



P.E.S. COLLEGE OF ENGINEERING, MANDYA

(An Autonomous Institution Affiliated to VTU, Approved by AICTE, UGC and Aided by Govt of Karnataka)



P.E.S COLLEGE OF ENGINEERING, MANDYA

An Autonomous Institution, Affiliated to Visvesvaraya Technological University,
Belagavi

(Approved by AICTE, New Delhi & Aided by Government of Karnataka)



ACADEMIC REGULATIONS GOVERNING THE DEGREE OF BACHALOR OF ENGINEERING (B.E)

**Under Outcome Based Education (OBE) &
Choice Based Credit System (CBCS) Scheme**

Effective from academic year 2024-25

2024



Vision

“PESCE shall be a leading institution imparting quality engineering and management education developing creative and socially responsible professionals.”

Mission

- Provide state of the art infrastructure, motivate the faculty to be proficient in their field of specialization and adopt best teaching-learning practices.
- Impart engineering and managerial skills through competent and committed faculty using outcome based educational curriculum.
- Inculcate professional ethics, leadership qualities and entrepreneurial skills to meet the societal needs.
- Promote research, product development and industry-institution interaction.

Programmes Offered:

UG Programmes offered:			
Sl.no	Nomenclature of the programme	Stream	Approved Intake
1.	Computer Science & Engineering	CS	240
2.	Information Science & Engineering	CS	60
3.	Computer Science & Engineering (Artificial Intelligence & Machine Learning)	CS	60
4.	Computer Science & Engineering (Data Science)	CS	60
5.	Computer Science & Business Systems	CS	60
6.	Electronics & Communication Engineering	EC	180
7.	Electrical & Electronics Engineering	EC	60
8.	Electronics & Communication Engineering (VLSI Design & Technology)	EC	60
9.	Mechanical Engineering	ME	120
10.	Robotics & Artificial Intelligence	ME	60
11.	Civil Engineering	CV	120
TOTAL (A)			1080
PG Programme offered			
1.	VLSI Design & Embedded System (M.Tech)	EC	18
2.	Computer Aided Design of Structures (M.Tech)	CV	18
3.	Master of Computer Applications	MCA	60
4.	Master of Business Administration	MBA	120
TOTAL (B)			216
Total approved intake of UG & PG Programme (A)+(B)			1296



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REGULATIONS

PREAMBLE:

The quality of Technical Education depends on many factors but largely on- outcome based socially and industrially relevant curriculum, good quality motivated faculty, teaching learning process, effective industry internship and evaluation of students based on desired outcomes. To regulate, in an orderly manner, the process of admission, registration of students, conduct of classes, teaching –learning, Assessment, Evaluation and Grading processes to award Bachelor of Engineering Degree in P.E.S. College of Engineering, Autonomous Institution, Affiliated to Visvesvaraya Technological University, Belagavi, with due consideration to the NEP-2020 policy. The PECSCE hereby makes the following Regulations, namely: -

1. SHORT TITLE, APPLICATION AND COMMENCEMENT:

- 1.1. These Regulations shall be called as “Academic Regulations [Governing the Bachelor of Engineering Degree]- 2024”.
- 1.2. The Regulations are framed based on “Visvesvaraya Technological University (Measurements for Maintenance of Standards at Affiliated Autonomous Institutions) Guidelines,2024” and approved by the Governing Body on recommendation of the Academic Council of P.E.S College of Engineering.
- 1.3. The Regulations are subject to amendments made by Visvesvaraya Technological University (VTU) and by the Academic Council with the approval of the Governing Body of the college from time to time and keeping the recommendations of the Board of Studies (BoS) in view.
- 1.4. These Regulations shall govern all the students seeking admissions to B.E programmes offered by PESCE under Autonomous Scheme from the academic year 2024-25.

2. DEFINITION OF KEY WORDS:

In these Regulations, unless the context otherwise requires:

- 2.1. **Academic Bank of Credits (ABC):** The Academic Bank of Credits (ABC), is a National-level facility that will promote the flexibility of the curriculum framework and interdisciplinary/multidisciplinary academic mobility of students across the Higher Educational Institutions in the country with an appropriate “credit transfer” mechanism.



- 2.2. **Act:** The Visvesvaraya Technological University Act 1994 including the amendments thereon.
- 2.3. **“Academic Autonomy”** means freedom to an affiliated college in all aspects of conducting its academic programmes, granted by the UGC/University under the Regulation/statutes applicable, for promoting excellence.
- 2.4. **“Autonomous college”** means an affiliated college to VTU designated as an *Autonomous college* by the University as per the prevailing UGC Regulations and the VTU status on Conferring Autonomous status to the college.
- 2.5. **“Academic Council”** means the Academic Council of the Autonomous College.
- 2.6. **Academic Year:** Three semesters (Two being Main semesters: odd, even and one being a summer semester)
- 2.7. **“Board of Studies”** means the Board of Studies of a Department of the Autonomous College.
- 2.8. **Choice-Based Credit System (CBCS):** The CBCS provides students with choices from the prescribed set of courses viz. Engineering Sciences, Professional core and electives, Professional and Open Electives, Non-Credit Mandatory Courses, Internships and Skill Courses. Under the CBCS, the requirement for awarding a degree or certificate is prescribed in terms of number of credits to be earned by the students.
- 2.9. **Course:** Usually referred to as ‘subject’/ ‘paper’ and is a component of a Programme with defined learning objectives, course outcomes and number of credits. The course credits vary depending on the required teaching-learning hours to accomplish the learning outcomes, specified in the course syllabus. A Course may be designed to comprise lectures/ tutorials/laboratory work/ fieldwork/outreach activities/ project work/ vocational training/ viva-voce/ seminars/ term papers/ assignments/ presentations/ self-study components etc., or a combination of some of these.
- 2.10. **Credit:** A unit or weightage by which the Coursework is measured. It represents the number of hours of instructions prescribed per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical Courses/tutorials/fieldwork etc., per week.
- 2.11. **Credit Point:** This is the product of grade point and the number of credits for a Course.



Theory/Lectures (L) (hours/ week/ Sem)	Tutorials (T) (hours/week/Sem)	Laboratory/Practical (P) (hours/ week/ Sem)	Credits (L:T:P)	Total Credits
4	0	0	4:0:0	4
3	0	2	3:0:1	4
2	2	2	2:1:1	4
3	0	0	3:0:0	3
2	2	0	2:1:0	3
2	0	2	2:0:1	3
0	0	6	0:0:3	3
2	0	0	2:0:0	2
1	0	0	1:0:0	1
0	0	2	0:0:1	1

2.12 Credit Representation: Refers to the Credit Values for different academic activities considered, as per Table 1. Credits for the project phases, project viva-voce and internship shall be as specified in the Scheme of Teaching and Examinations.

2.13 Continuous Internal Evaluation (CIE) (also known as Formative Assessment):

Refers to the evaluation of student's performance in the course during the teaching-learning process. CIE shall be done by the faculty teaching course and evaluation components may include tests, assignments, group discussion, quizzes, course-specific projects, field surveys, seminars, etc., conducted during the semester tenure with a weightage for different activities as specified by the BOS of the Department.

2.14 Course Evaluation: This represents the measurement of the impact of the teaching-learning process and offers an opportunity for improving the quality of learning in courses and teaching performance. Courses evaluation is done by adopting different methods such as tests, quizzes, assignments, etc., during the teaching-learning period at the end of some modules or chapters of syllabus contents and at the end of the semester. While the former part of the evaluation is called the Continuous Internal Evaluation (CIE) and the latter part of the evaluation is called Semester End Evaluation (SEE).

2.15 Course Registration: It is a formal registration to Courses of study every semester by every student under the supervision of a Mentor (also called Faculty Advisor, Counselors) in the department to maintain proper records. Registration on the Institutional ERP portal is mandatory.

2.16 Cumulative Grade Point Average (CGPA): This is a measure of the cumulative performance of a student of all semesters and is computed from the 2nd semester



onwards. It is a measure of the overall cumulative academic performance of a student over the entire span of the academic program. CGPA is not an arithmetic mean but a weighted mean. It is also a number that lies between 0 and 10.

2.17 “Degree” means a degree awarded by a Higher Educational Institution (HEI) in accordance with the provision of section 22(3) of the UGC Act.

2.18 First Attempt: A student who has studied in a semester and attended any one of the examinations of that semester after satisfying attendance and CIE requirements of all the prescribed courses of that semester and has registered for SEE. Such an attempt shall be considered the first attempt. Even if the student is absent for all the semester exams after registering for SEE, such an attempt shall also be considered the first attempt.

2.19 Grade Card: Refers to the certificate showing the grades earned by a student. A grade card shall be issued to all the registered students after every semester-end examination. The grade card shall have the Program details (Course code, title, number of credits, grades secured, along with the SGPA of that semester and CGPA (except for the first semester) earned till that semester.

2.20 Grade Point (GP): Refers to a numerical weightage allotted to each letter grade on a 10-point scale against a range of percentage of marks secured by students in a course.

2.21 Institution: An institution of higher education engaged in teaching and research at the undergraduate, post-graduate or higher levels.

2.22 “IQAC” means Internal Quality Assurance Cell established by an Autonomous College in accordance with the UGC Regulations made by the Commission and the guidelines on IQAC issued by the Commission, as may be amended from time to time.

2.23 Letter Grade: Course Letter Grade (or simply letter grade or grade) is an index of performance of a student in a said course and refers to a qualitative measure of achievement of a student in each course, based on the percentage range of marks secured in CIE and SEE put together or CIE/SEE alone. Grades are denoted by letters O, A+, A, B+, B, C, P and F. The rubrics attached to letter grades are as follows: **O:** Outstanding, **A+:** Excellent, **A:** Very Good, **B+:** Good, **B:** Above Average, **C:** Average, **P:** Pass and **F:** Fail. Additional letter grades used under special circumstances are, **DX:** Attendance



below 85%, CIE less than 40% or both, **AU**: Satisfactory in an Audit course, **AB**: Absent for the Course, **PP**: Passed in Non-credit course, **NP**: Not Passed in Non-credit course, **W**: Dropped/withdrawn.

2.24 Transitional Grades: The transitional grades, such as 'T', 'X', and 'W' shall be awarded to a student in the following cases. These transitional grades shall be converted into anyone of the letter grades (O to F) after the student completes his/her course requirements, including examination.

Grade 'T': Awarded to student having satisfactory attendance at classes and meeting the passing standards at CIE in a course, but remained absent from SEE for valid and convincing reasons acceptable to the college, like:

- (i) Accident or sever illness leading to hospitalization, which disables the student from attending Semester End Examination (SEE).
- (ii) A calamity in the family at the time of SEE, which requires the student to be away from the college.
- (iii) Any other exigencies;
- (iv) In the event of (i) and (iii) above, it is the responsibility of the student/parent /guardian to inform the college authorities (HOD/COE) immediately. The candidate needs to submit all the relevant evidence and the intimation after the conduct of examination will not be considered.

Grade 'X': Awarded to student having attendance $\geq 85\%$ and CIE rating $\geq 90\%$ in a course, but SEE performance observed to be poor, which could result in an overall 'F' grade in the course. In such cases, candidate must submit the written request through Faculty advisor and HOD to Dean/COE, for appearing makeup examination by paying prescribed examination fee.

Grade 'W'; Awarded to a student having satisfactory attendance at classes, but withdrawing from the course before the prescribed date in a semester under faculty advice; the student shall re-register for the said course in the summer semester.

2.25 Non-Credit Mandatory Courses (NMC): In the case of non-credit mandatory courses, students shall attend the classes during the respective semesters to satisfy the attendance requirements as well as CIE requirements. In case, any student fails to register for the said course/to maintain 85% of attendance/fails to secure the minimum 40% of the prescribed CIE marks, he/she shall be deemed to have not completed the course. In such a case, the student has to fulfill the requirements during subsequent semester/s to appear for SEE. These Courses shall not be considered



for CGPA calculation and vertical progression, but completion of the courses shall be mandatory for the award of a degree.

2.26 Major Degree: A Major degree will be awarded along with “Honors” distinction if a student completes the specified additional number of credits during the regular programme as per the Regulations governing Honors Degree Programme. A student admitted to the Programme shall be eligible to register to “Honors” programme if he/she fulfils the conditions as per the Regulations.

2.27 Mentor: A Faculty Advisor allotted by the Head of Department to guide about 15-20 students about their registration to the courses and progression in the Programme.

2.28 Minor Degree: A Degree along with Minors is awarded in a programme if a student completes the required number of credits of another programme as per the Regulations governing Minor Degree Programme. A student shall be eligible to register to a Minor programme if he/she fulfills the conditions as per the Regulations

2.29 Multiple Entry and Multiple Exit (MEME): The multiple entries and exit points in the academic programmes would remove rigid boundaries and create new possibilities for students. To facilitate flexible learning within the stipulated period (eight years for regular students and 06 years for lateral entry students), multiple-entry and multiple-exit options are offered to needy students.

2.30 Notification: A notification issued by the concerned Statutory Officer of the Institution and University.

2.31 Passing Standards: Refers to passing a course only when GP (Grade Point) is greater than or equal to 04.

2.32 “Programme” means an academic programme framework that defines the structure of an educational curriculum. It includes the goals, outcomes of all courses, and vision of a course of study, and establishes the milestones and boundaries of learning. Academic programmes can include instructional, research, and public service activities, such as teaching and research assistantships, internship, and cooperative education.

2.33 “Regulations” means the prevailing Regulations notified by a statutory body.

