

Academic Regulations (R22)
B.Tech. - Regular Four Year Degree Programme
(For batches admitted from the academic year 2022 - 23)
&
B.Tech. - Lateral Entry Scheme
(For batches admitted from the academic year 2023 - 24)

PREAMBLE

For pursuing four year undergraduate Bachelor Degree Programme in Engineering (B.Tech.) offered by **CMR Institute of Technology** under Autonomous status will herein be referred to as CMRIT (Autonomous).

All the specified rules are herein approved by the Academic Council. These rules will be in force and are applicable to students admitted from the Academic Year 2022-23 onwards. Any reference to “Institute” or “College” in these rules and regulations stand for CMRIT (Autonomous).

Choice Based Credit System (CBCS) has been adopted since 2017-18 under Autonomous status.

All the rules and regulations specified shall hereafter be read as a whole for the purpose of interpretation, as and when a doubt arises, the interpretation of the Chairman, Academic Council is final. As per the requirements of statutory bodies, The Principal, CMRIT (Autonomous) shall be The Chairman, Academic Council.

1.0 UNDERGRADUATE PROGRAMMES OFFERED (E&T)

CMRIT (Autonomous), affiliated to JNTUH, offers 4 Year (8 Semesters) **B.Tech.** Degree Programme in the following Branches of Engineering:

S. No.	Branch	Code
1	Electronics and Communication Engineering (ECE)	04
2	Computer Science and Engineering (CSE)	05
3	Computer Science and Engineering (Cyber Security)	62
4	Computer Science and Engineering (AI & ML)	66
5	Computer Science and Engineering (Data Science)	67
6	Artificial Intelligence and Machine Learning (AI & ML)	73

2.0 ADMISSION CRITERIA AND MEDIUM OF INSTRUCTION

2.1 Admission into first year of four year B.Tech. (Regular) Degree Programme:

2.1.1 **Eligibility:** A candidate seeking admission into the first year of four year B.Tech. Degree Programme should have:

2.1.1.1 Passed either Intermediate Public Examination (IPE) conducted by the Board of Intermediate Education, Telangana, with Mathematics, Physics and Chemistry as optional subjects or any equivalent examination recognized by Board of Intermediate Education, Telangana or a Diploma in Engineering conducted by the Board of Technical Education, Telangana or equivalent Diploma recognized by Board of Technical Education for admission as per guidelines defined by the Regulatory bodies of Telangana State Council for Higher Education (TSCHE) and AICTE.

