examination also, the student shall redo the course again, when offered next.

8.7.3 Startup

Students shall also undertake a Startup activity for the development of products as part of project work. If the outcome of a Startup is a fully developed product and whose concept is tested and

validated, then it shall be considered in lieu of the project work. Such students shall submit a Startup report, which includes the concepts and process flow of the developed product, publications and patents, if any.

8.8 Assessment of Value-added Course/Certificate Courses

Value Added / Certificate Courses Marks

Test I	25
Test II	25
Final Evaluation / Test	50
Total Marks	100 Grades (Excellent / Good / Satisfactory)

Assessment

- The one / two credits value-added courses shall carry 100 marks and be evaluated through Continuous Internal Assessments only.
- Two Assessments shall be conducted during the semester by the Department concerned.
- The total marks obtained in the tests shall be reduced to 100 marks and rounded to the nearest integer.
- A committee consisting of the HOD, staff handling the course, and a senior faculty member nominated by the HOI shall monitor the evaluation process.

The list of students along with the marks and the grades earned may be forwarded to the COEs for appropriate action at least one month before the commencement of ESE.

8.9 Assessment of Creative Projects

8.9.1 MAP Assessment: Each department will have a MAP Review Committee, which will carry out the review and award marks. The committee consists of Department MAP Coordinator (Convenor), one Senior Faculty nominated by HOD and Supervisor of the MAP team. The assessment is for 100 marks and fully assessed as IA and no End Semester Examination. The assessment guidelines are:

Table 17: Distribution of Marks in MAP

Method	Review - 1	Review - 2	Review - 3	Review - 4	Review - 5
Details	Product Identification	Design & Progress made	Fabrication / Development / Progress made	Fabrication / Development / Progress made	Final* Assessment
Timeline	One month after commencement of 5 th semester	One week before the last instruction day of 5 th semester	One month after commencement of 6 th semester	One month after Review - 3	Before the last instruction day of 6 th semester
Marks	10	20	20	20	30
* For final assessment, the MAP team has to submit a 5 - 10 page report and demonstrate the working of the product.					

8.9.2 Socially Relevant Projects Assessment

Continuous Assessment 50

Distribution of marks for CA

Review I Progress (10)

Review II Approach & Results (10)

Review III Conclusion & Final Presentation (10)

Report (10)

Publication of Paper in Conferences / Journals (10)

End Semester Examination 50

Distribution of marks for ESE

Presentation (equal distribution for IE and EE) (30)

Viva voce (equal distribution for IE and EE) (20)

Total Marks 100

8.10 Courses with Only Continuous Evaluation

(i) Language Electives

Marks

Test 1 Listening (5) Speaking (10) Reading (5) Writing (5) 25

Test 2 Listening (5) Speaking (10) Reading (5) Writing (5) 25

Oral Exam 50

Total Marks 100

(ii) Industrial Training/ Internship

Marks

Assessment by Industry 30

Viva-voce 20

Presentation 30

Case Study / Report 20

Total Marks 100

(iii) Soft Skills

Marks

Test I 25

Test II 25

Final Examination 50

Total Marks 100 Grades (Excellent / Good / Satisfactory)

8.10 Assessment of Industrial Training Courses

8.10.1 Industrial Training

The students may undergo Industrial training for a period as specified in the Curriculum during the summer/winter vacation. In this case, the training has to be undergone continuously for a period of at least two weeks in an organization. The candidate must obtain permission for doing the industrial training from the HOD and the COE and inform about the nature of the industry and duration of the training in advance. The evaluation method shall be as follows:

Table 18: Assessment Guidelines for Industrial Training

Review I	Review II	Review III	ESE (Internal)			
			Project Report		Viva-Voce	
10	15	15	Supervisor	External Examiner	Supervisor	External Examiner
			10	10	20	20

If a candidate fails to secure 50% of the CA marks in this course, he/she shall be required to resubmit

the project report within 30 days from the date of declaration of the results and a fresh viva-voce examination shall be conducted.

8.1.2 Internship

The students may undergo Internship at a Research organization / University/ Industry (after due approval from the HOI) for the period prescribed in the curriculum during the summer/winter vacation, instead of Industrial training. Attendance Certificate mentioning the period of Industrial Training/Internship and signed by the competent authority of the industry, as per the format provided by the COE shall be submitted to the HOI.

Students shall get permission from the HOI for taking Industrial training /Internship and the Certificate of completion of Industrial Training / Internship shall be forwarded to the COE.

Table 19: Credit Assignment for Internship

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

*1 Week = 40 Internship Hours

Internship Marks Distribution (Continuous Assessment Only)

Assessment by Industry	30 Marks
Viva-voce	20 Marks
Presentation	30 Marks
Case Study / Report	20 Marks
Total Marks	100 Marks

Table 20: Assessment of Internship

Evaluation of report		Presentation		Viva -voce	
Internal Review committee	External Examiner	Internal Review committee	External Examiner	Internal Review committee	External Examiner
20	20	20	20	10	10

8.11 Assessment of Industry-Oriented Courses (IOC)

The conduct of IOC in the departments shall be approved by Industry Oriented Courses Committee (IOCC). IOCC shall approve the courses based on minutes of the Department Consultative Committee meeting showing details of its recommendations for the proposed IOCs along with the profile of industry experts and gap analysis for offering the course for students. For industry-oriented courses, the course content, delivery, question paper setting and final evaluation shall be done only by the industrial experts concerned. The final evaluation of these IOCs shall be completed within one month of the completion of the course. The following documents are to be submitted by departments to the Principal for approval. The approved documents shall be forwarded to COE for credit transfer and entry in the grade sheet.