2.34 “Semester” means a duration meant for teaching, learning and final examinations. Typically, a regular semester (odd and even) shall have 16 weeks for teaching learning process followed by 4 weeks for preparation, examinations and declaration of results of SEE. An academic year shall consist of two regular semesters of 20 weeks each and a special summer semester of 10 weeks. Generally, the odd semester starts in the month



of August, Even semester in the month of January and the summer semester in the month of May in an academic year. Specifically, there shall be a minimum of 90 working days in a regular semester and 45 working days in a summer semester for the teaching-learning process.

2.35 Semester End Examinations (SEE) (also called Summative Assessment): Also called summative assessment, which refers to the examinations conducted by the institution covering the entire course syllabus. For this purpose, syllabi shall be modularized and SEE questions shall be set from each module as specified by the Institution.

2.36 Semester Grade Point Average (SGPA): It is a measure of academic performance of a student in a semester. It is the weighted average or weighted mean of the grade points obtained by a student in the various courses of any semester. It results in a number that lies between 0 and 10. It shall be expressed up to two decimal places.

2.37 “Summer Semester/Term” means a short semester held after the Even semester. During the summer semester, Internship/apprenticeship/work-based vocational education and training can be carried out, especially by students who wish to exit after two semesters or four semesters of study, Regular courses may also be offered during the summer semester in a FAST-TRACK MODE to enable students to do additional courses or complete backlogs courses. The departments can decide on the courses to be offered in the summer term depending on the availability of faculty and the number of students.

2.38 Teacher: A member of the regular faculty at the levels of Professor or Associate Professor or Assistant Professor and includes adjunct faculty.

2.39 Transcript, Grade Certificate and Grade Card: Grade card shall be issued to candidates indicating the programme details (Course code, title, number of credits, grade secured and grade points) for all the registered courses after every semester. On successful completion of all courses/earning credits, specified in a semester, the grade certificate is issued indicating the programme details along with SGPA of that semester and CGPA earned till that semester. Transcripts to the successful candidates shall be issued after completion of the programme.

2.40 University: Visvesvaraya Technological University (VTU), Belagavi, established under the Karnataka State Act as defined in the University Grants Commission Act, 1956.





R24BE 1.0. TITLE AND DURATION OF THE PROGRAMME

R24BE 1.1: The Programme of study, which is an undergraduate Programme, shall be called the degree of Bachelor of Engineering, abbreviated as B.E followed by specialization indicated within brackets.

R24BE 1.2: The duration of the Programme for B.E. degree shall be four academic years, organized in eight semesters, with each semester having duration of 16-18 weeks, having provision for Multiple-Entry-Multiple-Exit and award of Honors degree or Minor degrees.

R24BE1.3: The annual academic calendar of events in respect of the Programme of study approved by the Academic Council, shall be notified at least a month before the commencement of each academic year. It is mandatory for students / faculty members to strictly adhere to the Academic Calendar for completion of academic activities. Academic Calendar shall be displayed on the Academic Office homepage of the Institution website.

R24BE2.0. ACADEMIC ELIGIBILITY FOR ADMISSION

The rules specified in the following clauses shall be followed for admission to B.E. Programmes, but the orders issued from the Government/the regulatory bodies from time to time shall prevail.

R24BE2.1. Admission to 1st year: Eligibility for candidates Passed in second PUC or equivalent,

- 1) As notified by the Government of Karnataka from time to time [CET and COMEDK].
- 2) Those students, who have passed a qualifying examination other than the PUC II examination of the Pre-University Education Board of Karnataka, have to obtain an eligibility certificate for seeking admission to I year B.E. Degree Programme from the University.

R24BE2.2. Admission to 2nd year (Lateral Entry): Eligibility for candidates who have passed a 3-year Diploma in Engineering and B.Sc. Degree shall be,

- 1) As notified by the Government of Karnataka and the University from time to time for admission into 3rd semester of B.E. degree programme.
- 2) Those candidates who have completed an Engineering Diploma from States other than Karnataka shall submit the Equivalence/ Eligibility Certificate issued by the Director of Technical Education, Karnataka.



R24BE2.3. Migration of Students:

- (a) Migration of students from one college to another within the University shall be permitted as per the prevailing Rules & Regulations of the Academic council and University.
- (b) Migration from one branch to another branch in the same college or to another college within the university shall be governed by the prevailing Rules & Regulations of the Institution and University.

R24BE2.4. Qualification earned from foreign Countries:

With regard to the qualification earned from foreign countries, an equivalence certificate from the Association of Indian Universities/ University is mandatory for admission to B.E./B.Tech. Programmes. In case of any dispute about the equivalence in qualification earned from foreign countries, the decision of the University in this regard shall be final and binding on all concerned.

R24BE2.5 Additional Requirements:

- 1) All the Diploma and B.Sc. degree holders seeking admission to lateral entry, shall also pass any deficit courses as specified by the University before the completion of the degree.
- 2) Further, all the Diploma and B.Sc. degree holder applicants shall also be required to register and pass the non-credit mandatory Mathematics bridge course(s) specified by the Institution/University, within two years of joining the programme. However, applicants with B.Sc. degree (with Mathematics major) may apply to the Registrar through Principal/ Dean seeking exemption from the bridge course.

R24BE3.0. CURRICULUM FRAMEWORK AND ACADEMIC PROCESSES

R24BE3.1. Semesters – Odd and Even:

The Institution follows the Choice based credit system and the semester scheme. There are two regular semesters (ODD and EVEN) and Summer semester in an academic year. The semester that begins in August (August to December) is known as the Odd Semester and the semester that begins in January (January to May) is known as the Even Semester. Summer Semester is from June to July.

The breakdown of an academic year for implementing the Semester Scheme is given below Table 3.1 as an example.



Table 3.1 A Typical Breakdown of Academic Year into Semesters

1. Number of Semester /Year	<ul style="list-style-type: none">• Three per Year <p>Two being Main Semesters: odd, Even and one being a Summer Semester.</p> <ul style="list-style-type: none">• Normally odd semester is from August to December, Even semester is from January to May and Summer semester is from June to July
2. Semester Durations	<p>ODD semester: 20 weeks, followed by 2 weeks' vacation</p> <p>Even semester: 20 weeks</p> <p>Summer semester :10 weeks</p>
3. Academic Activities (in weeks)	<p><u>Semesters: ODD and Even</u></p> <p>Course work- 16weeks Examination Preparation-1 week Examinations: 2 weeks Declaration of Results: 1 week Total: 20 weeks</p> <p>Summer Semester:</p> <p>Course work: 8 weeks Examination – 2.0 Total: 10</p> <p>Declaration of Results: After the examinations, within the 2 weeks of vacation period.</p> <p>(Note: In each semester, there shall be various provisions for students like, Registration of courses at the beginning, Dropping of Courses after the first CIE and Withdrawal from courses towards the end, all being under the Faculty Member's (Course Instructor/Faculty Advisor's) advice. The above provisions made available are to be judiciously used, which need proper monitoring by Faculty Advisors, leading to the improved learning capabilities of students and minimizing their chances of failure in the courses registered.</p>



4. Examinations	<p>Continuous Internal Evaluation(CIE) and Semester End Examination (SEE) both have equal weightages in the students performance in course work/Laboratory work and other activities.</p> <p>The following examinations are to be conducted in an academic year:</p> <ul style="list-style-type: none">• In ODD semester: CIEs during the semester and SEE at the end of semester for the courses offered in the odd semester only.• In Even semester: CIEs during the semester and SEE at the end of the semester for the courses offered in the even semester only.• In Summer Semester: CIEs during the semester for the courses offered in summer semester and SEE at the end of the semester for the courses offered in the summer semester and all other courses of previous semesters in which students have “F” Grade/ “AB” grade.• Makeup Examinations: For students of UG programmes with transitional grades viz. ‘I’ and ‘X’ grades in odd and even SEE shall be given makeup exams immediately after the announcement of SEE results of respective odd and even SEE. There is no makeup examination following a summer semester.
5. Other items	<ul style="list-style-type: none">• Students with satisfactory CIE and attendance in a course/s is absent for SEE (‘AB’ grade) or appeared to SEE, but failed (‘F’ grade) in SEE, need not re-register for course/s but can register and appear for SEE directly, whenever next SEE is held for that course in odd/even /summer semester.

R24BE3.1.1. Summer Semester

I. Purpose of conducting Summer Semester

- To enable students to complete courses having ‘DX’/‘NP’ grades or to complete dropped/withdrawn courses or to do additional courses or to do higher semester courses for extra ordinary learners or to help slow learners to pace their studies /learning based on their individual abilities.
- To enable the students who wish to undertake one-year research/industry internship (leading to a project /startup)/placement training (leading to job internship) at the



final year level, to complete higher semester courses by registering in summer semester.

- iii) To enable readmitted /change of branch/scheme/college students to progress to higher semester by offering backlog/equivalent courses during summer semester.
- iv) To offer internship /apprenticeship work/based vocational education and training especially by students who wish to exit after 4 or 6 semesters of study.

II. Conduction of Summer Semester

- i) The summer semester, held **annually** after the EVEN semester, shall comprise of 8 weeks of classes followed by 2 weeks of examinations called SEE.
- ii) A limited number of courses are offered depending on the students requirement and the faculty availability. Selected regular courses, including **audit/mandatory courses**, are offered during the summer semester.
- iii) A student is permitted to **register not more than 14 credits** [Ref. R24BE3.1.1 – I (i)] in UG programmes, in the summer semester for courses excluding audit/Mandatory Non-credit courses. However, there is **NO LIMIT** for a student to **register for 'F'/'AB' grade courses for SEE.**
- iv) Students are not permitted to register for project work and internship in summer semester, except for cases specified in R24BE3.1.1. I) (IV) above.
- v) Since summer semester duration is about half of the main semesters, to relate the credits and the hours of course work, multiply the teaching hours per week by 2 such that the total number of hours per semester shall be same as that of ODD/EVEN semester.
- vi) **For students completing four years of study and still have courses with 'DX'/'NP' grades, summer semester shall be conducted along with the regular odd/even semesters to facilitate such students to complete the degree without much delay. However, such students can also re-register to 'DX'/'NP' grade courses, if they are offered in the regular odd/even semesters of the ongoing batch of students.**
- vii) Students who do not vertically progress to a higher year of study and are detained for a year, need not wait till the commencement of the summer semester to register for 'DX'/'NP' grade courses. They can register for such courses in the ongoing odd/even semesters and appear for their exams in the regular odd/even SEE.



III. Eligibility to register for a course in a Summer semester

- i) Students who have 'DX'/'NP' grades i.e, either a shortage of attendance or not having the minimum CIE or both in a course. Such students shall register for the summer semester to satisfy the minimum attendance and CIE requirements to appear for the Summer Semester End Examination (SEE).
- ii) Students with 'F'/'AB' grade having requisite attendance and CIE in a course, but, wish to re-register to that course for better learning, can do so in the summer semester by letting go the previous CIE marks and acquiring the required attendance and CIE marks afresh, However, **they are eligible to register directly for SEE of summer semester by carrying forward their previous CIE marks.**
- iii) Students in the **extraordinary category (with a CGPA ≥ 9.0)** who wish to complete the programme in 3.5 years, may register for additional subjects from higher semester 's regular courses during the summer semester.
- iv) Slow learners may opt not to register/drop a few courses in the regular Odd/Even semesters and register those courses in the summer semester. This shall be done under the guidance of the faculty mentors subject to the condition that the course load in every semester shall not fall below the minimum limit.

Note: students with satisfactory CIE and attendance in a course/s is absent for SEE ('AB' grade) or appeared to SEE, but failed ('F' grade) in SEE, need not re-register for courses/s but can register and appear for SEE directly, whenever next SEE is held for that course in Odd/Even summer semester.

R24BE3.2. Curriculum:

Every Programme has a prescribed course structure which, in general terms, is known as the Curriculum or the Courses of Study or the Scheme of Teaching and Evaluation. It prescribes all the courses/ laboratory/ other requirements for the degree and sets out the nominal sequence semester wise.

It provides the syllabus and a list of text/ reference books (or other learning material sources) for each course. The Courses of Study details are updated every semester and are made available at the Institution website: <https://pesce.ac.in/academic-office.php#regulations> Curriculum shall also include some Online Courses including SWAYAM and other MOOC courses, approved by the Academic Council. However, selection of such courses, if any, shall always be within prescribed guidelines of the relevant regulatory bodies of the Institution and University.



R24BE3.2.1. Choice Based Credit System (CBCS):

- 1) A certain quantum of academic work, measured in terms of credits, is laid down as the requirement for completion of B.E. degree in the different available specialization areas. A student earns credits by satisfactorily completing courses/other academic activities every semester.
- 2) The credits are distributed semester wise, as prescribed in the Scheme of Teaching and Evaluation for each of the programmes. The courses generally progress in sequences, building competencies as per the course learning outcomes. The positioning of a course indicates certain academic maturity on the part of the students.
- 3) Some courses do, in addition, may specify a grade/pass/exposure for other courses, offered earlier in the programme, as pre-requisites for the course.
- 4) Since the Institution follows the CBCS, the students shall be offered courses as per the Scheme of Teaching and Evaluation, and the students are required to register for the courses of their choice before the beginning of every semester.
- 5) Students are required to follow the semester wise schedule of courses specified in Scheme of Teaching and Evaluation; they do, however, have freedom to follow alternative schedules to optimize their academic profile with additional courses, keeping the requirements for each course in mind. For students with backlog courses, such rescheduling may even become necessary. Such departures from suggested schedules need to be done very carefully, and always with guidance from the Mentor.