2.1.1.2 Secured a rank in the TSEAMCET examination conducted by TSCHE for allotment of a seat by the Convenor, TSEAMCET.

- 2.1.2 **Admission Procedure:** Admissions are made into the first year of four year B.Tech. Degree Programme as per the stipulations of the TSCHE.
- (a) Category A: 70% of the seats are filled through TSEAMCET counseling.
 - (b) Category B: 30% of the seats are filled by the Management.
- 2.2 **Admission into the second year of four year B.Tech. (Regular) Degree Programme under Lateral Entry Scheme.**
- 2.2.1 **Eligibility:** A candidate seeking admission into the II year I Semester B.Tech. Regular Degree Programme under Lateral Entry Scheme (LES) should have passed the qualifying examination (B.Sc. Mathematics or Diploma in concerned course) and have secured a rank at Engineering Common Entrance Test TSECET (FDH). Admissions are made in accordance with the instructions received from the Convenor, TSECET and Government of Telangana State.
- 2.2.2 **Admission Procedure:** Admissions are made into the II year of four year B.Tech. (Regular) Degree Programme through Convenor, TSECET (FDH) against the sanctioned intake in each Programme of study as lateral entry student.
- 2.3 **Branch Transfers:** There shall be no branch transfers after the completion of the admission process.
- 2.4 **Medium of Instruction:** The Medium of Instruction and Examinations for the entire B.Tech. programme will be in **English** only.
- 3.0 **B.Tech. PROGRAMME STRUCTURE**
- 3.1 **Admitted under Four year B. Tech. (Regular) Degree Programme:**
- 3.1.1 A student after securing admission shall pursue the undergraduate programme in B.Tech. for a minimum period of **four** academic years (8 semesters), and a maximum period of **eight** academic years (16 semesters) starting from the date of commencement of first year first semester, failing which, students shall forfeit their seat in B.Tech course.
- 3.1.2 As per AICTE guidelines, a 3-week ‘Mandatory **Induction Programme**’ shall be offered to I-B.Tech. students to acquaint the newly admitted students with the professional environment and prepare them for the academic schedules ahead.
- 3.1.3 The entire B.Tech. programme is structured for a total of 160 credits. Distribution of credits Semester-wise is available in the respective course structure.
- 3.1.4 Each student shall register and secure 160 credits (with CGPA ≥ 5) for the completion of the undergraduate programme and award of the B.Tech. degree.
- 3.2 **Admitted under Lateral Entry Scheme (LES) into B. Tech. Degree Programme:**
- 3.2.1 After securing admission into the B.Tech. III Semester, the LES students shall pursue a course of study for not less than three academic years (6 Semesters) and not more than six academic years (12 Semesters); failing which students shall forfeit their seat in the B.Tech. programme.
- 3.2.2 The student shall register and secure 120 credits (with CGPA ≥ 5) from II year to IV year B.Tech. programme (LES) for the award of B.Tech. degree.
- 3.3 The Course Structure is designed based on the AICTE Model Curriculum (Jan-2018) for Under-Graduate Degree Courses in Engineering & Technology. UGC/AICTE specified definitions / descriptions are adopted appropriately for various terms and abbreviations used in these Academic Regulations / Norms, which are listed below:
- 3.3.1 **Semester Scheme:** Each B.Tech. (Regular) Programme is of 4 Academic Years (8 Semesters) and B.Tech. (LES) Programme is of 3 Academic Years (6 Semesters), with the academic year being divided into two semesters of 22 weeks (≥ 90 Instructional days per semester) each and in each Semester - ‘Continuous Internal Evaluation (CIE)’ and ‘Semester End Examination (SEE)’, Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) indicated by UGC, and curriculum/course structure suggested by AICTE are followed.

3.3.2 Credit Courses:

- a) All Subjects/Courses are to be registered by a student in a Semester to earn Credits. Credits shall be assigned to each Subject/Course in a L: T: P: C (Lecture Periods: Tutorial Periods: Practical Periods : Credits) Structure based on the following pattern:

Theory		Practical	
1 Hr. Lecture (L) per week	1 credit	1 Hr. Practical (P) per week	0.5 credit
1 Hr. Tutorial (T) per week	1 credit	2 Hrs Practical (Lab) per week	1.0 credit

All Mandatory Courses, Study Tour, Guest Lecture, etc., will not carry any Credits.

- b) **Contact Hours:** Weekly contact hours – maximum of 30 hours per week (i.e. 1 hour = 60 Minutes) including credit and non-credit courses.

3.3.3 Subject / Course Classification and Nomenclature:

CMRIT has followed almost all the guidelines specified by AICTE/UGC/JNTUH. The subjects/courses offered in the B.Tech. programme are broadly classified as mentioned below.

S. No.	Broad Course Classification	Course Group/ Category	Course Description
1	Foundation Courses (FnC)	BS - Basic Sciences	Includes Mathematics, Physics and Chemistry subjects
2		ES - Engineering Sciences	Includes Fundamental Engineering Subjects
3		HS - Humanities and Social Sciences	Includes subjects related to Humanities, Social Sciences and Management
4	Core Courses (CoC)	PC – Professional Core	Includes core subjects related to the parent discipline/ department/ branch of Engineering.
5	Elective Courses (ElC)	PE - Professional Electives	Includes elective subjects related to the parent discipline/department/branch of Engineering.
6		OE - Open Electives	Elective subjects which includes interdisciplinary subjects or subjects in an area outside the parent discipline/department/branch of Engineering.
7	Core Courses	PR - Project Work/ Internship/ Industry Oriented Mini-Project/Skill Enhancement Courses	Real Time/Societal Research Project, Project Stage - I & Project Stage - II including Seminar, Internship/Industry Oriented Mini-Project/ Skill Enhancement Courses.
8	MC - Mandatory Courses		Mandatory Courses (non-credit)