1. The DCC minutes showing the recommendation for the IOCs proposed by departments.
2. Approval letter / minutes from IOCC for conduct of the IOCs in coordination with COE.
3. The DCC minutes showing evaluation pattern and its results for the courses undergone by students, certificates (issued by the industry concerned) submitted by the students and mark lists, if any.

8.12 Other University/Institution Courses (OUIC)

Students are permitted to optionally enroll and study the courses in physical/hybrid/online modes offered by reputed Central / State funded Universities/Institutions which are in the top 100 positions in the latest NIRF ranking and also conducting examination towards award of marks and grades. (NIRF Ranking of any of the last three years with respect to the year in which course is to be registered; NIRF ranking is based on respective stream for professional elective courses and based on any stream for open elective courses).

Students are also permitted to enroll and undergo such courses in Online mode at Universities abroad in top 500 in QS ranking in the last three years. Students are also permitted to study courses of a particular semester in a University / Institution abroad based on MoU. A learning agreement shall be evolved to map all the courses offered in the programme and the courses offered in University abroad as per the procedure outlined by the Academic Council. The credits earned by the students in the University abroad shall be transferred based on the decision of DAC and approved by the HOI.

The students can enroll for the courses with the approval of the HOI only if the course is offered directly by the Institution/University and not with the edutech platforms.

The marks/credits earned by the student shall be transferred based on the decision of a committee constituted by HOI and approved by the HOI.

8.13 Professional Skills Training

Phase I training shall be conducted for minimum of 80 hours in 3rd semester vacation and during 4th semester and Phase II training shall be conducted for minimum of 80 hours in 4th semester vacation and during 5th semester. The evaluation procedure shall be approved by the BOS of the offering department and the HOI.

8.14 Comprehensive Test and Viva

The overall knowledge of the candidate in various courses he/she studied shall be evaluated by

(i) Conducting comprehensive tests with multiple choice questions generally with pattern similar to GATE.

(ii) Viva-voce examination conducted by a panel of experts assigned by the HOD. The members can examine the knowledge of the candidate by asking questions from various domains and the marks will be assigned based on their answers. This course shall carry One credit. The evaluation procedures shall be approved by the HOI.

Assessment of Comprehension Test and Viva

This course is assessed only through internal assessments. Three IATs shall be conducted for the comprehension course. A student shall secure a minimum of 50% in all the IATs together. If a student fails, he/she shall redo the course

Assessment Pattern for Comprehension Test and Viva is by MCQ and Viva-voce.

Assessment	Duration	Max. Marks	Weightage (%)
IAT 1	1.30 hours	50	25
IAT 2	1.30 hours	50	25
Model Exam	3.0 hours	50	50
Total			100

8.15 Entrepreneurship/ Startup

A startup/business model may be started by a candidate individually or by a group of maximums of three candidates during the programme vide clause 4.5.1. The HOD concerned shall assign a faculty member as a mentor for each startup.

A review committee shall be formed by the HOI for reviewing the progress of the startups / business model, innovativeness, etc. The review committee can recommend the appropriate grades for academic performance for the candidate(s) involved in the startups. This course shall carry a maximum of **Two credits** in fifth/sixth/seventh semester and shall be evaluated through continuous

assessments for a maximum of 100 marks. A report about the startups is to be submitted to the review committee for evaluation for each startup and the marks will be given to COE after getting approval from the HOI.

8.16 In-Plant Training

Each candidate shall submit a brief report about the internship undergone and a certificate issued from the organization concerned.

8.17 One-credit course/Two-credit course/Three-credit courses

For all one credit course / two credit/three credit courses out of 100 marks, the CA shall be 50 marks and the model examination shall be 50 marks. A minimum of two continuous assessment tests shall be conducted during the one-credit course/two-credit course duration by the offering department. Model examination shall be conducted at the end of the course.

8.18 Online Course

The Board of Studies will provide methodology for the evaluation of the online courses. In case of credits earned through online mode from NPTEL/ SWAYAM/Other Agencies approved by Chairman, Academic Council, the credits may be transferred and grades shall be assigned accordingly. Students may be permitted to credit online courses subjected to a max. of 18 credits.

- | | |
|---|-----------|
| i. Courses of 4 weeks to 7 weeks or 08 Hrs. to 15 Hrs.: | 1 credit |
| ii. Courses of 8 weeks to 11 weeks or 16 Hrs. to 23 Hrs.: | 2 credits |
| iii. Courses of 12 weeks to 15 weeks or 24 Hrs. to 31 Hrs.: | 3 credits |
| iv. Courses of 16 weeks or more or more than 31 Hrs.: | 4 credits |

The online course of 3 credits can be considered instead of one elective course. These online courses shall be chosen from the NPTEL/SWAYAM platform, provided the offering organization conducts regular examinations and provides marks. The credits earned shall be transferred and the marks earned shall be converted into grades and transferred, provided the student has passed in the examination as per the norms of the offering organization.