R24BE3.2.2. Types of Courses:

There will be following types of courses in a B.E. programme, namely:

- 1) Humanities and Social Sciences (HS), including Management, Skill enhancement and Economics.
- 2) Basic Sciences (BS) including Mathematics, Physics, Biology and Chemistry.
- 3) Engineering Sciences (ES) including Workshop, Drawing, Basics of Electrical/ Civil/ Mechanical/ Computer Engineering, Materials, and Instrumentation.
- 4) Professional Core Courses (PC): These are the courses to be compulsorily studied by a student as a core requirement to complete the requirements of a programme in a said discipline of study.
- 5) Professional Elective Courses (PE): These are the courses from which a student can choose and study as part of the requirement to complete the programme in a said discipline of study.



- 6) Open Elective Courses (OE): These courses are supportive to the discipline/ providing extended scope/enabling an exposure to some other discipline/ domain and they are chosen from the pool of courses.
- 7) Skill development Courses (SD): These courses will be nurturing student proficiency skills. These courses are offered to achieve the programme outcomes not specifically covered by the other courses.
- 8) Ability Enhancement Courses (AE): These are the generic skill courses which are basic and needed to all to ensure progression across all careers.
- 9) Non-Credit Mandatory Courses (NM): These are courses on peripheral subjects in a programme, wherein familiarity is considered mandatory.
- 10) Project work (PW), Mini Project work (MP), and Internship (IS) are also considered as courses in the programme.

R24BE3.2.3. Offering Courses

The above types of courses in a B.E. programme are offered as follows:

- 1) Humanities and Social Sciences (HS) courses will have 1 to 3 credits per course.
- 2) Basic Sciences (BS) courses will have 2 to 4 credits per course.
- 3) Engineering Sciences (ES) courses are common across all disciplines and will have 2 to 4 credits per course.
- 4) Professional Core Courses (PC) will have 2 to 4 credits per course.
- 5) Professional Elective Courses (PE) will have 2 to 4 credits per course.
- 6) Open Elective Courses (OE) may have 2 to 4 credits per course.
- 7) Skill development Courses (SD) and may have 1 to 3 credits per course.
- 8) Ability Enhancement Courses (AE) may have 1 to 2 credits per course
- 9) Non-Credit Mandatory Courses (NM) require only a pass in each of the specified courses to qualify for the award of the Degree.
- 10) Project work (PW), Mini Project work (MP) and Internship (IS) are offered which may have 10, 3, and 6 credits respectively.

The courses in the above types may be a combination of Lectures, Tutorials and Practical in any combination with suitable credits assigned to them. All the courses registered by a student under any of the above types of courses as required for award of the degree shall be considered as heads of passing which shall be Graded according to his/her performance. However, the Non-Credit Mandatory Courses shall be passed by a student for which Grades are not assigned.



The following procedure shall be used for designing and offering the above courses:

The courses for a programme under the following types from (a) to (l) shall be designed within the framework of UGC and AICTE guidelines by the concerned Board of Studies and approved by the Academic Council of the Institution. The number of courses offered in a programme under each of the above types shall be decided as per the curriculum framework specified under clause **R24BE3.4**.

The list of different types of theory courses and details of the practical courses used in the programmes are given below respectively from (a) to (i) and (j) to (l).

- (a) Humanities and Social Sciences
- (b) Basic Sciences
- (c) Engineering Sciences
- (d) Professional Core Courses
- (e) Professional Elective Courses
- (f) Open Elective Courses
- (g) Skill development Courses
- (h) Ability Enhancement Courses
- (i) Non-Credit Mandatory Courses

(j) Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a disciplinary or an inter-disciplinary major project can be assigned to a group having not more than 4 students. The main project work needs to be taken up within the institute/ research laboratory/industry. It is desirable, that the outcome of the project work may be published/patented.

(k) Mini Project work:

A Mini Project is a laboratory/ societal/ Industry-oriented work that will provide a platform for students to enhance their practical knowledge and skills through the development of small systems/ applications based on the ability/abilities of the student/s and recommendations of the mentor, a disciplinary or an inter-disciplinary mini-project can be assigned to a group having not more than 4 students.

(l) Internship:

The internship is an extended period of work experience undertaken by the students aspiring to supplement their degree with professional development. The students are allowed to prepare themselves for the workplace and develop practical skills. The Internship shall be completed during the period specified in the Scheme of Teaching and Evaluation. The institution shall encourage students to take up,



- (i) an interdisciplinary Research Internship or Industry internship and
- (ii) a rural internship, a work-based activity carried out to learn practical experiences in rural areas, for the upliftment of living standards. With the consent of the internal guide and Principal of the Institution, students shall be allowed to carry out the internship in their home town (within or outside the state or abroad), provided favorable facilities are available for the internship and the student remains regularly in contact with the internal guide.

R24BE3.2.4. Audit Courses:

A student desirous of additional exposure to a course, without the rigors of obtaining a good grade, 'audits' a course. The minimum requirement of attendance for an 'Audit Course' is 85%, with any additional requirements as set by the instructor such as submission of assignments and minimum performance in some of the in-semester evaluations.

Auditing of courses during regular semesters from 3rd semester onwards is permitted under the following conditions:

- 1) Students with $CGPA \geq 6.0$ will be permitted to 'Audit' a course. A course can be audited provided the course is offered in the semester as a credit course for others, and there is no slot clash. Prior permission of the Instructor is required.
- 2) Audit courses would be restricted to a maximum of four (4) courses per student in the entire period of the programme.
- 3) The Course Teacher would award the 'AU' grade, if the attendance is satisfactory and additional requirements, as set out by the Course Teacher, are met. If the attendance and performance in additional requirements is not satisfactory, the Course Teacher will award 'No Grade'. The grade 'AU' does not carry any grade points and therefore does not figure in SGPA/ CGPA calculations.
- 4) The course successfully completed in Audit mode will be reflected in the Semester Grade card and the Transcript as Audit Course.

R24BE3.3. Prescribed Number of Credits for the Programme

All courses prescribed by the Institution, except the Non-credit Mandatory courses, shall have credits and be considered as a head of passing for vertical progression. The credits fixed for the courses are awarded to the students on passing the courses registered by him.



- 1) The total number of credits to be earned for the award of B.E. degree by students admitted to the first semester of the four year B.E. programme shall be **160** credits.
- 2) The total number of credits to be earned for the award of B.E. degree by students admitted under lateral entry scheme to the third semester of the four year B.E. programme shall be **120** credits.
- 3) A student shall be awarded B.E. degree with **Honors or Minor**, if he/she earns a minimum of **additional 18-20 credits**, satisfying the conditions specified in “VTU (Award of B.E./B.Tech. Honors/ Minors Degree) Regulations, 2022”.

R24BE3.4. Curriculum Framework

The structure of UG programme in Engineering shall have essentially the following types of courses with the breakup of credits as shown against them:

Table – 3.4 : Credit Breakup for a Programme			
Sl. No.	Category	Credits	% of total Credits
1	Humanities and Social Sciences including Management courses, including AE	16	10.00
2	Basic Science courses	20	12.5
3	Engineering Science courses including workshop, drawing, basics of electrical/ mechanical/ computer/ PL/ ET etc.	22	13.7
4	Professional Core courses relevant to chosen specialization/branch	59	36.88
5	Professional Elective courses relevant to chosen specialization/branch	12	7.50
6	Open subjects – Electives from other technical and /or emerging subjects	12	7.50
7	Project work and internship in industry or elsewhere	19	12.0
8	Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	(non-credit)	0.00
Total		160*	100.00

*Minor variation allowed as per need of the respective disciplines on approval of the University.



R24BE3.5. Scheme of Teaching and Evaluation

- 1) The Scheme of Teaching and Evaluation shall be framed by distributing the total credits over eight semesters as follows:

Table - 3.5: Semester-wise Allocation of Credits				
	Semester	Credits	Total Credits	
I year	1	20	40	<ul style="list-style-type: none"> Lecture(L): one hour/week: 1 credit Tutorial(T): Two hours/week: 1 credit Practical/ Lab/ Drawing (P): Two hours/week: 1 credit
	2	20		
II Year	3	22	44	
	4	22		
III Year	5	22	44	<ul style="list-style-type: none"> Project, Mini-project, Internship: credits as recommended by the University. Credit for the Seminars shall be part of the courses.
	6	22		
IV Year	7	16	32	
	8	16		
Total:		160		

2) Course Load:

Every student to register for a set of *Courses* in each *Semester*, with the total number of their *Credits* being limited by considering the permissible *weekly Contact Hours* (typically: 35 hours/Week); For this, an average *Course Load* of 22 *Credits/Semester* (e.g., 6-8 *Courses*) generally acceptable; to also include 2 or 3 *Units of Non-Credit Mandatory Courses* in some *Semesters*. However, considering the academic strength and capability of an average student, the course load per semester shall be minimum and maximum limit being set at 16 and 28 credits respectively. In the first two semesters (1st year), the prescribed course load per semester is fixed and withdrawal/dropping of courses in the first year (first two semesters) is not allowed.

3) Teaching-Learning Process

The theory courses shall be designed to have the syllabus spanning over one semester depending on the credits allocated for them. That is, Four-credit theory courses shall be designed for 55-60 hours of Teaching-Learning process, Three-credit theory courses shall be designed for 40-45 hours of Teaching-Learning process, Two- credit theory courses shall be designed for 25-30 hours of Teaching-Learning process and One credit theory course shall be designed for 15 hours of Teaching- Learning process.

- 4) The Scheme of Teaching and Evaluation provides the list of courses offered in a semester, their types, course credits in L-T-P format and the contact hours. As per this, detailed syllabus content, hour distribution, Text and reference Books, Assessment and



Evaluation procedure shall also be provided for all the semesters by the Board of Studies of the respective programmes. A course may include online references and virtual labs as approved by the BOS of the department.

- 5) The composition of courses in the curriculum may be only a theory, a theory with practical or only a practical. These carry separate course codes and each are considered as separate “head of passing”.
- 6) The Syllabus formulated shall be well structured and enable CBCS implementation, provide MEME options and incorporate Outcome Based Education (OBE) framework.
- 7) The Institution shall provide necessary classrooms, Laboratory equipment, Internet and computing laboratories, Library, qualified faculty and other supporting facilities to meet the standards as specified by the University and concerned Statutory bodies to create proper teaching-learning environment for the students.

R24BE3.6. Course Registration

- 1) It is mandatory for every student to register for the semester to attend various courses/ earn credits, using the prescribed Course Registration Form (CRF), till he completes his programme. The registration is normally done on the last two working days of each semester upon completion of the SEE. In all circumstances, registration shall be completed on or before the prescribed last date for registration announced in the Academic Calendar. The registration of courses in each semester with the Institutional ERP portal is mandatory.

2) Student Mentoring

On joining the College, a group of students are assigned a Mentor from the concerned department offering the Programme. Students are advised to consult the Mentor on any matter relating to their academic performance and the courses they may register in various semesters. Mentor guides the students to complete their courses of study for the required degree in a smooth and satisfactory manner.

3) Minimum Number of Registrations for Offering a Course:

There is no restriction on minimum registrations in a professional core course. However, the minimum number of students registered to any Professional Elective Course/ Open Elective Course/ Ability Enhancement Course (from 3rd semester onward) offered by the Departments shall not be less than ten. In such cases, if the number of registrants for the elective course is less than 10, the department must seek permission from the Dean (Academics) within 10 days from the date of commencement



of the semester as per the academic calendar of the institution, if that Professional Elective Course/ Open Elective Course/ Ability Enhancement Course is to be offered in that department.

R24BE3.6.1. Course Registration Procedure:

The procedure involves the following steps:

- a) A student shall register for required courses each semester with prior permission of the Mentor.
- b) The student can register for courses he intends to take during a given semester on the basis of his plan for each Programme, as given in the Scheme of Teaching and Evaluation and as per the advice of the Mentor.
- c) The students shall decide on the courses to be registered during the ensuing semester immediately after their SEE examinations.
- d) The Mentor is expected to discuss with the student his academic performance during the previous semesters and then decide the number and nature of the courses for which the student can register during the semester within the framework of the Regulations.
- e) The Mentor may advise the student to drop one or more courses/ activities based on his performance. The Mentor may even advise a reduced load program over several semesters for students with poor performance at the end of the first semester/ year.
- f) Every student is permitted to register for the courses to an extent subjected to the conditions under clause R24BE3.6.2.
- g) Students are not permitted to re-register for a course, which they have already passed.
- h) The student shall fill up the Course Registration Form (CRF) in ERP online, stating the courses that they propose to complete during the ensuing semester as per the prescribed curriculum.
- i) They shall take a printout of the completed CRF, take signature of the Mentor and submit to the HOD within the date notified by the Academic Calendar.
- j) Students having outstanding dues to the College, or a hostel may not be permitted to register.
- k) The registration is deemed to be complete only on approval by the Institution.
- l) Without registration, any academic activity (course/ seminar etc.) undergone by a student will not be counted towards the requirements of his/her degree.



R24BE3.6.2. Permitted Minimum and Maximum Credits for Registration:

Each student shall register for course work at the beginning of a semester. The permissible Course load to be either average number of credits (=22) in a semester or to be within the limits of minimum (=16) and maximum (=28) credits in each later main semester.

R24BE3.6.3. Late Registration:

Registration beyond the last date may be permitted only in special cases till the date specified in the Academic Calendar, on payment of a late registration fee.