4.0 COURSE REGISTRATION

- 4.1 A **‘faculty advisor or counselor’** shall be assigned to each student to advise the student about the B.Tech. programme, course structure and curriculum, choice/option for subjects/courses, based on student competence, progress, pre-requisites and interest.
- 4.2 The academic section of the college invites ‘registration forms’ from students before the beginning of the semester through online submission, ensuring **‘date and time stamping’**. The online registration requests for any ‘current semester’ shall be completed **before the commencement of SEEs (Semester End Examinations) of the ‘preceding semester’**.
- 4.3 A student can apply for **online** registration, **only after** obtaining the **‘written approval’** from his faculty advisor or counselor, which should be submitted to the college academic section through the Head of the Department. A copy of it shall be retained with Head of the Department, faculty advisor and the student.

- 4.4 A student has to register for all subjects/courses in a semester as specified in the course structure and may be permitted to register maximum of two additional theory subject(s)/course(s) limited to 6 credits (any 2 elective subjects), based on the student's **progress** and SGPA/CGPA, and completion of the '**pre-requisites**' as indicated for various subjects/courses, in the department course structure and syllabus contents.
- 4.5 Choice for '**additional subjects/courses**', not more than any 2 elective subjects in any Semester, must be clearly indicated, which needs the specific approval and signature of the Faculty Advisor/Mentor/HOD.
- 4.6 If the student submits ambiguous choices or multiple options or erroneous (incorrect) entries during **online** registration for the subject(s)/course(s) under a given/specified course group/category as listed in the course structure, only the first mentioned subject/course in that category will be taken into consideration.
- 4.7 Subject/course options exercised through **online** registration are final and **cannot** be changed or inter- changed; further, alternate choices will not be considered. However, if the subject/course that has already been listed for registration by Head of the Department in a semester could not be offered due to any unforeseen or unexpected reasons, then the student shall be allowed to have alternate choice - either for a new subject (subject to offering of such a subject), or for another existing subject (subject to availability of seats), which may be considered. Such alternate arrangements will be made by Head of the Department, with due notification and time-framed schedule, within the **first week** from the commencement of class-work for that semester.
- 4.8 Dropping of additional registered subject/course may be permitted only after obtaining prior approval from the faculty advisor/counselor, '**within a period of 15 days**' from the commencement of that semester.
- 4.9 **Open Electives:** The students have to choose three Open Electives (OE-I, II & III) from the list of Open Electives given by other departments. However, the student can opt for an Open Elective subject offered by his own (parent) department, if the student has not registered and not studied that subject under any category (Professional Core, Professional Electives, Mandatory Courses etc.) offered by the parent department in any semester. Open Elective subjects already studied should not repeat/should not match with any category (Professional Core, Professional Electives and Mandatory Courses etc.) of subjects even in the forthcoming semesters.
- 4.10 **Professional Electives:** The students have to choose six professional electives (PE-I to VI) from the list of professional electives given.
- 4.11 **Mandatory Courses (Non-Credit):** All mandatory courses wherever offered require prior registration.
- 5.0 SUBJECTS/COURSES TO BE OFFERED**
- 5.1 A subject/ course may be offered to the students, **only if** a minimum of 15 students opt for it.
- 5.2 More than **one faculty member** may offer the **same subject** (lab/practical may be included with the corresponding theory subject in the same semester) in any semester. However, selection choice for students will be based on '**first come, first serve** basis and CGPA criterion' (i.e. the first focus shall be on early **on-line entry** from the student for registration in that semester, and the second focus, if needed, will be on CGPA of the student).
- 5.3 If more entries for registration of a subject come into picture, then the concerned Head of the Department shall take necessary decision, whether or not to offer such a subject/course for **two (or multiple) sections**.
- 5.4 In case of options coming from students of other departments/branches/disciplines (not considering **open electives**), first **priority** shall be given to the student of the '**parent department**'.