8.18.1 Conditions for Online Courses

- (a) Student can take up few courses from online from NPTEL/SWAYAM or any reputed online platform. The course of study has to be either Professional Core or Professional Elective or Open Elective. The courses already completed in the institution should not be repeated in the online mode.

- (b) Credit Equivalence Committee (CEC) will decide whether the course is eligible to get credit equivalence or not, credit equivalence of the course and guidelines for award of marks and grades.
- (c) A student has to get approval from HOD and CEC before registering and studying any online course in order to get credit equivalence and grades. Approval has to be obtained 15 days before the commencement of online courses.
- (d) A student can earn a maximum of **18 credits** through online courses for credit equivalence. If student studies more than maximum credit permitted under online courses, such courses will be treated as Audit Courses in the Grade sheet.
- (e) The class advisor (CA) and HOD is responsible for keeping records and sending the details of course, marks and grading guidelines to COE.
- (f) Assessment for Online Courses: For online courses taken from NPTEL / SWAYAM the score obtained is converted out of 100 marks and is directly used for grading. In case, such assessment scores are not available, the guidelines issued by CEC have to be used for grading. Under such cases, the CEC will suggest the evaluation procedure. The students must ask for the evaluation procedure before registering the course. The CA and HOD should ensure all these aspects.

8.19 International Certification Course

International certification establishes an industry standard by which students are evaluated through a fair, comprehensive test of their knowledge in the areas related to their disciplines. Being certified makes the student, a highly competent professional. After attending the VAC, students can appear for the respective international certification examinations. For example, certificate courses like Certified LabVIEW Associate Developer (CLAD), Certified LabVIEW Developer (CLD), SIEMENS PLC Programming, Cisco Certified Network Associate (CCNA), RedHat certification, Cloud Computing certification, Oracle certification, Microsoft certification, ANSYS certification, Certified SOLIDWORKS Associate (CSWA), Building Information Modeling (BIM) and other relevant courses as suggested and approved by HoD and BoS may be offered. The students should mandatorily attend one international certification course during their course of study. Students who have successfully received International Certification will earn **One credit. The credits earned will be considered for CGPA calculation.** If a student gets a pass mark in the International certification, then the credits earned will be mentioned in the grade sheet or else, it will not be reflected in the grade sheet.

8.20 Self-Study Course

The member of faculty approved by the HOD shall be responsible for periodic monitoring and evaluation of the course. The course shall be evaluated through CA and ESE. The evaluation

methodology shall be the same as that of a theory course.

8.21 Mandatory Courses

A candidate joined in first semester shall attend and complete a mandatory course namely Students Induction Program of duration three weeks at the beginning of the first semester. The candidates studying in Second/Third year shall attend and complete another two mandatory courses. No credits shall be given for mandatory courses and shall be evaluated through CATs only vide clause 8 for a maximum of 100 marks each. Upon successful completion, these courses will be listed in the semester grade sheet and in the consolidated grade sheet with the grade “SC” (Successfully Completed). Since no grade points (credits) are assigned, these courses will not be counted for the purpose of GPA and CGPA calculations.

8.22 A reassessment test or tutorial covering the respective test or tutorial portions may be conducted for those candidates who were absent with valid reasons (sports or any other reason approved by the HOI).

The reassessment test for one or more than one course in any one IAT can be taken by the students due to the absence by valid reason and with prior permission except on medical grounds. The students need to get prior approval from the HOD concerned and the same shall be forwarded to the office of COE within a minimum of 5 days after the respective IAT.

The students who absent themselves for any IATs due to reasons like Co-curricular and Extracurricular activities, representing the college at State/National/International level events/any other special permission authorized by their HOD and Principal shall apply for the reassessment test within a minimum of 5 days from the date of commencement of IAT (except medical grounds).

Also, students who wish to improve their Internal marks can register for the reassessment test. The reassessment test will be conducted within 5 days after the internal marks are displayed. The retest will be conducted for the entire syllabus. As a special case, the student is allowed to take the reassessment test for more than one course will be considered on a case-to-case basis considering the merit of the case. Such cases shall be approved by the HOI with recommendation from the HOD.

8.23 Transfer of Credits in Curriculum

8.23.1 Transfer of NCC Credits

Transfer of credits earned through NCC- B and C Certificates with 3 credits each to Open elective courses in the curriculum.

NCC students are motivated to complete NCC B and C certificates during their period of study. Students can earn three credits each by completing NCC B and C certificates. NCC students who complete B & C certificates can earn 3 credits each with a total of **6 credits**. The earned credits can

be transferred to 2 open elective courses (3 credits each) in their curriculum. The NCC officer(s) shall submit the names of the students who have completed B and or C certificates to the Principal along with the marks sheet and certificate(s). After approval by the Principal, the list is forwarded to COE for inclusion in the grade sheet. The Grades secured by students in B & C certificate exams shall be given grades.

8.23.2 Transfer of NPTEL credits

The students can transfer a maximum of 3 credits to a professional elective course during their period of study.

8.23.3 Transfer of credit through IOC

The students can transfer a maximum of 3 credits to a professional elective course during their period of study.

8.23.4 Transfer of credits earned through GATE

The students can transfer 1 credit to the comprehension course if he /she has a valid GATE score.