R24BE3.6.4. Registration for Non-credit Mandatory courses:

- 1) Formal registration for these courses shall also be done along with other courses, at the beginning of the semesters.
- 2) Non-credit requirements are assessed as Pass (PP)/ Not Pass (NP) subject to the fulfillment of the minimum requirements of the specified activities and a minimum of 85% attendance. The award of degree is subject to successful completion of these requirements.
- 3) A student will be awarded PP (Pass) grade for the course he is registered for, in that semester, provided the minimum requirement is met during that semester together with attendance criteria.
- 4) Not satisfying these requirements will result in a failure grade NP (Not Pass), and the student has to re-register for the course when offered next in the summer semester. The award of degree is subject to successful completion of this requirements.

R24BE3.6.5. Dropping of Courses:

A specific time period shall be fixed in the academic calendar, preferably after the first CIE. This shall be based on their review conducted of students' performance in CIE by the Faculty Advisors concerned. The review to mainly assist the students having poor performance to be facilitated to *drop* the identified courses(s) (up to the minimum credits specified for the semester) without being mentioned in the Grade Card. Such courses to be re-registered by these students and taken up for the study at a later semester in the programme.

R24BE3.6.6. Withdrawal from Course:

A specific time period shall be identified at towards the end of a semester to help review the student's performance in CIE by the Faculty Advisors, followed by the students having poor performance to withdraw ('W' grade) from identified courses(s) (credits in a semester shall not fall below the minimum credits specified for the semester). Such



withdrawn courses are to be re-registered by these students and taken up for study at the subsequent summer semester in the programme

R24BE3.6.7. Course substitution:

A student obtaining 'F' grade four times in a course, other than the Professional core courses, is permitted to choose an equivalent course for substitution on approval by the DUGC and Dean Academics. The student shall re-register for the new course and complete the course requirements subjected to the conditions of clause R24BE5.2. A student shall not be permitted to avail this option beyond a **maximum of two courses during the programme.**

R24BE3.7. Attendance Requirement

- 1) Every prescribed course shall be considered as a unit for the calculation of attendance. The students are required to attend all the lectures, tutorials, practical, and other prescribed curricular and co-curricular activities, and earn full attendance. However, a student shall obtain a minimum attendance of 85% in each of the courses registered. However, if the attendance is below 75%, the shortage upto a maximum of 10% of the attendance may be condoned by the COE on the specific recommendations of the Dean/ Principal of the college where the candidate is studying. This provision shall be utilized based on medical grounds, participation in NSS/NCC/Red cross/National level Republic Day and Independence Day Parade/ participation in University/State/National/ International level sports and cultural activities, seminars, workshops, paper presentation etc., of significant value, supported by valid documents. The Course Teacher shall recommend condoning shortage of attendance and submit with necessary documents through the HOD along with his recommendation to the COE before the last day of the semester.
- 2) The basis for the calculation of attendance shall be the period prescribed by the institution by its academic calendar of events and as notified by the Dean Academics.
- 3) In case of late admissions, approved by competent authority (KEA/DTE/VTU), for admission to I semester and III semesters (for lateral entry scheme), the attendance shall be reckoned from the date of admission to the Programme.
- 4) The Head of the Department shall also notify every month, the list of candidates who are falling short of required attendance. The Course Teacher/ Mentor/ Class



Teacher or the College office shall inform the students as well as their parents/guardians about the attendance requirement and the attendance status every month. Students facing an attendance shortage shall be mentored to make up for the shortage.

- 5) A student who does not satisfy the attendance requirement in one or more courses (including bridge courses for lateral entry students, if any) shall not be permitted to appear for the Semester End Examinations of those courses. The grade card for such courses shall be marked as 'DX'. The candidate shall repeat those courses whenever offered next. However, the student shall be allowed to appear for the SEE in other courses of the semester.

R24BE4.0. ASSESSMENT AND EVALUATION PROCEDURE

The assessment of students' performance in coursework during and/or at the conclusion of a programme shall be done using examinations. In general, an examination may have different objectives, like *achievement-testing*, *prediction-testing*, *endurance-testing*, *creativity-testing for ranking*.

In technical education, the assessment shall be preferably of the *achievement -testing* type, so that a student's knowledge, understanding and competence in the courses studied are properly assessed and certified. The *achievement testing* is done in two parts as follows, both of them being important in assessing a student's achievement.

- **Formative assessment:** Involving Continuous Internal Evaluation (CIE), to be conducted by the course instructor all through the semester. This may include mid-term tests, weekly/fortnightly class tests, activity based assessment, homework assignments, problem solving, group discussions, quiz, seminar, mini-project, and other means.
- **Summative**, covering Semester-End Examination (SEE), to be conducted at the end of the semester. This may include a written examination for theory courses and practical/design examination with built-in oral part of laboratory/design courses.

The Formative, Summative and other Assessments shall be conducted as per the Institution calendar of events in all the courses of the programme offered to the students, within the framework of Scheme of Teaching and Evaluation approved by the Institution. The details of Assessment and Evaluation for specific theory and practical courses, including theory question paper setting patterns, approved by the Institution are included in Annexure- IV.



R24BE4.1 Assessment and Evaluation Process:

- 1) CIE and SEE constitute the major evaluations prescribed for each course, with only those students maintaining a minimum standard in CIE are permitted to appear in SEE of the course.
- 2) In such cases where a laboratory is attached to the course (Integrated course), Internal Assessment Test(IAT) marks shall be awarded separately for both theory and the laboratory. However, the laboratory IAT Conducted on par with SEE component in the evaluation.
- 3) In such cases where a laboratory carries more credits and is not part of the theory, they are listed separately in the Scheme of Teaching and Evaluation. Hence, they are treated as separate “heads of passing” which are assessed and evaluated independently.
- 4) CIE and SEE to carry 50% weightage each, to enable the course to be evaluated for a total of 100 marks, irrespective of its credits.
- 5) The evaluation system of the programme is comprehensive and continuous during the entire period of Semester, by the faculty who is teaching the course. For a course, the evaluation and grading will be on the following parameters:

A		Alternate Assessment Tool/Method	10 marks
B	CIE	Internal Assessment Test (I & II)	40 marks
		[CIE=IAT+AAT] Total of CIE (A+B)	50 marks
C	SEE	Semester End Examination (SEE)	50 marks
		Total of CIE and SEE (A + B + C)	100 marks

R24BE4.2. Continuous Internal Evaluation (CIE)

- 1) The CIE will carry a maximum of 50% weightage of total marks of a course. Before the start of the Academic session of each semester, a faculty may specify the components of CIE, which will include **Two Internal Assessment Test** and any one or two of the following Alternative assessment tool/methods, as identified by the course instructor and approved by the BOS, with suitable weightage assigned to each component.
 - i) Assignments (Individual and/or Group)
 - ii) Seminars
 - iii) Group Discussions
 - iv) Case studies
 - v) Practical orientation on Design Thinking, Creativity & Innovation



- vi) Participatory & Industry-integrated learning
 - vii) Practical activities / problem solving exercises
 - viii) Class presentations
 - ix) Analysis of Industry/ Technical/ Business Reports
 - x) Reports on Guest Lectures / Webinars / Industrial Visits
 - xi) Online short-term courses
 - xii) Industrial / Social / Rural projects
 - xiii) Participation in Seminars/ Academic Events/ Symposia, etc.
 - xiv) Any other academic activity
- 2) The faculty will submit the 'Alternate Assessment tool / method' i.e. AAT Pattern, to the HOD for approval and notify the same along with the course syllabus before the start of semester.
 - 3) To assess the students in a course under IAT component (CIE), two tests shall be conducted in a semester. Each test will be conducted for 40 marks. The average marks obtained in these two tests will be taken as IAT Marks. If a student fails to attend the IAT on the scheduled date, due to valid reasons specified under clause R24BE3.7.1, an additional test at the end of the semester would be conducted covering the syllabus of the test for which he was absent.
 - 4) The CIE marks awarded to students at different stages during the course shall be displayed on the notice board of the Department concerned to enable the students to point out any discrepancies.
 - 5) The student shall obtain a minimum of 40% of marks allotted for CIE in each course to be eligible to appear for the SEE in that course.
 - 6) When laboratory is part of a theory course (Integrated course), the student shall obtain a minimum of 40% marks in CIE of the laboratory to be eligible to appear for SEE in that course. This is in addition to the requirement specified under (5) above. The CIE marks obtained by a student in the laboratory, if it is equal to or greater than 40%, shall be retained until the end of that academic year till he passes the SEE. Otherwise, he shall re-register for the course when offered next.

Minimum CIE shortage:

- 7) i) If a student is unable to secure a minimum of 40% in CIE marks in any course, he shall not be eligible to take up SEE in that particular course, and such course shall be marked as 'DX' in the grade card.



ii) if a student satisfying the attendance requirement but failing to meet the passing standard with respect to CIE in any Mandatory Non-credit courses(s) registered shall be marked as 'NP' (Not Passed) in the grade card.

However, in cases i) and ii) above, students can appear for examinations conducted for other courses of the same semester and backlog courses if any, provided they satisfy the eligibility conditions to appear for the SEE.

iii) Such students from UG programmes having 'DX' /'NP' grade in a course may be permitted to register afresh in the summer semester and appear for SEE after satisfying the minimum CIE and attendance requirements in the same course.

iv) It shall be the responsibility of Controller of Examinations (COE) to scrutinize the list of candidates and permit only the eligible students to take up SEE. In the event of an ineligible student inadvertently being allowed to appear for the theory examination, the result of the concerned student shall be withdrawn forthwith.

R24BE4.2.1 Typical Assessment Patterns with 20% weightage for AAT.

Continuous Internal Evaluation (CIE) Pattern for Regular (PCC, PEC, OEC) and Integrated Course-IPCC

Note: Theory@: Two Internal Assessment Test (IAT) will be conducted; an average of two tests will be considered for the final assessment.

Type of Course	Component	Weightage	Max. Marks	Total Marks	Final CIE
Regular/Normal Course	Theory@ (100% of syllabus)	IAT (80 %)	40	50	-----
		AAT(20%)	10		
Integrated Course	Theory@	IAT (80 %)	40	50	Average of Theory@ and Practical CIE will be considered for the final assessment i.e for 50 marks
		AAT(20%)	10		
	Practical	Record& Performance (40%)	20	50	
		IAT (40%)	20		
	Viva-voce (20%)	10			

R24BE4.2.1 Guidelines for Make-up CIE:

- 1) Makeup test (IAT) may be given to improve the performance of CIE, subject to a maximum of 20 marks only, and the syllabus for the make-up test will be the content of the poor performance test.



- 2) If the student is absent due to genuine cases like severe illness, accidents, calamities in the family, and other exigencies, the student /parent with the relevant supporting documents has to get prior approval from the course Instructor/HOD and the same has to be approved by the Department Under Graduate Committee. In such cases, the student is permitted to take the Make-up test and the actual marks scored gained will be considered for his /her absent IAT component, and the syllabus will be the content of the absent IAT.

R24BE4.3. Semester End Examination:

- 1) SEE shall be conducted for all credit courses. However, for Mandatory Non credit Courses, SEE can be avoided and assessed only in CIE subject approval by the Dean. The SEE shall be conducted at the college level as per the calendar of events.
- 2) Only those students who satisfy the attendance requirement as per R24BE3.7 and CIE requirement as per R24BE4.2 shall be eligible to appear for SEE of that course.
- 3) In the ODD semester, only the semester end examinations for the courses of odd semesters (I, III, V and VII) are conducted. Here, students who meet the minimum attendance and CIE requirements for the courses of regular ODD semester can appear for the examinations of such courses and also Backlog courses ('F' Grade / 'AB' grade courses) of previous ODD semesters, if any.
- 4) Similar to (3) above, in the EVEN semester, only the semester end examinations for the courses of Even semesters (II, IV, VI and VIII) are conducted. Here, students who meet the minimum attendance and CIE requirement for the courses of regular EVEN semester can appear for the examinations of such courses and also Backlog courses ('F' Grade / 'AB' grade courses) of previous EVEN semesters, if any. However, as a special case, only in the first year, if students have backlog courses ('F' Grade / 'AB' grade courses) of first semester and those courses are offered in second semester and consequently SEE are conducted for such courses, then, they can appear for the examinations of such backlog courses in second semester. For the courses of first semester that are not offered in second semester (Ex.: Mathematics course of first semester) and for which the SEE will not be conducted subsequently in second semester, students can appear for examinations of such courses in subsequent summer semester / odd semester end examinations.
- 5) In the summer semester, semester end examinations for the courses offered in the summer semester are conducted. Here, students who meet the minimum attendance



and CIE requirements for the courses registered in summer semester can appear for the examinations of such courses. Also if a student has backlogs ('F' Grade / 'AB' grade courses) in any of the previous semester's courses, he/she can appear directly for the examinations of those courses.

- 6) Students who have satisfied the attendance and CIE requirements for the course/s, appears for the SEE, but fail to obtain the overall score for passing in that course/s will be awarded 'F' grade.
- 7) Students who have satisfied the attendance and CIE requirements for the course/s, but is absent for the SEE of that course/s will be awarded 'AB' grade.
- 8) In the process of conducting SEE, external examiners may associate with the work of Question paper setting and evaluation of answer scripts, as covered in sub-sections (11) and (12) below.
- 9) Each appearance to SEE or absence from SEE shall be treated as an attempt.
- 10) A student shall not be permitted to avail **course substitution** option beyond a maximum of two (2) courses during the entire programme. This course substitution option is no permitted for core courses – **R24BE 3.6.7**
- 11) **SEE Answer Script Evaluation:** The answer scripts of SEE may be normally evaluated by an experienced examiner, either internal or external. But as a healthy step, a Departmental committee should oversee this task and ensure the quality and standard of evaluation and also of the grades awarded in all the cases.
- 12) **External Review of SEE:** An external review(moderation) shall be conducted under the aegis of the Board of Examiners of the Department by appointing a panel of expert from outside the College for this purpose aiming at a complete review of SEE operation. This may include such steps as, question paper review, checking random samples of answer scripts, moderation, analysis of results/grades awarded and other related aspects. This step to be also necessary for gaining the confidence of the university, regulatory bodies (AICTE, UGC, NBA and NAAC) and of the society at large, on the fairness, transparency and acceptability of the examination practice among the stakeholders. The details of the same shall be properly maintained in the examination section of the college and shall be submitted to the university as and when asked for.