6.0 ATTENDANCE REQUIREMENTS

- 6.1 A student shall be eligible to appear for the semester end examinations, if the student acquires a minimum of 75% of attendance in aggregate of all the subjects/courses including attendance in all mandatory courses for that semester. **Two periods** of attendance for each theory subject shall be considered, if the student appears for the mid-term examination of that subject.
- 6.2 Shortage of attendance in aggregate upto 10% (65% and above, and below 75%) in each semester may be condoned by the college academic committee on genuine and valid grounds, based on the student's representation with supporting evidence.
- 6.3 A stipulated fee shall be payable towards condoning of shortage of attendance.
- 6.4 Shortage of attendance below 65% in aggregate shall in **no** case be condoned.
- 6.5 **Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examinations of that semester. They get detained and their registration for that semester shall stand cancelled**, including all academic credentials(internal marks etc.) of that semester. **They will not be promoted to the next semester.** They may seek re-registration for all those subjects registered in that semester, in which the student is detained, by seeking re-admission into that semester as and when offered; if there are any professional electives and/ or open electives, the same may also be re- registered if offered. However, if those electives are not offered in later semesters, then alternate electives may be chosen from the **same** set of elective subjects offered under that category.
- 6.6 A student fulfilling the attendance requirement in the present semester shall not be eligible for readmission into the same class.

7.0 ACADEMIC REQUIREMENTS

The following academic requirements have to be satisfied, in addition to the attendance requirements mentioned in item no. 6.

- 7.1 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/course, if student secures not less than 35% (14 marks out of 40 marks) in the Continuous Internal Evaluation (CIE), not less than 35% (21 marks out of 60 marks) in the semester end examinations (SEE), and a minimum of 40% (40 marks out of 100 marks) in the sum total of the CIE and SEE taken together; in terms of letter grades, this implies securing 'C' grade or above in that subject/course.
- 7.2 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to Real-time/Societal Research Project (or) Industry Oriented Mini Project/Internship, if the student secures not less than 40% marks (i.e. 40 out of 100 allotted marks) in each of them. The student is deemed to have failed, if the student (i) does not submit a report on Industry Oriented Mini Project/Internship, or (ii) not make a presentation of the same before the evaluation committee as per schedule, or (iii) secures less than 40% marks in Real-time/Societal Research Project (or) Industry Oriented Mini Project/Internship evaluations.
- 7.3 A student may reappear once for each of the above evaluations, when they are scheduled again; if the student fails in such 'one reappearance' evaluation also, the student has to reappear for the same in the next subsequent semester, as and when it is scheduled.

7.4 Promotion Rules

S. No.	Promotion	Conditions to be fulfilled
1	I Semester to II Semester	Regular course of study of I Semester.
2	II Semester to III Semester	(i) Regular course of study of II Semester. (ii) Must have secured at least 20 credits out of 40 credits i.e., 50% credits up to second semester from all the relevant regular and supplementary examinations whether the student takes those examinations or not.
3	III Semester to IV Semester	Regular course of study of III Semester.

4	IV Semester to V Semester	(i) Regular course of study of IV Semester. (ii) Must have secured at least 48 credits out of 80 credits i.e., 60% credits up to fourth semester (20 credits out of 40 credits for LES) from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
5	V Semester to VI Semester	Regular course of study of V Semester.
6	VI Semester to VII Semester	(i) Regular course of study of VI Semester. (ii) Must have secured at least 72 credits out of 120 credits (48 credits out of 80 credits for LES) i.e., 60% credits up to sixth semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
7	VII Semester to VIII Semester	Regular course of study of VII Semester.