8.23.5 Transfer of credits through Internship

The programme shall be implemented from 3rd semester onwards. The HOD and the respective CCs and CAs shall be responsible for identifying the students to carry out the projects given by the Industry. Once the students start their internship, the number of hours put in by the students in the project shall be recorded by the assigned faculty member.

The credits can be transferred to specified courses based on the number of hours spent by the students and completion report from the Industry. The following shall be applied while transferring credits to the courses:

The list of students who wish to drop a professional elective in a semester shall be approved by HOI and forwarded to COE within 10 working days after the commencement of regular class of that semester.

8.24 Condition for Credit Transfer

A professional elective in which a student having an arrear cannot be dropped instead of the credits earned from EEC.

9.0 REQUIREMENTS FOR APPEARING TO ESE

9.1 A candidate shall normally be permitted to appear for ESE of the current semester if he/she has satisfied the semester completion requirements as per clause 6, and has registered for examination in all courses of that semester. The registration is mandatory for current semester examinations as well as for arrear examinations failing which the candidate shall not be permitted to move on to the higher semester.

9.2 When a candidate is deputed for a National/International Sports event during ESE period, supplementary examination shall be conducted for such a candidate on return after participating in the event within a reasonable period. Such appearance shall be considered as first appearance.

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

10.0 REQUIREMENTS FOR COMPLETION OF SEMESTER

10.1 A candidate who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester and permitted to appear for the examinations of that semester.

10.1.1 Ideally, every candidate is expected to attend all classes and secure 100% attendance. However, a candidate shall secure not less than 75% (after rounding off to the nearest integer) of the overall attendance taking into account the total number of working days in a semester.

10.1.2 A candidate who could not satisfy the attendance requirements as per clause 10.1.1 due to medical reasons (hospitalization/accident/specific illness/Sports) but has secured not less than 65% in the current semester may be permitted to appear for the current semester examinations as per clause 6.1.

A candidate who could not satisfy the attendance requirements as per clause 10.1.1 due to his/her entrepreneurship/startup activities, but has secured not less than 65% in the current semester can be permitted to appear for the current semester examinations with the recommendation of review committee and approval from the HOI.

10.1.3 **In addition to clause 10.1.1 or 10.1.2, a candidate shall secure not less than 65% attendance in each course.**

10.1.4 A candidate shall be deemed to have completed the requirements of study of any semester only if he/she has satisfied the attendance requirements (vide clause 10.1.1 to 10.1.3) and has registered for examination by paying the prescribed fee.

10.1.5 The candidate's progress is satisfactory.

10.1.6 Candidate's conduct is satisfactory and he/she was not involved in any indiscipline activities in the current semester.

10.2 The candidates who do not complete the semester as per clauses from 10.1.1 to 10.1.6 except 10.1.3 shall not be permitted to appear for the examinations at the end of the semester and not be permitted to go to the next semester. They have to repeat the incomplete semester in next academic year.

10.3 The candidates who satisfy the clause 10.1.1 or 10.1.2 but do not complete the course as per clause

10.1.3 shall not be permitted to appear for the ESE of that course alone. They have to repeat the incomplete course in the subsequent semester when it is offered next.

11.0 PROVISION FOR WITHDRAWAL FROM EXAMINATIONS

11.1 A candidate may, for valid reasons, be granted permission to withdraw from appearing for the examination in any regular course or all regular courses registered in a particular semester. Application for withdrawal is permitted only once during the entire duration of the degree programme.

11.2 The withdrawal application shall be valid only if the candidate is otherwise eligible to write the examination (vide clause 9) and has applied to the HOI for permission prior to the last examination of that semester after duly recommended by the HOD.

11.3 The withdrawal shall not be considered as an appearance for deciding the eligibility of a candidate for First Class with Distinction/First Class.

11.4 If a candidate withdraws a course or courses from writing ESEs, he/she shall register the same in the subsequent semester and write the ESEs. A final semester candidate who has withdrawn shall be permitted to appear for supplementary examination to be conducted within reasonable time as per [clause 22](#).

11.5 The final semester candidate who has withdrawn from appearing for project viva-voce for genuine reasons shall be permitted to appear for supplementary viva-voce examination within reasonable time with proper application to COE and on payment of prescribed fee.

12.0 PROVISION FOR BREAK OF STUDY

12.1 A candidate is normally permitted to avail the authorized break of study under valid reasons (such as accident or hospitalization due to prolonged ill health or any other valid reasons) and to rejoin the programme in a later semester. He/She shall apply in advance to the HOI, through the HOD stating the reasons therefore, in any case, not later than the last date for registering for that semester examination. A candidate is permitted to avail the authorized break of study only once during the entire period of study for a maximum period of one year. However, in extraordinary situation the candidate may apply for additional break of study not exceeding another one year by paying prescribed fee for the break of study.

12.2 The candidates permitted to rejoin the programme after break of study / prevention due to lack of attendance shall be governed by the rules and regulations in force at the time of rejoining.

12.3 The candidates rejoining in new Regulations shall apply to the HOI in the prescribed format through

HOD at the beginning of the readmitted semester itself for prescribing additional/equivalent courses, if any, from any semester of the regulations in-force, so as to bridge the curriculum in-force and the old curriculum.