R24BE4.4. Makeup Examination:

- 1) The Makeup Examination facility is available to students who may have missed to attend the SEE of one or more courses in as semester for valid reasons and given the 'I'



grade; Also, students having the 'X' grade shall also be eligible to take advantage of this facility. The makeup examination shall be held immediately after the announcement of SEE results as per dates notified in the Academic Calendar. However, it would be possible to hold a makeup examination at any other time in the semester with the permission of the Academic Council of the College. In all the cases, the standard of SEE would be the same as that of other SEEs. Appearing in makeup examinations for a course shall be treated as a second attempt (shall lose their eligibility to be considered for the award of Ranks.) excluding cases wherein a student has participated in national/international level events like SPORTS/NCC/NSS/RD parade etc. with a prior approval from the Principal.

- 2) Students claiming makeup examination on the above reasons are required to apply to the COE & Dean through the respective Department, on or before the prescribed last date for registration for such makeup examination announced in the Academic calendar, along with proper medical/relevant document issued by a competent Authority. In the event of death and /or serious illness/accident of parent or guardian, the application should be supported by appropriate documents. The decision of the committee headed by the Principal of the Institute shall be final.
- 3) The Makeup examination shall be conducted at the end of Odd semester and Even semester SEE.
- 4) All the transitional grades ('I' and 'X') awarded to student shall have to be converted to an appropriate letter grade after the make-up examination. If a student fails to appear for the make-up examination then, the 'I' and 'X' grades shall be converted to 'F' grade.
- 5) There is no makeup examination after summer semester end examination.

R24BE4.4.1 Question Paper Guidelines

Question Paper Pattern: For an effective achievement testing of students in a course, a good question paper needs to be used as the principal tool. This makes it necessary for the question papers used at CIE and SEE to:

- Cover all sections of the course syllabus uniformly.
- Be unambiguous and free from any defects/errors.
- Emphasize knowledge testing, problem solving and quantitative methods.



- Contain adequate data/other information on the problems assigned and have clear and complete instructions to the candidates.
- Contains question at higher order Blooms Level to meet the intended course and Program Outcomes.

1) **Question Paper Planning:** The question Paper should cover the entire syllabus, with a provision for the students to answer questions from the whole syllabus. As students need to be given some choice in the questions included in the paper, it is necessary for the question paper at SEE to have built in choice for some of the modules to meet the needs of an average student. This factor shall be taken note of and followed by Board of Examination(BOE), while planning of the question paper.

Besides, it is also necessary for the Course Syllabi to be drafted properly, be defect-free and also properly given in modular form to enable the setting of good question papers covering the whole syllabus. These aspects have to be considered, in particular, by the Boards of Studies(BOS).

2) **Typical Question Paper:** The questions to be included in the Question Papers at CIE and SEE can be of two types as follows and the Course instructors as well as the external examiners shall have to be well trained /experienced to set them.

- Multiple Choice Question, having each question to be answered by tick marking the correct answer from the choices (commonly four) give against it. Such a question paper to be useful in the testing of knowledge, skills, comprehensive, application, analysis, synthesis, evaluation and creation capabilities of the students. This pattern of question paper can be adopted for courses with 1 or 2 credits. However, question papers for CIE and SEE to include no more than 15-20% of questions of this type in courses with 3 or more credits.
- Comprehensive Questions, having all questions of the regular type answered in detail. Such a Question Paper to be useful in the testing of overall achievement and maturity of the students in a course through long questions relating to theoretical/practical knowledge, derivations, problem solving, modeling, simulation, design, application and quantitative evaluation.
- A minimum of 20% question paper set for each course shall be set by external examiners.



R24BE4.5. Maintenance of Examination Records

- 1) The candidate shall write tests, assignments/unit-tests /written quizzes in Blue Books, which shall be preserved by the C O E / Head of the Department for at least 3 years after the announcement of results and shall be made available for verification as per the direction of the Registrar (Evaluation) during LIC.
- 2) Any corrections or overwriting of CIE marks on the blue book/drawing sheet laboratory record etc., where CIE marks are awarded, shall bear the signature(s) of the concerned Teacher(s) and the Head of the Department.
- 3) The final list, incorporating corrections (if any), of CIE marks awarded to the students in the Theory/Practical/Internship/ Mini – Project Work/Major-Project Work shall be displayed on the notice board of the college much before the closure of the semester.
- 4) The Department shall enter the CIE marks of each on the ERP online CIE marks portal and submit a certified copy of the same to the Examination Section within the stipulated date notified by COE office. Every page of the CIE marks sheet (hardcopy) shall bear the signatures of the concerned Teacher/Teachers, Head of the Department.

R24BE4.6. Review Committee for CIE

- 1) Review of assessment is an organized procedure that ensures the use of valid assessment methods and consistent application of criteria, to provide fair academic judgment and reliable outcomes in the form of marks or grades. It assures appropriate designing and implementation of assessment activities along with the generation of valid and reliable results.
- 2) After each test, the C O E shall ensure that the evaluation is fair in each of the courses, scheme of valuation is uniformly followed and that the award of marks in the courses follow a normal distribution curve. If there are any lapses or the marks distribution is either left skewed or right skewed, corrective measures shall be taken and the Report should be documented for verification during LIC.
- 3) If the review exercise is done solely for the purpose of unduly favoring the students, the Principal/COE reserves its right to take punitive action on the concerned.
- 4) There shall be a Review Committee for Internal Assessments in every Department, which shall be chaired by the Head of Department and two senior faculty members nominated by the COE. This Committee shall be responsible for the entire process of Internal Assessment in the Department, including redressal of grievances, if any.



5) Guidelines for the Review Committee:

Review may be conducted after each test or after the tests in case there is a large number of failures or high marks, or when large numbers of students have received the same marks, or when there are wide discrepancies between marks allocated to individual students in different courses,

- a) Split-up of marks used for each of the different types of assessment in the course may be checked.
- b) Checking of the questions to find whether it maps to course outcomes.
- c) Checking the difficulty level of questions paper i.e., is the difficulty level on the high extreme, very easy or otherwise.
- d) Whether the assessment modes are used to cover the entire syllabus or not.
- e) Checking the manner of awarding the marks, i.e., has correction been at the extremes, liberal or tough?
- f) Moderation should not be restricted to just assessment but also includes the assessment design (scheme of evaluation).

R24BE4.7. Rejection of Result

- 1) A student is permitted to reject the total performance of a semester (including CIE marks) or reject only the result of his/her performance in examinations(SEE) of a semester. The rejection is permitted only once during the entire Programme of study.
- 2) Students who desire to reject the SEE results of a semester shall reject the total performance (irrespective of the earned course grades) in all the courses of the semester either rejecting or retaining the CIE marks. However, rejection of the performance of the VIII semester project shall not be permitted.
- 3) Students who desire to reject the total SEE performance of an odd or even semester including CIE marks, have to repeat that odd or even semester of the prevailing scheme by taking readmission during the subsequent academic year/s, governed by clauses R24BE5.3 and R24BE5.2.
 - a) If the rejection of SEE results excluding CIE marks is of the odd semester, students shall be allowed to take admission to the immediate next even semester.



- b) If the rejection of SEE results excluding CIE marks is of an even semester, then students shall be allowed to appear Sumer Semester and take admission to the next odd semester from 2nd year onwards.
- c) Readmission to odd/even semesters shall not be considered as fresh admission and therefore students shall continue to have the same University Seat Number, which was allotted earlier. The maximum duration of the Program shall be counted with reference to the University Seat Number (USN).
- d) Applications for rejection of results excluding CIE and approval to reappear for SEE examinations shall be sent to the Dean and COE through the Head and BOE chairman of the department within 10 days from the date of announcement of the results, with prescribed fee as notified by the institution from time to time. Late submission of applications shall not be accepted for any reason.
- e) Application for rejection of results including CIE and approval for readmission shall be sent to the Dean / COE through the HOD / BOE of the department within 10 days from the date of the announcement of the results with prescribed fee as notified by the Institution from time to time. Late submission of application shall not be accepted for any reason.
- 4) Registration for SEE is compulsory if the student/s has satisfied the attendance and CIE requirement of ODD /EVEN semester.
- In case, the students fail to register for SEE of the odd semester after satisfying the attendance and CIE requirements of the semesters, they shall be permitted to move to an even semester of that academic year. However, such students have to register for odd semester examinations conducted at the end of the academic year for all the semesters and registration shall be considered for the first attempt.
- In case, students fail to register for the odd semester SEE after completing successfully the even semester, they shall not be permitted to move to the higher odd semester of the subsequent academic year. Irrespective of a student appearing for SEE, he/she has to register for SEE for odd and even semesters before completing the academic year.
- 5) Students who opt for rejection of results of the Institution examination shall be eligible for the award of the Degree and Minor Degree but not for the award of ranks and Honors Degree.



R24BE4.8. Academic Malpractice

Academic malpractices shall be seriously viewed, and appropriate action taken. In case of malpractice during CIE/SEE examinations, the Course Teacher/Invigilator shall report the matter to the COE for penal action. If the COE finds that the offence is serious enough then the matter shall be further referred to the Academic Malpractice Committee of the Institution.

R24BE5.0. MAXIMUM DURATION FOR PROGRAMME COMPLETION

R24BE5.1: Multiple-Entry-Multiple-Exit Options

While earning credits towards their B.E. degree, the students may judiciously use the options provided to them through CBCS and MEME clauses in the Regulations, to obtain additional certificate. However, they shall earn the required credits for the award of the degree within the maximum specified duration.

The following distinctions are awarded under MEME options:

1) Certificate in Respective Programmes of Engineering

A student who exit at the end of II year of the programme shall be awarded a certificate, if he/she successfully passes the registered courses and earns:

- (i) At least 50% of the credit requirements of B.E. programme. (i.e. 80 credits)

However, it is 25% for lateral admission candidates (i.e. 40 credits).

- (ii) At least 50% of the programme professional core courses (some specific courses may be specified, so the leaving student has decent skills), and
- (iii) A minimum CGPA of 5.0.

2) Re-entry to complete the programme

A student exiting with a certificate should be entitled to re-enroll in the programme. All the credits will be transferred, if the student enrolls back within a limited period of 3 years of exiting. In case a student enrolls after that, then the transfer of credits should be examined by looking at the change in the curriculum from what the student did. Exits are permitted by the Institution within 15 days of announcement of II year and III year results, on written request for the award of certificate by a student when he/she is eligible. Corresponding to these two exits, a maximum of two re-entries are permitted with the condition that he/she complete the programme within the maximum specified duration.



R24BE5.2. Maximum Duration for Programme Completion

Students admitted to first-semester B.E. shall complete the programme within eight academic years from the year of the first admission, failing which they will not be eligible for the award of a degree. Students admitted to third semester B.E. under the lateral entry category shall complete the programme within six academic years from the year of the first admission, failing which they will not be eligible for the award of degree.

R24BE5.3. Readmission

- 1) Students who are temporarily discontinuing the programme and getting readmitted to the eligible semester are permitted subjected to the clause R24BE5.2.
- 2) The permission for readmission is on request through the Principal and subject to approval by the University. Such students shall not claim any benefits based on the readmission.
- 3) Students who take re-admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons, shall attend and complete all the remaining semesters of the programme adhering to the Regulations of the prevailing scheme and shall complete additional courses, if any, as per the decision of equivalence committee in concurrence with concerned Board of Studies on establishing the equivalence between two schemes. Such a candidate shall not be eligible for the award of rank.
- 4) Readmission to odd/even semester shall not be considered as fresh admission and therefore students shall continue to have the same University Seat Number (USN), which was allotted at the time of his/her admission to the programme. The maximum duration of the programme shall be counted with reference to the USN allotted during his/her first admission to the programme.
- 5) A student who has not obtained the eligibility for III semester even after three academic years from the date of admission to I semester shall discontinue the programme or get readmitted to I semester of first year B.E., with a new University Seat Number (USN).



R24BE6.0. GRADING AND VERTICAL PROGRESSION

R24BE6.1. Award of Grades:

- 1) The Institution adopts absolute grading system wherein the marks are converted to grades, and every semester result will be declared with semester grade point average (SGPA) on successful completion of all courses of that semester.
- 2) The total marks obtained by the student in CIE and SEE of a course is expressed as a percentage to compute the grade points and the letter grade is awarded as indicated in the table below:

Letter Grade and corresponding Grade Points on a typical 10 - Point scale								
Letter Grade	O	A+	A	B+	B	C	P	F
	Outstanding	Excellent	Very Good	Good	Above Average	Average	Pass	Fail
Grade Point	10	9	8	7	6	5	4	0
% of Marks Secured	90-100	80-89	70-79	60-69	55-59	50-54	40-49	0-39

- 3) If there is no SEE for a course, then the CIE marks alone will be the basis for the determination of letter grade.

R24BE6.2. Other Letter Grades:

The letter grades specified in R24BE6.1 are used as student performance measures in all kinds of assessments. However, the following letter grades are also awarded under the circumstances defined below (Letter Grade: Grade Point - Circumstances).