7.5 A student has to register for all subjects covering 160 credits (120 credits for LES) as specified and listed (with the relevant course/subject classifications as mentioned) in the course structure, fulfill all the attendance and academic requirements for 160 credits (120 credits for LES) securing a minimum of ‘C’ grade or above in each subject, and ‘earn all 160 credits (120 credits for LES) securing SGPA \geq 5.0 (in each semester) and CGPA (at the end of each successive semester) \geq 5.0, to successfully complete the undergraduate programme and shall be indicated in the grade card/marks memo of VIII semester.

7.6 If a student registers for ‘**additional subjects**’ (in the parent department or other departments/branches of engineering) other than those listed subjects totaling to 160 credits (120 credits for LES) as specified in the course structure of parent department, the performances in those ‘**additional subjects**’ (although evaluated and graded using the same procedure as that of the required 160 credits (120 credits for LES)) will not be taken into account while calculating the SGPA and CGPA. For such ‘**additional subjects**’ registered, % of marks and letter grade alone will be indicated in the grade card as a performance measure, subject to completion of the attendance and academic requirements as stated in regulations 6 and 7.1 to 7.4 above.

7.7 A student eligible to appear in the semester end examination for any subject/course, but absent from it or failed (thereby failing to secure ‘C’ grade or above) may reappear for that subject/course in the supplementary examination as and when conducted. In such cases, internal marks (CIE) assessed earlier for that subject/course will be carried over, and added to the marks to be obtained in the SEE supplementary examination for evaluating performance in that subject.

7.8 A student **detained in a semester due to shortage of attendance may be re-admitted when the same semester is offered in the next academic year for fulfillment of academic requirements.** The academic regulations under which student has been readmitted shall be applicable. However, no grade allotments or SGPA/CGPA calculations will be done for the entire semester in which the student has been detained.

7.9 A student **detained due to lack of credits, shall be promoted to the next academic year only after acquiring the required academic credits.** The academic regulations under which student has been readmitted shall be applicable.

8.0 EVALUATION - DISTRIBUTION AND WEIGHTAGE OF MARKS

8.1 The performance of a student in every subject/course (including practical and Project Stage- I & II) will be evaluated for 100 marks each, with 40 marks allotted for CIE and 60 marks SEE.

8.2 Evaluation of Theory Subjects/Courses

A) Continuous Internal Evaluation (CIE): In CIE, for theory subjects, during a semester, there shall be **Two** Mid-Term Examinations. The first Mid-Term Examination shall be conducted for the first 50% of the syllabus, and the Second Mid-Term for the remaining 50% of the syllabus. Each Mid-Term examination consists of two parts (i) **Part - A** for 5 marks, (ii) **Part - B** for 25 marks with a total duration of 2 hours as follows:

- Part-A consists of one compulsory question with five sub questions carrying one mark each and Part-B consists of 5 essay questions with internal choice carrying five marks each; the student has to answer all 5 questions. The First and Second Mid-Term question papers comprise of 2,2,1 questions from I, II, III(A) Units and 1,2,2 questions from III(B), IV, V Units respectively. The **average of two Mid Term Examinations** shall be taken as final marks for Mid-Term Examination (for 30 marks).
- The remaining 10 marks of CIE are distributed as follows:
 - (i) Assignment for 5 marks. First assignment should be submitted before the commencement of the first mid-term examinations and the second assignment before the commencement of second mid-term examinations. The assignments shall be specified/given by the concerned subject teacher. The average of two assignments shall be taken as final marks for assignment (for 5 marks).
 - (ii) Subject Viva-Voce/PPT/Poster Presentation/Case Study on a topic in the subject concerned for 5 marks before commencement of II Mid-Term Examination.
- *There is NO Computer Based Test (CBT) for R22 regulations.*

B) Semester End Examinations (SEE): The duration of SEE is 3 hours. The details of the question paper pattern are as follows:

- The end semester examinations will be conducted for 60 marks consisting of two parts viz. i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.
- Part-A is compulsory, which consists of ten questions (two from each unit) carrying 1 mark each.
- Part-B consists of five questions (numbered from 11 to 15) carrying 10 marks each. One question from each unit (may contain sub-questions) with internal choice.