- 12.4** The total period of completion of the programme reckoned from the commencement of the semester to which the candidate was admitted shall not exceed the maximum period specified in clause 5 irrespective of the period of break of study in order to qualify for the award of the degree.
- 12.5** If any candidate is prevented for want of required attendance, the period of prevention shall not be considered as authorized break of study.
- 12.6** If a candidate has not reported to the college for a period of two consecutive semesters without any intimation, the name of the candidate shall be deleted permanently from the college enrollment. Such candidates are not entitled to seek readmission under any circumstances.

13.0 PASSING REQUIREMENTS

- 13.1** A candidate who secures not less than 50% of total marks (CA and ESE put together) prescribed for the course with a minimum of 45% of the marks prescribed for the ESE in all category of courses vide clause 8.0 except for the courses which are evaluated based on CA only shall be declared to have successfully passed the course in the examination.
- 13.2** A candidate who secures not less than 50% in CA marks prescribed for the courses which are evaluated based on CA only shall be declared to have successfully passed the course. If a candidate secures less than 50% in the CA marks, he / she shall have to re-enroll for the same in the subsequent semester and satisfy the attendance requirements.
- 13.3** The CA marks obtained by the candidate in the current semester (n) shall be retained and carried forward up to the next three consecutive ESEs (n+3) till the candidate secures a pass. However, from the (n+4)th ESE onwards, the candidate shall be declared to have passed the examination if he/she secures a minimum of 50% marks prescribed for the ESE alone. Conducting CA and other assessments for improving the CA marks shall not be permitted from (n+1)th semester onwards.

Table 21: Programme Passing Requirements

Theory	Laboratory	Status	
Pass	Pass	Pass	
Fail	Pass	Fail	Re-appearance required for both
Pass	Fail	Fail	

Absent	Pass/Fail	Fail	theory and laboratory components of the concerned course
Pass/Fail	Absent	Fail	
Absent	Absent	Fail	

14.0 CLASS COUNSELOR

Each class of students belonging to different sections of all the three years has a Class Counselor (CC) who is a regular faculty member of the department. The HOD will appoint CCs for all the sections of their classes. The CCs will hold the responsibility for Three years of the same batch of students until the completion of the programme. The CCs will maintain all records of the class of students assigned to them and generally counsel them on maintaining good attendance, discipline and academic performance.

15.0 FACULTY ADVISOR

To help students plan their courses of study and for general advice on the academic programme, the HODs of individual departments will attach a certain number of students to a teacher of the department who shall function as Faculty Advisor for those students throughout their period of study. Faculty Advisors shall advise the students under their care, monitor the courses undergone by them, check their attendance and progress and counsel them periodically to get better placement opportunities for student's bright future. If necessary, the Faculty Advisor may also convey or discuss information on student's academic performance and progress with the parents concerned. Further the Faculty Advisor has to play an active role in deciding the open electives for their students.

16.0 DEPARTMENTAL CONSULTATIVE COMMITTEE

All departments shall constitute a Departmental Consultative Committee (DCC) consisting of the HOD as Chairperson and five senior faculties, who are professors or associate professors. The role of the DCC is to review and approve industries or other organizations identified for industrial training, internship or project work of students. It shall also review and approve online/elective courses selected by students for their content and quality.

17.0 CLASS COMMITTEE

Each class of various sections shall have a Class Committee (CC) which is constituted by HOD with

a chairperson who is not teaching the respective class. The committee comprises of Class Counselors, faculty members teaching the courses for all the sections of that class, and student representatives. It is formed with the overall goal of improving the teaching-learning process. The functions of the CC include,

- i. Solving problems experienced by students in the class room and in the laboratories.
- ii. Clarifying the regulations of the degree programme and the details of rules therein.
- iii. Informing the student representatives about the academic schedule including the dates of assessments and the syllabus coverage for each assessment.
- iv. Informing the student representatives, the details of regulations regarding weightage used for each assessment. In the case of practical courses (Laboratory experiments /Engineering drawing/project work/seminar/Internship etc.), the breakup of marks for each experiment /exercise/ module of work, should be clearly discussed in the CC meeting and informed to the students.
- v. Analyzing the performance of the students of the class after each test and finding the ways and means of solving problems, if any.
- vi. Identifying slow learning students, if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such students.
- vii. The CC for a class under a particular branch is normally constituted by the HOD.
- viii. The CC shall be constituted within the first week of each semester.
- ix. At least Six student representatives (usually Three boys and Three girls) shall be included in the CC.
- x. The Chairperson of the CC shall invite the Class Counselors, Faculty advisor(s) and the HOD to the CC meeting.
- xi. The HOI may participate in any CC meeting of the institution.
- xii. The chairperson is required to prepare the minutes of every meeting, submit the same to HOI within two days of the meeting and arrange to circulate it among the students and teachers concerned. If there are any points requiring support and action from the Management, the same shall be brought to the notice of the Management by the HOI.
- xiii. Two subsequent meetings may be held in a semester at suitable intervals. During these meetings, the student members representing the entire class shall meaningfully express the opinions and suggestions of the other students of their class to improve the effectiveness of the teaching-learning process.