- 1) DX: 0 - Credits are not included in CGPA, Attendance below 85%, hence Repeat the course (In case of electives, course change is permitted)
- 2) AU: 0 - Satisfactory in an Audit course
- 3) AB: Absent for the Course
- 4) PP: 0 - Passed in Non-credit course
- 5) NP: 0 - Not Passed in Non-credit course
- 6) W: No credits - Dropped/ withdrawn (W is not a grade but only a place holder indicating that the course has been dropped/withdrawn, and it must be cleared in subsequent semesters).
- 7) I & X - Transitional grades



R24BE6.3. Passing Standards

1) Maximum and Minimum CIE Marks:

The maximum weightage of CIE mark shall be 50. To appear for the SEE, the minimum CIE marks to be secured in each of the courses shall be 40 % of the maximum marks of CIE.

2) Maximum and Minimum SEE Marks:

The maximum weightage of SEE marks shall be 50 and marks to be secured for passing shall be 35 % of the maximum marks of SEE.

3) Eligibility for Passing a Course:

The overall passing marks shall be 40% of the maximum marks (the sum of the CIE and SEE should be 40% of the maximum marks) of the course. That is, minimum passing grade in a course (head of passing) shall be "P".

Passing Standards using Absolute Grading for UG	
Evaluation Method	Passing Standard
Continuous Internal Evaluation	Score: $\geq 40\%$
Semester End Examination	Score: $\geq 35\%$
Overall Score for Passing is $\geq 40\%$	

4) Semester Passing Standards:

- a) A student shall be declared successful or 'passed' in the entire undergraduate programme, only when he secures a Grade Point of 4 ("P" Grade) or above in every registered course in each Semester during the entire programme for the Degree Award, as required.
- b) A Student shall be declared successful or 'passed' in any Non-Credit Course if he secures a 'Satisfactory Grade (PP)' for that Mandatory Course.
- 5) A student who satisfies the conditions (1), (2), and (3) above, and obtain any grade from 'O' to 'P' in a course shall be considered to have passed that course.
- 6) A student shall be awarded letter grade in a course as indicated below, if he/she,
 - a) Fails to satisfy the conditions under Section (5) above: 'F' Grade,
 - b) Absents himself/herself from the Institution examinations (SEE): 'AB' Grade,
 - c) Has attendance shortage in a course (<85%): 'DX' Grade, and
 - d) Course is Incomplete for any reason: 'IC'.
- 7) Students satisfying the attendance requirement but failing to secure the minimum percentage of CIE marks, in any course/s, shall not be eligible for the SEE,



conducted by the Institution and they shall be considered as fail in that Course/those Courses and marked as DX in the grade cards against this course/s.

- 8) A student satisfying the attendance requirement but failing to meet the passing standard with respect to CIE in any Mandatory Non-credit course(s) registered shall be marked as NP (Not passed) in the grade card.

However, in cases (7) and (8) above, students can appear for examinations conducted for other courses of the same semester and backlog courses if any, provided they satisfy the eligibility conditions to appear for the SEE.

- 9) Such students from B.E programme having 'DX'/'NP' grade in a course may be permitted to register afresh in the SUMMER semester and appear for SEE after satisfying the minimum CIE and attendance requirements in the same course.
- 10) Each appearance to SEE or absence from SEE (i.e after completing CIE and attendance requirements to complete a course) shall be treated as an attempt.

Successive Failure:

- 11) If a student fails to pass an Elective Course even after four attempts, that course is deemed to be exempted for him/her. Then, the student may choose a course of his/her choice with the same number of credits from the pool of elective courses stipulated by the Board of Studies concerned. The Course selected should not have been studied by the student or to be studied in higher semester/s . The faculty advisor shall guide /advise the student in this regard.

However, (11) is optional, and the student can prefer to repeat the same course in which he/she has failed repeatedly.

- 12) This provision is given only for two courses (one at a time) during the entire maximum duration of a course.

- 13) The course substitution option mentioned in (11) and (12) is not applicable for core courses.

R24BE6.3.1 Project work Evaluation:

The evaluation of CIE of the project work shall be based on the progress of the student in the work assigned by the project supervisor periodically evaluated by him/her together with a Departmental Committee constituted for this purpose



R24BE6.4. Vertical Progression

A student progresses according to his/her performance and could register for the higher semesters subjected to conditions under R24BE5.2.

1) Students admitted to the first year: [Progression to 2nd Year (3rd semester)]

Students having “F” grades for the courses totaling to more than 16 credits in the 1st and 2nd semesters of the first year of the programme shall not be permitted to move to the 3rd semester (2nd year) of the programme. These courses include courses marked as ‘DX’ and ‘AB’ grade.

2) Progression to 3rd Year (5th Semester)

Promotion from 2nd year to 3rd year shall not be restricted even if the student has any number of backlog courses (‘F’ grade, ‘DX’ grade, ‘AB’ grade).

3) Progression to 4th Year (7th Semester)

Students having ‘F’ grades/‘DX’ grades/‘AB’ grades for any of the courses in the 1st and 2nd semesters of the first year of the programme shall not be permitted to move to the 7th semester (4th Year) of the Programme. Student can carry forward any of the Audit/Mandatory Non-credit courses of 1st and 2nd semesters as backlog course/s to 7th semester. However, such Audit/mandatory non-credits should be completed before the award of the degree.

Note: Vertical Progression shall be as per the VTU regulations and notifications for respective programme notified from time to time.

4) **Permitted Maximum credits for registration:** The student shall be permitted to register for total courses to an extent subjected to the conditions under the clause R24BE3.6.2.

R24BE6.5. Condition for Re-Registering a Course:

- 1) Students who do not pass the course as per clause R24BE6.3(3) and awarded “F” Grade may Re-Register and improve their performance.
- 2) Such student, after passing the failed course in subsequent examination/s, will be awarded letter grade based on the marks he scores while passing in the subsequent examination/s.

R24BE6.6. Computation of SGPA and CGPA:

- 1) Semester Grade Point Average (SGPA) will be awarded at the end of each Semester and Cumulative Grade Point Average (CGPA) will be awarded at the end of the program.



However, CGPA is calculated at the end of each semester from the second semester onwards and reflected in the grade card for indicating the progress of the student.

2) Each course in a program is associated with number of credits (C). Based on the number of Credits for a course and obtained Grade Point (GP) for that course in a Semester, the GPA is calculated as given below:

a) The SGPA is the ratio of sum of the product of the number of credits with the grade points secured by a student in all the courses taken by him and the sum of the number of credits of all the courses undergone by a student, i.e.,

$$SGPA = \frac{\sum [\text{Course Credits} \times \text{Grade Points}] \text{ for all the courses registered in that semester excluding Transitional grade}}{\sum [\text{Course Credits}] \text{ for all the courses registered in that semester excluding Transitional grade}}$$

b) The CGPA is also calculated in the same manner considering all the courses undergone by a student over all the semesters of a programme, i.e.,

$$CGPA = \frac{\sum [\text{Course Credits} \times \text{Grade Points}] \text{ for all courses excluding those with F and Transitional grades until that semester}}{\sum [\text{Course Credits}] \text{ for all courses excluding those with F and Transitional grades until that semester}}$$

Finally, the SGPA and CGPA shall be rounded off to 2 decimal points and reported in the grade cards. An illustrative example to calculate SGPA and CGPA for one academic year is shown in **Annexure-I**.

R24BE6.7. Conversions of CGPA into Percentage of marks and Class Equivalence

The following formula for conversion of the CGPA on a 10-point scale into the percentage of marks (M) for employment/ higher studies, etc. may be used;
Percentage of marks secured, $M = CGPA \text{ Earned} \times 10$

E.g.: Illustration for a CGPA of 8.20;

Percentage of marks secured, $M = 8.20 \times 10 = 82.0 \%$

R24BE6.8. Class Equivalence

Subsequent to the conversion of final CGPA, after successful completion of the Program, into the percentage of marks (M), a graduating student is reckoned to have passed in,



- (i) First Class with Distinction (FCD) if $M \geq 70$
- (ii) First Class (FC) if $60 \geq M < 70$
- (iii) Second Class (SC) if $50 \geq M < 60$
- (iv) Pass Class (P) if $40 \geq M < 50$

R24BE6.9. Award of Grade Cards, Certificates and Transcripts (Annexure - V)

- (1) **Grade Cards:** At the end of each semester, a Grade Card shall be issued to all the registered students of that semester, indicating the Course code, Title, Number of credits, Letter grade awarded, and Credits earned, for all the Courses as specified in the scheme of teaching and evaluation, along with total credits earned, SGPA, and CGPA as applicable. This may have F grades and other temporary grades awarded to the student.
- (2) **Grade Certificate:** The Grade Certificate, having the same format of Grade card but indicating the month and year of clearing a course, is issued to the student on demand only on clearing all the temporary grades specified in the Grade Card.
- (3) **Transcripts:** Transcript is the consolidated statement of the academic performance of a student for all the semesters since joining the programme and is generally given to a student on successful completion of the programme along with the degree certificate.
- (4) For those students who have taken multiple attempts to clear a course, the transcript given on successful completion of the programme will only contain earned pass grade ('O' to 'P', AU and PP); the courses cleared subsequently will however be shown in the respective semester with Month and Year in which the student has finally cleared the course. The transcript will show only the overall CGPA based on all the courses taken by the student. Credits earned beyond the requirement for the award of the degree shall be shown as additional courses separately, indicating the grade earned by the student. Additional copies of the transcript can be obtained if needed, on request submitted along with payment of applicable fee.
- (5) Students who have not yet completed the programme can obtain an interim Transcript at the end of any semester, if needed, on request and upon payment of applicable fee. The interim Transcript includes failed courses, which have not been cleared at the time of issue.



R24BE6.9.1. Mandatory Earning of Activity points:

Sl. No.	Student Category	Activity Points prescribed
1	Regular Students admitted to the 4 year Degree Programme	100
2	Students entering 4 year Degree Programme through lateral entry	75
3	Students transferred from other Universities. To the 5 th Semester	50

The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

(i) Activity Points (non-credit) have no effect on SGPA/CGPA.

In case a student fails to earn the prescribed activity Points before the commencement of 8th semester examinations, the Eighth Semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth Semester Grade Card.

(ii) The Guidelines and suggestive activities under Activity points are listed in **Annexure -VI**.

R24BE7.0. ELIGIBILITY FOR AWARD OF DEGREE, PRIZES, MEDALS, AND RANKS

R24BE7.1. B.E. degree

- Students shall be declared to have completed the undergraduate Programme of B.E. degree and is eligible for the award of degree provided they have undergone the stipulated course work of all the semesters under the Scheme of Teaching and Examinations and have earned the prescribed number of credits as per clause R24BE3.3 within the permitted maximum duration specified under clause R24BE5.2.
- Obtaining a minimum CGPA ≥ 4.00 .
- Not having any transitional grades (I & X) in any courses.
- Passing in all mandatory Non-credit courses/Audit courses.
- For the award of degree, completion of bridge courses, if any, as applicable is compulsory.
- Obtaining the prescribed AICTE activity points.



R24BE7.2. B.E.(Honors) Degree

- (a) Students shall be declared to have completed the undergraduate Programme of B.E., degree with Honors, provided they have,
- (i) Been declared eligible for the award of the degree as per clause R24BE7.1,
 - (ii) Earned additional 18 or more credits through University-approved online courses, and
 - (iii) Satisfied the conditions of “VTU (Award of Honors/ Minor at B.E./B.Tech. Degree Programmes) Regulations, 2022”.

R24BE7.3. B.E. with Minor Degree

- a) Students shall be declared to have completed the undergraduate Programme of B.E./B.Tech., degree with Minors, provided they have,
- (i) Been declared eligible for the award of the degree as per clause R24BE7.1,
 - (ii) has earned additional 18 or more credits through University-approved online courses, and
 - (iii) Satisfied the conditions of “VTU (Award of Honors/Minor at B.E./B.Tech. Degree Programmes) Regulations, 2022”.

R24BE7.4. Award of Degree for an Extraordinary Student:

- 1) The University through college can offer a fast-track degree for an extraordinary student. The same is done by offering courses of his/ her choice to fulfill the requirement of the programme in 3.5 years.
- 2) However, the degree shall be awarded on completion of 04 years.
- 3) The course completion letter shall be issued jointly by the University and the College immediately after completion of the programme, notwithstanding the minimum duration.
- 4) The extraordinary student is one with a CGPA ≥ 9 in 2nd and 3rd semesters and continue to maintain the same in all the semesters. Otherwise, his/her registration shall stand canceled automatically.
- 5) Aspirant students shall register with prior approval by HOD/Dean/COE at the 4th semester level, with the prescribed registration fee as fixed by the Institution from time to time. Such students shall register for more credits, other than the regular semester credits, along with the 5th semester registration.



R24BE7.5. Noncompliance Cases

1) Noncompliance of Mini-project

The mini-project shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete the mini-project shall be declared fail in that course and shall have to complete the same during subsequent examinations after satisfying the Mini-project requirements.

2) Noncompliance of Major-project

The Project Work shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/ complete the Major-project shall be declared fail in that course and shall have to complete the same during subsequent examinations after satisfying the Major-project requirements.

3) Noncompliance of Internship

All the students of B.E. shall have to undergo mandatory internship The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete the internship shall be declared fail in that Course and shall have to complete the same during subsequent examinations after satisfying the internship requirements.

4) Noncompliance to earn credits in Honors and Minors

When a student registering for minor or honors degree is unable to complete all the required courses or earn the required credits within the maximum programme duration or at the time of becoming eligible for the award of the Degree, may withdraw from these additional degree programmes and request for the award of a certificate. The University shall consider those additional courses passed as Value Added Courses and issue a certificate to that effect.