8.3 Evaluation of Practical Subjects/Courses: In any semester, a student has to complete a minimum of 10 experiments/exercises in each laboratory course and get the record certified by the concerned Head of the Department to be eligible for SEE. For practical subjects, there shall be a CIE during the Semester for 40 internal marks and 60 marks for SEE.

A) Continuous Internal Evaluation (CIE): The distribution of CIE 40 marks for practical subjects is as follows:

- A write-up on day-to-day experiment(s) in the laboratory shall be evaluated for 15 marks. The breakup of marks would be (i) 3 marks for observation and record (ii) 4 marks for performance of experiment (iii) 3 marks for expected outcome and (iv) 5 marks for Viva-Voce. The average marks of day-to-day experiments shall be the final marks (for 15 marks).
- Internal practical examination conducted by the laboratory teacher concerned shall be evaluated for 15 marks. The breakup of marks are (i) 3 marks for write-up (ii) 4 marks for experiment/program (iii) 3 for evaluation of results and (iv) 5 marks for viva-voce on concerned laboratory course.
- The remaining 10 marks are for Laboratory Project, which consists of the Design (or) Software/Hardware Model Presentation (or) App Development (or) Prototype Presentation submission which shall be evaluated after completion of laboratory course and before Semester End Practical Examination.

B) Semester End Examination (SEE): The Semester End Examination (SEE) for practical subject/course shall be conducted at the end of the semester with duration of 3 hours by one internal and one external examiner appointed by the Head of the Institution as per the recommendation of the concerned Head of the Department for 60 marks. The allocation of marks is as given below

- (i) 10 marks for write-up (ii) 15 marks for experiment/program (iii) 15 marks for evaluation of results (iv) 10 marks for presentation on another experiment/program in the same lab course and (v) 10 marks for viva-voce on concerned laboratory course.

8.4 Condition for Passing CIE and SEE in Theory and Practical Subject(s)/Course(s): The Student, in each subject, shall have to earn 35% of marks (i.e. 14 marks out of 40 marks) in CIE, 35% of marks (i.e. 21 marks out of 60) in SEE and Overall 40% of marks (i.e. 40 marks out of 100 marks) both CIE and SEE marks put together.

- The student is eligible to write Semester End Examination of the concerned subject, if the student scores $\geq 35\%$ (14 marks) of 40 CIE marks.
- In case, the student appears for SEE of the concerned subject but has not scored minimum 35% of CIE marks (14 marks out of 40 internal marks), the student performance in that subject in SEE shall stand cancelled in spite of appearing the SEE.

8.5 The Evaluation of Elements of CSE/CSE allied branches/ECE: There shall be only internal evaluation for 50 marks and NO external evaluation. Students have to earn 40%, i.e. 20 out of 50 marks. The student is deemed to have failed, if the student (i) is absent as per schedule, or (ii) secures less than 40% marks in this course.

A) CSE/CSE allied branches: There shall be two Mid-Term examinations and it shall take place during I Mid-Term and II Mid-Term examinations. The Continuous Internal Evaluation (CIE) will be for 50 marks. Each Mid-Term examination consists of two parts (i) **Part - A** for 10 marks, (ii) **Part - B** for 30 marks with a total duration of 2 hours.

- **Part-A** consists of one compulsory question with five sub questions carrying two marks each and **Part-B** consists of 5 essay questions with internal choice carrying six marks each; the student has to answer all 5 questions. The First and Second Mid-Term question papers comprise of 2,2,1 questions from I, II, III(A) Units and 1,2,2 questions from III(B), IV, V Units respectively. The average of two Mid-Term examinations marks is final for 40 marks.
- The remaining 10 marks of Continuous Internal Evaluation are for Assignment (5 marks) and Subject Viva-Voce/PPT/Poster Presentation/Case Study (5 marks) and the evaluation pattern will remain same as for other theory subjects.