18.0 COURSE COMMITTEE (COCM) FOR COMMON COURSES

Each common theory course offered to more than one discipline or group shall have a “Course Committee” comprising all the teachers teaching the common course with one of them nominated as Course Coordinator. The nomination of the Course Coordinator shall be made by the HOD depending upon whether all the teachers teaching the common course belong to a single department or to several departments. The ‘Course Committee’ shall meet as often as necessary and ensure uniform evaluation of the tests through a common evaluation scheme. Wherever it is feasible, the Course Committee may also prepare a common question paper for the test(s), Assignments, and Course plan.

19.0. DEPARTMENT-LEVEL COMMITTEES

19.1 Program Assessment Committee (PAC)

The Program Assessment Committee (PAC) is a critical body responsible for the continuous assessment and enhancement of the academic program's quality. The PAC ensures that the program's educational objectives, outcomes, and teaching-learning processes align with NBA accreditation criteria and industry standards. The committee regularly reviews program performance, collects feedback, and implements improvement plans to achieve academic excellence and maintain accreditation standards.

19.2 Department Advisory Committee (DAC)

The Department Advisory Committee (DAC) is a critical body that provides strategic guidance and support to the department to achieve its educational objectives and ensure continuous improvement in quality. The DAC ensures that the department aligns its academic programs, research activities, and other initiatives with the industry requirements, technological advancements, and NBA accreditation criteria.

In an attempt to bring about continuous improvement, DAC has been formed. The DAC consists of faculty members of the department, academicians from other institutions, resource persons from Industry, and Invitees (alumni and students). The committee meets once in a semester to review & monitor the development of the department and recommend/advise it on the steps to be taken for its balanced growth. Following are the members of the DAC.

19.3 Project Review Committee (PRC)

The Project Review Committee (PRC) plays a crucial role in overseeing and ensuring the quality of student projects. The PRC is responsible for guiding students in the selection, execution, and evaluation of their projects, which are essential components of the engineering curriculum. The

committee ensures that the projects align with academic standards, industry relevance, and NBA accreditation requirements.

A student is required to undertake a research-oriented project in their final year of study for both B.E. and B.Tech courses. Upon completion of Final year project, student should be able to identify and describe the problem and scope of project clearly, collect, analyze and present data into meaningful information using relevant tools, select, plan and execute a proper methodology in problem solving, work independently and ethically, present the results in written and oral format effectively. The Project Review Committee will review and guide the students for their successful completion of final year project. The PRC has been reconstituted every year.

19.4 Quality Improvement Panel (QIP)

The Department Quality Improvement Panel (QIP) plays a critical role in enhancing the quality of education, improving faculty competencies, and ensuring continuous improvement in teaching-learning processes. The QIP is responsible for planning, implementing, and monitoring quality improvement initiatives within the institution. Here's an overview of the QIP's structure and functions according to NBA guidelines.

20.0 COLLEGE LEVEL COMMITTEES

20.1 Standing Committee for Academic Matters

This committee is constituted for the smooth functioning of the various autonomous programmes of the institute and shall consist of the following members:

Table 22: Standing Committee Composition

S.No	Designation	Role in SC
1	Principal	Convener
2	Dean-Academics	Member
3	All HODs	Member(s)
4	Member Secretary, Academic Council	Member
5	COEs	Member

The Committee shall meet periodically to discuss academic-related matters, progress and status of the students. The committee will meet as and when necessary and send its recommendations to the Academic Council for consideration/ratification / approval.

20.2 Internal Quality Assurance Cell (IQAC)

The **IQAC** plays a pivotal role in ensuring quality enhancement and sustenance in all academic and administrative activities of the institution. The IQAC is a mandatory body in higher education institutions in India, as recommended by the National Assessment and Accreditation Council (NAAC) and endorsed by the NBA. The IQAC focuses on developing a quality culture within the institution and continuously improving the teaching-learning process, research activities, and administrative efficiency.

The IQAC will collect online feedback from students for every subject after every IAT about the faculty for various parameters and the consolidated feedback information shall also be conveyed to the concerned faculty member through respective HOD to improve the teaching process and other activities of the faculty members. In addition, at the end of the semester feedback shall be collected for academic and related activities like course exit survey.

21.0 ATTENDANCE RECORD

Every teacher is required to maintain an 'Attendance and Assessment Record', which consists of attendance marked in each lecture or practical or project work class, the test marks and the record of class work (topic covered), separately for each course. This should be submitted to the HOD periodically (at least Three times in a semester) for checking the syllabus coverage and the records of test marks and attendance. The HOD will put his/her signature and date after due verification. At the end of the semester, the record should be verified by the HOI who will keep this document in safe custody (for five years).

22.0 CONDUCT OF ACADEMIC AUDIT

Every educational institution shall strive for a better performance of the students by conducting the internal assessments as mentioned in [Clause 8](#). In order to ensure the above, Academic Audit is to be done for every course taught during the semester. For the internal assessments conducted for each course as per details provided in [Clause 8](#), the academic records shall be maintained in the form of documentation for the individual assignments / case study report / report of mini project submitted by each student and assessment test question paper and answer script. Report of industrial training / internship shall also be maintained, if applicable. For laboratory courses

students' record shall be maintained. Further, the attendance of all students shall be maintained as a record.

The HOI shall arrange to conduct the Academic Audit for every course in a semester by forming the respective committees with an external course expert as one of the members drawn from a Technical institution of repute near the institute.