R24BE7.6. Award of Prizes, Medals, and Ranks

For the award of Prizes and Medals, the conditions stipulated by the Donor shall be considered subject to the provisions of the statutes framed by the University for such awards.

- (1) For the award of rank in a Specialization of Bachelor of Engineering, the highest CGPA secured by the students at the end of the VIII semesters shall be considered after having completed the requisite credits.
- (2) The additional credits earned for the award of Honors/ Minors degree shall not have any bearing for the Rank declaration.



- (3) A student shall be eligible for a rank at the time of award of the degree of Bachelor of Engineering, provided that the student,
- (i) Has passed all the Courses of I to VIII semester in the first attempt only in case of Candidates admitted to the I year.
 - (ii) Has passed all the Courses (including bridge courses) of III to VIII semester in the first attempt only in case of Candidates admitted under lateral entry scheme.
- b) Is not a repeater in any semester because of rejection of result of a semester/ shortage of attendance /temporarily discontinued and rejoined/readmitted etc.
- c) Has not been transferred from any autonomous college affiliated to VTU or any other University.
- (4) The total number of ranks awarded shall be 10% of the total number of students who appeared in the VIII semester subject to a maximum of 10 ranks in a specialization.
- (5) For an award of ranks in a specialization, a minimum of 10 students should have appeared in the VIII semester examination.

Illustration:

- If 1228 students appeared for the VIII semester in Electronics and Communication Engineering Program, the number of ranks to be awarded for Electronics and Communication Engineering shall be 10.
- If 90 students appeared for the VIII semester in Biomedical Engineering, the number of ranks to be awarded for Biomedical Engineering will be 09.

R24BE7.7. Ranks shall be awarded based on the merit of the students as determined by CGPA. If two or more students get the same CGPA, the tie shall be resolved by considering the number of times a student has obtained a higher SGPA. If it is not resolved even at this stage, the number of times a student has obtained higher grades like S, A+, A, B+ etc., shall be taken into account to decide the order of the rank.

R24BE8.0. CHANGE OF COLLEGE: TRANSFER OF STUDENTS

The Regulations Governing the Change of College shall be followed [**Annexure-II**].

R24BE9.0. CHANGE OF BRANCH

The Regulations Governing the Change of Branch shall be followed [**Annexure-III**].





Annexure - I

An illustrative example to calculate SGPA and CGPA for one academic year:

(a) SGPA and CGPA Calculations: An Illustrative Example for one academic year									
Semester (Odd: I, Even: II)	Course Code	Credits	Grade	Grade Points (GP)	Credit Points (CrP)	SGPA, CGPA			
I	XX11	3	B	8	3x8=24	$SGPA = \frac{101}{20} = 5.05$			
I	XX12	3	Absent(F)	0	3x0=00				
I	XX13	3	A+	9	3x9=27				
I	XX14	3	F	0	3x0=00				
I	XX15	3	B	6	3x6=18				
I	XX16	1	C	5	1x5=05				
I	XX17	1	A+	9	1x9=09				
I	XX18	2	B	6	2x6=12				
I	XX19	1	B	6	1x6 = 06				
Total		20(14*)	Total		101				
(14*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.									
II	XX21	3	B+	7	3x7=21	$SGPA = \frac{178}{26} = 6.85$			
II	XX22	3	A	8	3x8=24				
II	XX23	3	B	6	3x6=18				
II	XX24	3	C	5	3x5=15				
II	XX25	3	A+	9	3x9=27				
II	XX26	1	F	0	1x0=00	$CGPA = \frac{(101 + 178)}{14 + 25} = \frac{279}{39} = 7.15$			
II	XX27	1	A	8	1x8=08				
II	XX28	2	A+	9	2x9=18				
II	XX29	1	A	8	1x8=08				
I semester									
I	XX12	3	B	6	3x6=18				
I	XX14	3	B+	7	3x7=21				
Total		26(25*)	Total		178				
(25*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.									
(b) CGPA Calculation of the Program: An Illustrative Example									
Semester	I	II	III	IV	V	VI	VII	VIII	
Credits of the semester	20	20	20	20	20	20	24	16	
SGPA	5.0	6.73	9.20	6.86	8.18	7.73	9.18	9.40	
ΣCrP	100	175	220	165	204	185	184	169	
$CGPA = \frac{[100 + 175 + 220 + 165 + 204 + 185 + 184 + 169]}{160} = \frac{[1402]}{160} = 8.76$									
For Lateral Entry Students									
$CGPA = \frac{[220 + 165 + 204 + 185 + 184 + 169]}{120} = \frac{[1127]}{120} = 9.39$									





Annexure - II

The Regulations Governing the Change of College:

(@ <https://vtu.ac.in/wp-content/uploads/2021/01/Notified-COC-Regulations.pdf>)



Annexure - III

The Regulations Governing the Change of Branch:

(@ <https://vtu.ac.in/wp-content/uploads/2021/01/Notified-COB-Regulations.pdf>)





Annexure –IV: ASSESSMENT AND EVALUATION IN SPECIFIC COURSES

R24BEA6.1. CIE and SEE Assessment in Specific Courses:

Examination and Evaluation for all the courses shall be done as specified under Sections R24BE4.1, R24BE4.2 and R24BE4.3 of this Regulations for SEE and CIE. However, for some specific courses, the procedure is made clear in the following sections.

CIE Assessment in Specific Courses:

R24BEA6.1.2. Internship

- The Internship shall be taken up during the period specified in the Scheme of Teaching and Examinations.
 - The Department shall nominate faculty member/s to facilitate, Guide, and supervise students under an internship.
 - The students shall report the progress of the internship to the Guide in regular intervals and seek his/her advice. The Guide shall maintain the progress record of the candidate's undergoing internship. Duration of the internship shall be as mentioned in the scheme of Teaching and Examination.
 - The Internship examination shall be conducted at the end of the internship period.
- 1) **Report evaluation:** Internship shall be evaluated for 50% maximum marks. The split-up of marks suggested for report evaluation shall be based on,
- a) Report formatting (20% of marks of CIE for report)
 - b) Presentation of the outcomes in the report (40% of marks for CIE for report) and
 - c) Technical content of the report (40% of marks for CIE for report) Weightage shall be given for paper publication in reputed journals/refereed journals/Conferences/Product developed/ Patent filed – only for Industry/ Research Internship.
- 2) **Viva-Voce** shall be conducted for 50% of marks of CIE. The split-up of marks suggested are:
- a) For demonstration of (soft) skills/Engineering Knowledge gained (50% of marks of CIE for Viva-voce).



- b) The question-answer session will check for the understanding of the fundamentals and concepts (40% of CIE marks for Viva-voce)
- c) Clarity in answering the questions (10% of CIE marks for Viva-voce)
Viva-voce shall be conducted by the Mentor/ Guide and Head of the Department/ one of the senior faculty assigned by the Head of the department.
- 3) Those who do not complete the internship shall be declared Fail and shall complete it during subsequent University examinations after satisfying the internship requirements during subsequent semesters.

R24BEA6.1.3. Seminar

- 1) The maximum marks prescribed for the Seminar and the evaluation process shall be notified by the University/ College before offering the course.
- 2) The Seminar performance evaluation shall be a part of CIE only in a course where required.
- 3) The Seminar shall be assessed as indicated below.
 - a) The Head of the Department shall make arrangements for the conduct of seminars through a committee of faculty members of the Department. The committee, constituted for the purpose by the Head of the Department, shall award the CIE marks for the seminar. The committee shall consist of three senior faculty members of the Department and the most senior among them shall be the Chairperson.
 - b) The marks awarded for Seminar shall be based on the evaluation of the Seminar Report, Presentation skill, and Viva-voce (Question & Answer session) in the ratio of 50:25:25.
 - c) Split up Marks to be assessed as follows:
 - (i) Report marks to be allotted by the seminar guide/s (50% of the maximum marks)
 - A). Formatting of the report (10% of maximum marks)
 - B). Literature survey (20% of maximum Marks) and
 - C). Technical content of the report (20% of maximum marks)
 - (ii) Seminar Presentation skill marks to be allotted by the committee: (25% of the maximum marks)



(iii) Viva-Voce marks to be allotted by the committee: (25% of the maximum marks)

A). Understanding of fundamentals and concepts (15%)

B). Clarity in answering the questions (10%)

R24BEA6.1.4. Mini-Project

- 1) The Mini-Project performance of a student shall be evaluated under CIE only. The maximum marks prescribed for CIE shall be as mentioned in the Scheme of Teaching and Evaluation.
- 2) The Head of the Department shall make arrangements for the conduct of viva-voce evaluation of the mini-project. The committee shall consist of a Faculty guide/mentor and two senior faculty members of the Department and the most senior among them shall be the Chairperson.
- 3) The CIE marks awarded for Mini-Project, shall be based on the evaluation of the Mini-Project Report, Project Presentation skill, and Viva-Voce (Question and Answer session) in the ratio of 50:25:25.
- 4) The marks awarded for the Mini-Project report shall be the same for all the students of the batch. The faculty guide/ mentor guiding the Mini-project shall Evaluate the performance for 50% of the maximum marks of CIE for the report.
- 5) This committee shall evaluate Mini-project Work for the rest of 50% of the maximum marks considering performance in project presentation and Viva-Voce (question-answer session).
 - a) Project presentation: 25% of maximum marks
 - b) Viva-Voce (Question and answer session) :25% of maximum marks

R24BEA6.1.5. Project Work

- 1) The project work shall be evaluated considering both CIE and SEE; The CIE and SEE marks shall be as mentioned in the Scheme of Teaching and Evaluation.
- 2) The CIE marks awarded for Project Work shall be based on the evaluation of the Project Report, Project Presentation skill, and Viva-voce in the ratio of 50:25:25.
- 3) The marks awarded for the Project report shall be the same for all the students of the batch.



- 4) The Head of the Department shall make arrangements for the conduct of Viva-Voce for evaluation of the project work. The committee shall consist of the faculty guide/mentor and two senior faculty members of the Department and the most senior among them shall be the Chairperson.
- 5) The faculty guide/ mentor guiding the project shall Evaluate the performance for 50% of the maximum marks of CIE for the report.
- 6) This committee shall evaluate Project Work for 50% of the maximum marks considering the project presentation and question-answer session.
 - a) Project presentation: 25% of maximum marks
 - b) Question and answer session: 25% of maximum marks

R24BEA6.2. SEE Assessment in Specific Courses:

R24BEA6.2.1. Integrated Course (I/c) /Integrated Professional Core Courses (IPCC)

For a course where theory is integrated with Laboratory course, the SEE duration for the theory part shall be three hours, as specified in section **R24BE4.3**. However, the question paper in the SEE examination shall include at least one question from the Laboratory component.

R24BEA6.2.2. Theory Course with 1 Credit

The SEE question paper shall have MCQ (multiple choice questions) set for 50 questions, each carrying one mark. The time duration for SEE is one hour.

R24BEA6.2.3. Practical Work Courses

- 1) The SEE marks for the practical courses shall be 50 Marks.
- 2) SEE shall be conducted jointly by the two examiners appointed by the BOE / COE.
- 3) All laboratory experiments are to be included for practical examination.
- 4) Breakup of marks and the instructions printed on the cover page of the answer script are to be strictly adhered to by the examiners. **OR**

Based on the course requirement, a split-up of marks for evaluation shall be decided jointly by the examiners.

- 5) Students shall pick one question (experiment) from the questions pool prepared by the examiners jointly.
- 6) Evaluation of write-up/ conduction procedure and result/viva will be conducted jointly by the examiners.



- 7) The split-up of maximum allocated marks for SEE are:
 - a) procedure/ writeup 20%,
 - b) Conduction and result in 60%,
 - c) Viva-voce 20%
- 8) SEE for the practical course shall be evaluated for 100 marks and scored marks shall be scaled down to 50 marks.
- 9) Change of experiment is allowed only once and 20% Marks allotted to the procedure/write-up part to be made zero (Evaluation is to be carried out for 80% of total maximum marks).
- 10) The duration of SEE shall be three hours.

R24BEA6.2.4. Internship

- 1) SEE shall be conducted by the Internal and external examiners approved by Controller of Examinations. The internal examiner shall be the guide for SEE. The external Guide for the Internship shall be the external examiner for SEE.
- 2) Examination for internship shall be conducted at the department and the date as announced by jointly by BOE/COE. The Examiners shall jointly award the SEE marks.
- 3) In case the external Guide expresses his inability to conduct the Examination at the last moment, the COE & BOE shall appoint a senior faculty of the Department to conduct the Examination along with the internal Guide.
- 4) SEE marks for the Internship shall be awarded using appropriate Rubrics based on the quality of work & report, presentation skills, and viva- voce in the ratio 50:25:25 respectively.

R24BEA6.2.5. Project Work

- 1) The project work shall be evaluated for 200 marks with CIE of 100 marks and SEE of 100 marks.
- 2) The Project Work will be conducted by the two examiners one internal and one external examiner appointed by COE/BOE.
- 3) SEE marks for the project shall be awarded using appropriate Rubrics based on the quality of work & report, presentation skills, and viva- voce in the ratio 50:25:25 respectively.





Annexure -V:

Award of Grades for Student Performance

- 1) With the introduction of CBCS in HEIs, the University has adopted the absolute grading system wherein the marks are converted to grades, and every semester result will be declared with semester grade point average (SGPA) on completion of courses of that semester.
- 2) Course Letter Grade (or simply letter grade or grade) is an index of performance of a student in a said course and refers to a qualitative measure of achievement of a student in each course, based on the percentage range of marks secured in CIE and SEE put together or CIE alone when there is no SEE. The total marks obtained by the student in CIE and SEE of a course is expressed as a percentage to compute the grade points and the letter grade is awarded as indicated in the table below:

	O	A+	A	B+	B	C	P	F
Letter Grade	Outstanding	Excellent	Very Good	Good	Above Average	Average	Pass	Fail
Grade Point	10	9	8	7	6	5	4	0
% of Marks Secured	90-100	80-89	70-79	60-69	55-59	50-54	40-49	0-39

- 3) If there is no SEE for a course, then the CIE marks alone will be the basis for the determination of letter grade.
- 4) The Guidelines given in this document basically cover the B.E./B.Tech. and PG programmes in general. However, the Autonomous colleges shall prepare the Academic Regulations for all the other related group of the UG and PG programmes being offered in their institutions, adopting the Guidelines provided in this document.
- 5) Absolute grading system is used in the University and hence the guidelines are confined specifically to this grading system.



A. Representation of Grades and Awarding Grades:

The letter grades are used as a student performance measure in all kinds of the course assessments.

1. Grades are denoted by letters as follows based on the performance in the CIE and SEE put together:

Table A-2: For PG programmes: Letter Grade and corresponding Grade Points on a typical 10 – Point scale							
Letter Grade	O	A+	A	B+	B	C	F
Grade Point	10	09	08	07	06	05	00
% of Marks Secured	90-100	80-89	70-79	60-69	55-59	50-54	0-49

O: Outstanding, **A+:** Excellent, **A:** Very Good, **B+:** Good, **B:** Above Average, **C:** Average, **P:** Pass and **F:** Fail.

2. Additional letter grades awarded under special circumstances are (specified briefly as, Letter Grade: Grade Point – Circumstances):
 - i) **DX:** 0 – Attendance below 85% or not having minimum CIE, Credits are not included in CGPA, hence Repeat the course (In case of electives, course change is permitted),
 - ii) **AB:** 0 – Absent for a Course in SEE,
 - iii) **AU:** 0 – Satisfactory performance in an Audit course,
 - iv) **PP:** 0 – Passed in Non-credit course,
 - v) **NP:** 0 – Not Passed in Non-credit course.
3. The Transitional Grades '**T**', '**W**' and '**X**' would be awarded by the teachers in the following cases. These would be converted into one or the other of the letter grades (**O-F**) after the student completes the course requirements.
 - i) **Grade 'T':** To a student having satisfactory attendance at classes and meeting the passing standard at CIE, but remained absent from SEE for valid & convincing reasons acceptable to the HEI, like:
 - (a) Illness or accident, which disabled him/her from attending SEE;
 - (b) A calamity in the family at the time of SEE, which required the student to be away from the College;
 - (c) Any other verifiable exigency.



- ii) **Grade 'W'**: To a student having satisfactory attendance at classes but withdrawing from that course before the prescribed date in a semester under Faculty Advice; No credits awarded to withdrawn course (W is not a grade but only a place holder indicating that the course has been withdrawn, and it has to be registered and cleared in subsequent semesters). All the 'W' grades awarded to the students would be eligible for conversion to the appropriate letter grades only after the concerned students re-register for these courses in a main/summer semester and fulfill the attendance requirement and the passing standards for their CIE and (CIE + SEE).
- iii) **Grade 'X'**: To a student having high CIE rating ($\geq 90\%$) in a course, but SEE performance observed to be poor, which could result in an overall 'F' Grade in the course.

B. Awarding Letter Grades based on the action/performance of the students: (O – F, DX, AB, AU, PP, NP, W, X, or I)

Typical sequence of progress of the students in a semester will be as follows:

1. The Student Registers for a course in Odd/Even/summer Semester;
2. The Student Attend Classes;
3. The Student take CIEs;
4. Withdraw from the course within a fixed time? If yes, **award 'W' grade**;
5. At the end of the semester, Shortage of attendance? If yes, **award 'DX' grade**;
6. At the end of the semester, CIE below 40%? If yes, **award 'DX' grade**;
7. Is the Audit course satisfactorily completed? If yes, **award 'AU' grade, else No Grade i.e., course is not reflected in the Grade Card**;
8. The Student is present for SEE; Award final CIE and SEE marks;
9. The Student could not appear for SEE even with satisfactory attendance and CIE. Has valid/satisfactory reason? If yes, **award 'I' grade** else **award 'AB' grade**.
10. MNC course satisfactorily completed? If yes, **award 'PP' grade, else 'NP' grade**;
11. High CIE rating ($\geq 90\%$) in a course, but SEE performance observed to be poor, which could result in an overall 'F' Grade in the course, **award 'X' grade**.
12. For each course, expressing CIE+SEE marks in percentage, assign the grade points and award the letter grade (O/ A+/ A/ B+/ B/ C/ P/ F), as indicated in the Table above.



C. Grade Points

- i) *Depending on the letter grades assigned, a student earns certain grade points. As the grading system can have different scales for grade points (like 5, 8, 10.) with a greater number of points in the scale being desirable for providing higher resolution in the assessment. Moreover, all Autonomous Colleges under the University need to follow the same scale for uniformity in their operations. Hence, the Autonomous Colleges under the University shall follow the 10-point grading system, as given in Tables A-1 & A-2 for both the relative grading system and the absolute grading system.*
- ii) *The grade points given in Tables A-1 & A-2 will help in the evaluation of credit points earned by a student in a Course as the credit points are equal to the number of credits assigned to the Course multiplied by the grade points awarded to the student in that Course. This shall be used in arriving at the credit index of the student for that semester, as it is the sum of all the credit points earned by the student for all the Courses registered in that semester.*

D. Grade Point Averages

SGPA and CGPA: The credit *index* can be used further for calculating the Semester Grade Point Average (*SGPA*) and the Cumulative Grade Point Average (*CGPA*), both being important academic performance indices of the student. While *SGPA* is equal to the *credit index* for a semester divided by the total number of *credits* registered excluding those courses with transition grades, if any by the student in that semester. *CGPA* gives the sum of *credit indices* of all the previous semesters divided by the total number of *credits* registered in all those semesters EXCLUDING "F" and TRANSITION GRADES. Both the equations together facilitate the declaration of academic performance of a student, at the end of a semester and at the end of successive semesters respectively. Thus, equations for *SGPA* and *CGPA* shall be as per the VTU Guidelines for respective programmes notified from time to time. The Autonomous colleges shall not deviate from the same.



E. Computation of SGPA and CGPA

The following expressions shall be used to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) respectively:

$$\text{CGPA} = \frac{\sum[\text{Course Credits} \times \text{Grade Points}] \text{ for all Courses excluding those with F and transitional grades until that semester}}{\sum[\text{Course Credits}] \text{ for all Courses excluding those with F and transitional grades until that semester}}$$

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the grade cards.

$$\text{SGPA} = \frac{\sum[\text{Course Credits} \times \text{Grade points}] \text{ for all the Courses registered in that semester excluding transitional grade}}{\sum[\text{Course Credits}] \text{ for all the Courses registered in that semester excluding transitional grade}}$$





Annexure -VI:

Guidelines and Suggestive Activities for earning Activity Points

- 1) AICTE Activity Points Programme: AICTE has also made it mandatory for students to earn 'AICTE Activity Points', over and above their academic grades for their contribution towards community and allied activities.
- 2) According to Section R24BE6.9.1. of above "VTU (Award of Bachelor of Engineering/ Technology Degree) Regulations, 2022", it is mandatory for the students to earn Activity points as specified herein, during their programme.
- 3) The student may choose any activities as per their liking in order to earn the AICTE Activity points. These activities can be spread over the years, as per convenience of the student
- 4) The Minimum AICTE activity points shall have to be earned, as per entry level of any student as prescribed in Table-1 below, for the award of degree.

Sl. No.	Level of Entry in 4 year Degree Programme	Total Years for Points	Activity Points prescribed
1	Regular Students admitted to 1 st Semester of the 4 year Degree Programme	1 st to 4 th Year	100
2	Students entering 4 year Degree Programme through lateral entry and from other Universities to the 3 rd Semester	2 nd to 4 th year	75
3	Students transferred from other colleges and Universities to the 5 th Semester	3 rd to 4 th year	50

- 5) The Activity Points earned shall be reflected on the student's eighth semester Grade Card.
- 6) Activity Points (non-credit) have no effect on SGPA/CGPA.
- 7) In case a student fails to earn the prescribed activity Points before the commencement of 8th semester examinations, the Eighth Semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth Semester Grade Card.
- 8) Additional Requirement for Earning 4 Years Degree Programme.



Apart from technical knowledge and skills, to be successful as professionals, students should have excellent soft skills, leadership qualities and team spirit. They should have entrepreneurial capabilities and societal commitment. In order to match these multifarious requirements, AICTE has created a unique mechanism of awarding minimum 100 Activity Points over and above the academic grades.

Every regular student, who is admitted to the 4 years Degree programme, is required to earn 100 Activity Points in addition to the required academic grades, for getting 4 Years degree programme. Students entering 4 years Degree programme through lateral entry are required to earn 75 Activity Points, in addition to the academic grades, for getting 4 years' degree program. Similarly, Diploma students are required to earn 75 Activity Points during 3 years of their diploma programme.

AICTE recommends 300-400 hours Activity Programme for each degree student for Community service and allied activities. Similarly, 200-250 hours should be devoted by Diploma student for Community service and allied activities as an additional requirement or non-credit programme. Here, 40-45 hours are equivalent to 1 week.

These activities will be coordinated by NSS/NCC/Sports/SAGY Coordinator or TPO of the Institute. The student will be provided a certificate from the concerned coordinator and Institutional Head.

Every student is required to prepare a file containing documentary proofs of activities, done by him/ her. This file will be duly verified by the concerned evaluator as listed in Table-4. The student should earn at least 100 activity points before he/ she appears for his/ her Final Examinations. The points students have earned will be reflected on the student's transcript. However, there will be neither grades/ marks for these points nor will there be any effect on SPI/CPI/CGPA etc.

As proposed under the AICTE Rural Internship Programme, if a student completes any long term goal during his degree programme, it will be counted as Internship Activity and credit requirement for the internship is fulfilled. However, if only short term interventions under the programme are attempted it will be counted towards AICTE Activity Point Programme requisite. Following suggestive activities as Long Term Goals may be carried out by students in teams:



1. Prepare and implement plan to create local job opportunities.
2. Prepare and implement plan to improve education quality in village.
3. Prepare an actionable DPR for Doubling the village Income.
4. Developing Sustainable Water Management system.
5. Prepare and Improve a plan to improve health parameters of villagers.
6. Developing and implementing of Low Cost Sanitation facilities.
7. Prepare and implement plan to promote Local Tourism through Innovative Approaches.
8. Implement/Develop Technology solutions which will improve quality of life.
9. Prepare and implement solution for energy conservation.
10. Prepare and implement plan to Skill village youth and provide employment.
11. Develop localized techniques for Reduction in construction Cost.
12. Prepare and implement plan of sustainable growth of village.
13. Setting of Information imparting club for women leading to contribution in social and economic issues.
14. Developing and managing Efficient garbage disposable system.
15. Contribution to any national level initiative of Government of India. For eg. Digital India/ Skill India/ Swachh Bharat Internship etc.



Table - 2: AICTE Activity Point Programme (Activity Summary Sheet)								
Major Head of Activity	Credits (Max.) Degree	Suggested period (Max.)	Total Duration/ Week (Degree)	Sub Activity Head	Proposed Document as Evidence	Evaluated by	Performance appraisal/ Maximum points/ activity	Maximum Points under this category
AICTE Activity Programme	Non Credit	Anytime during the semester during weekends or holidays	2 Weeks (80-90 hrs)	Prepare and implement plan to create local job opportunities.	Project Report	NSS/ NCC/ SAGY Coordinator of the Institute	20	100
			2 Weeks (80-90 hrs)	Prepare and implement plan to improve education quality in village.			20	
			2 Weeks (80-90 hrs)	Preparing an actionable DPR for Doubling the village Income.			20	
			2 Weeks (80-90 hrs)	Developing Sustainable Water Management system.			20	
			2 Weeks (80-90 hrs)	Prepare and Improve a plan to improve health parameters of villagers.			20	
			2 Weeks (80-90 hrs)	Developing and implementing of Low Cost Sanitation facilities.			20	
			2 Weeks (80-90 hrs)	Prepare and implement plan to promote Local Tourism through Innovative Approaches.			20	
			2 Weeks (80-90 hrs)	Implement/Develop Technology solutions which will improve quality of life.			20	
			2 Weeks (80-90 hrs)	Prepare and implement solution for energy conservation.			20	
			2 Weeks (80-90 hrs)	Prepare and implement plan to Skill village youth and provide employment.			20	
			2 Weeks (80-90 hrs)	Develop localized techniques for Reduction in construction Cost.			20	
			2 Weeks (80-90 hrs)	Prepare and implement plan of sustainable growth of village.			20	
			2 Weeks (80-90 hrs)	Setting of Information imparting club for women leading to contribution in social and economic issues.			20	
			2 Weeks (80-90 hrs)	Developing and managing Efficient garbage disposable system.			20	
			2 Weeks (80-90 hrs)	Contribution to any national level initiative of Government of India. For e.g. Digital India/ Skill India/ Swatch Bharat Internship etc.			20	





P.E.S. COLLEGE OF ENGINEERING, MANDYA

(An Autonomous Institution Affiliated to VTU, Approved by AICTE, UGC and Aided by Govt of Karnataka)