23.0 QUESTIONS BASED ON HOTS

Engineers are tasked with solving problems or developing products and processes by applying their engineering knowledge, creativity, and innovative thinking. These abilities are nurtured by encouraging deeper thinking in students to enhance their understanding. The ability to analyze and evaluate problems is key to arriving at effective solutions.

To assess the students' progression in these skills—particularly in analysis, evaluation, and synthesis—questions based on Higher Order Thinking Skills (HOTS) have been introduced in all Continuous Assessment Tests (CATs) and End Semester Examinations (ESE). According to Bloom's Taxonomy, while the simplest form of learning involves memorizing facts, higher-order skills require critical thinking, in-depth analysis, and the ability to solve problems efficiently. Therefore, in IAT-1 and model exams, 50% of the questions will target HOTS, while CAT-2 will consist entirely of HOTS-based questions.

24.0 VIEWING INTERNAL ASSESSMENT MARKS

Internal assessment marks will be available in the student login for all the registered courses, at least one week before the ESE. Any discrepancies noticed by the student in his / her internal assessment marks should be intimated to the HoD and COE within Two days from the commencement of ESE. Late requests cannot be accepted.

25.0 REVALUATION OF ANSWER SCRIPTS

A candidate shall apply for a photocopy of his / her semester examination answer script within a reasonable time from the declaration of results, on payment of a prescribed fee by submitting the proper application to the COE. The answer script shall be pursued and justified jointly by a faculty member who has handled the course and the course coordinator and recommended for revaluation. Based on the recommendation, the candidate can register for revaluation through proper application to the COE. The COE will arrange for revaluation and the results will be intimated to the candidate

concerned. Revaluation is permitted only for Theory courses, Theory cum practical courses and Theory cum project where ESE is involved.

26.0 SUPPLEMENTARY EXAMINATION

If a student fails to secure a pass in courses in any semester, he/she is allowed to write arrear examinations in the supplementary / Arrear Examination conducted within a period of one month after the publication of results. When the examination is conducted in that course; he/she should continue to register and reappear for the examinations in the failed subjects till he/she secures a pass, but total number of reappearance for a course shall not exceeds the total number of appearances available for the course at which the candidate failed when it is conducted as ESE as per **clause 7**.

The absentees in any current semester examinations may be permitted to write the supplementary examination conducted within a period of one month after the publication of results is subject to, the valid reason provided by the student and the recommendation by the HoD with approval of the Academic Council.

26.1 Special Supplementary Examinations

Special Supplementary Examinations will be conducted only once (within 30 days) after the publication of seventh semester SEE results. Final year students having less than or equal to 4 arrear courses (from semester 1 to 7) only are permitted to take up this examination. Revaluation will not be applicable for failed courses in special supplementary examination.

If a candidate fails to clear all courses in the final semester after the announcement of final end semester examination results, he/she shall be allowed to take up supplementary examinations to be conducted within a reasonable time for the courses of final semester alone, so that he/she gets a chance to complete the programme.

27.0 PROVISION OF A SCRIBE

The Institution will provide a scribe to students who are physically incapacitated to write the examination. Detailed guidelines will be available in the Office of the COE for perusal by students.

28.0 AWARD OF LETTER GRADES

28.1 Relative Grading

For those students who have passed the course (theory course / laboratory integrated courses / theory integrated courses / all other EEC except laboratory course / Project Work Courses), the relative

grading shall be done.

The evolved relative grading method normalizes the results data using the BOX-COX transformation method and computes the grade range for each course separately and awards the grade to each student.

If the students' strength is greater than 30, the relative grading method shall be adopted.

28.2 Absolute Grading

- In all the courses, if the number of students who have passed the course is less than or equal to 30 then absolute grading shall be followed with the grade range as specified in the Table.
- For the Project Work / Internship and Laboratory Courses, absolute grading procedure shall be followed as given in table below irrespective of e number of students who have passed the course.

Table 23. Letter Grade as per Absolute Grading

O	A+	A	B+	B	C	U
91 - 100	81 - 90	71 - 80	61 - 70	56 - 60	50 – 55	< 50

For all the passed candidates, the relative grading principle is applied to assign the letter grades.

Table 24: Award of Letter Grades

Marks / Examination Status	Letter Grade	Grade Point
Based on the relative grading	O (Outstanding)	10
	A+ (Excellent)	9
	A (Very Good)	8
	B+ (Good)	7
	B (Average)	6
	C (Satisfactory)	5
Successfully completed	SC	-
Reappearance (Less than 50 marks)	RA	0
Shortage of Attendance	SA	0
Withdrawal	W	-
Absent	AB	-

The Grade Point Average (GPA) is calculated using the formula:

$$\text{GPA} = \frac{[(\text{course credits}) \times (\text{grade points})] \text{ for all courses in the specific semester}}{\sum(\text{course credits}) \text{ for all courses in the specific semester}}$$

The Cumulative Grade Point Average (CGPA) is calculated from first semester (third semester for lateral entry candidates) to find final semester using the formula

$$\text{CGPA} = \frac{[(\text{course credits}) \times (\text{grade points})] \text{ for all courses in the specific semesters so far}}{\sum(\text{course credits}) \text{ for all courses in the specific semesters so far}}$$

The GPA and CGPA are computed only for the candidates with a pass in all the courses. The GPA and CGPA indicate the academic performance of a candidate at the end of a semester and at the end of successive semesters respectively. A duplicate copy, if required can be obtained on payment of a prescribed fee and satisfying other procedure requirements.

Withholding of Grades: The grades of a candidate may be withheld if he/she has not cleared his/her dues or if there is a disciplinary case pending against him/her or for any other reason.

29.0 ELIGIBILITY FOR THE AWARD OF DEGREE

A candidate shall be declared to be eligible for the award of the B.E. / B.Tech. degree provided the candidate 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 candidate's programme within the stipulated time (vide clause 5).
- iii. Successfully passed any additional courses prescribed by the respective Board of Studies whenever readmitted under regulations other than R-2022 (vide clause 12.3)
- iv. No disciplinary action pending against him/her.

30.0 CLASSIFICATIONS OF DEGREE AWARDED

30.1 First Class with Distinction

30.1.1 A candidate who qualifies for the award of the degree (vide clause 24) and 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 (six semesters for

lateral entry candidates) in the **First Appearance** within eight consecutive semesters (six consecutive semesters for lateral entry candidates) excluding the authorized break of study (vide clause 12) after the commencement of his / her study.

Withdrawal from examination (vide clause 11) shall not be considered as an appearance.

Should have secured a CGPA of not less than 8.50

(OR)

30.1.2 A candidate who joins from other institutions on transfer or a candidate who gets readmitted and has to move from one regulation to another regulations and who qualifies for the award of the degree (vide clause 24) and satisfies the following conditions shall be declared to have passed the examination in First class with Distinction:

- i. Should have passed the examination in all the courses of all the eight semesters (six semesters for lateral entry candidates) in the **First Appearance** within eight consecutive semesters (Six consecutive semesters for lateral entry candidates) excluding the authorized break of study (vide clause 12) after the commencement of his / her study.
- ii. Submission of equivalent course list approved by the respective BOS.
- iii. Withdrawal from examination (vide clause 11) shall not be considered as an appearance.
- iv. Should have secured a CGPA of not less than 9.00.

30.2 First Class

A candidate who qualifies for the award of the degree (vide clause 24) and who satisfies the following conditions shall be declared to have passed the examination in First class:

- i. Should have passed the examination in all the courses of all eight semesters (six semesters for lateral entry candidates) within ten consecutive semesters (eight consecutive semesters for lateral entry candidates) excluding authorized break of study (vide clause 12) after the commencement of his / her study.
- ii. Withdrawal from the examination (vide clause 11) shall not be considered as an appearance.
- iii. Should have secured a CGPA of not less than 6.50.

30.3 Second Class

All other candidates (not covered in clauses 25.1 and 25.2) who qualify for the award of the degree (vide clause 23) shall be declared to have passed the examination in Second Class.

30.4 A candidate who is absent for ESE in a course / project work after having registered for the same shall be considered to have appeared for that examination for the purpose of classification.

31.0 MALPRACTICES IN TESTS AND EXAMINATIONS

If a candidate indulges in malpractice in any of the tests or ESEs, he/she shall be liable for punitive action as per the examination rules prescribed by the college from time to time.

32.0 DISCIPLINE

Every student is required to observe disciplined and decorous behaviour both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the College. The HOI shall constitute a disciplinary committee consisting of the HOI, Two HOD of which one should be from the faculty of the student, to enquire into acts of indiscipline and notify the HOI 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 including one representative from Anna University, Chennai. In this regard, the member will be nominated by the University on getting information from the HOI.

32.1 Grievance Redressal Committee

The **Grievance Redressal Committee** is established to offer a platform for stakeholders, especially students, to address both academic and non-academic concerns. The cell seeks to enhance the overall well-being of the student community by gathering valid suggestions and taking necessary measures to minimize reported grievances.

The primary objectives of the committee include:

1. Providing a safe and accessible space for students to express their grievances and complaints.
2. Ensuring that every complaint is properly investigated and appropriate actions taken in accordance with the **Government of Tamil Nadu Guidelines**.
3. Offering multiple channels for submitting grievances, including **online, email, or in-person submissions**.
4. Web address is: <https://www.jnn.edu.in/committees-grievance-redressal-committee/>

The **Students Grievance Redressal Committee (SGRC)** holds regular meetings to review grievances, scheduled on the **last Friday of every month at 2:00 p.m. in the boardroom. At these meetings**, grievances are addressed transparently and effectively.

33.0 RELAXATION OF RULES FOR FEMALE CANDIDATES

The UGC circular DO No. 21-116/202/cpp-11, dated December 14, 2021 grants specific privileges

to female students, including maternity leave or child care leave, which can be availed once during the entire duration of their undergraduate program. These students are also eligible for certain relaxations, such as leniency in attendance and the submission deadlines for exam-related forms. The extent of these relaxations will be determined by the HOD and the HOI.

34.0 REVISION OF REGULATION AND CURRICULUM

Notwithstanding anything contained in this manual, the J.N.N Institute of Engineering through the Academic council of the College, reserves the right to modify/amend without notice, the Regulations, Curricula, Syllabi, Scheme of Examinations, procedures, requirements, and rules pertaining to its BE / B.Tech. programme.

34.1. Representation of Special Cases

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