B) ECE branch: The Continuous Internal Evaluation (CIE) will be for 50 marks. Out of the 50 marks for internal evaluation:

- A write-up on day-to-day experiment(s) in the laboratory shall be evaluated for 15 marks. The breakup of marks would be (i) 3 marks for observation and record (ii) 4 marks for performance of experiment (iii) 3 marks for expected outcome and (iv) 5 marks for Viva-Voce. The average marks of day-to-day experiments shall be the final marks (for 15 marks).
- Internal practical examination conducted by the laboratory teacher concerned shall be evaluated for 20 marks. The breakup of marks are (i) 5 marks for write-up (ii) 5 marks for experiment/program (iii) 5 for evaluation of results and (iv) 5 marks for viva-voce on concerned laboratory course.
- The remaining 15 marks are for Laboratory Project, which consists of the Design (or) Software/Hardware Model Presentation (or) App Development (or) Prototype Presentation submission which shall be evaluated after completion of laboratory course and before Semester End Practical Examination.

8.6 The Evaluation of Real-Time/Societal Research Project: The project will be evaluated for a total of 100 marks (CIE 40 marks and SEE 60 marks). The CIE marks are awarded by the supervisor based on the student's performance during the project work. The SEE marks are awarded by a Departmental Review Committee consisting of Head of the Department, Supervisor and a Senior Faculty Member. The student is deemed to have failed, if student (i) does not submit a report on the Project, or (ii) does not make a presentation of the same before the internal committee as per schedule, or (ii) secures less than 40% marks in this course.

8.7 The Evaluation of Internship/Industry Oriented Mini-Project/Skill Enhancement Courses: There shall be Internship (or) Industry Oriented Mini-Project (or) Skill Enhancement Courses, Students shall register for this immediately after IV SEE and complete before VI SEE without effecting regular classwork. Internship at reputed organization (or) Industry

Oriented Mini Project (or) Skill Enhancement Courses shall be submitted in a report form and presented before the committee in VI semester before End Semester Examination. It shall be evaluated only for SEE 100 marks. The committee consists of an External Examiner, Head of the Department, Supervisor of the Industry Oriented Mini Project (or) Internship etc, Internal Supervisor and a Senior Faculty Member of the Department. There shall be NO internal marks for Internship (or) Industry Oriented Mini-Project (or) Skill Enhancement Courses.

8.8 Main Project: The topic and content of the project should be different from Real-Time/Societal Research Project (or) Industry Oriented Mini-Project (or) Internship. The Main Project Work shall be carried out in two stages. The Project Stage-I will be initiated and completed in the VII Semester and the Project Stage-II will be initiated and completed in the VIII Semester. The student must present reports of Project Stage - I and Project Stage - II before II Mid examinations of VII semester and VIII semester respectively. Each report of the project stages I and II shall be evaluated for 100 marks before commencement of SEE theory examinations. Only those students who get Project Stage - I approved by Departmental Review Committee evaluation are eligible to start Project Stage - II work. The Departmental Review Committee comprises of Head of the Department, Project Supervisor and one Senior Faculty Member. The External Evaluation Committee comprises of Head of the Department, Project Supervisor and one External Examiner appointed by the Principal.

8.9 Project Stage - I: During the Project Stage - I the student in consultation with the Supervisor, decides on the title, objectives and plan of action of the Project work and submits the report to the Head of the Department on approval of Supervisor for evaluation. The Project Work is evaluated for a total of 100 marks, of which CIE is for 40 marks awarded by Supervisor and SEE is for 60 marks awarded by Departmental Review Committee. The student is deemed to be not eligible to register for the Project Stage - II, if the student (i) does not submit a report on Project Stage - I or (ii) does not make a Presentation of the same before the Evaluation Committee as per schedule or (iii) secures less than 40% marks in the sum total of the CIE and SEE taken together.

A student who has failed may reappear once for the above evaluation, when it is scheduled again; if the student fails in such 'one re-appearance' evaluation also, the student has to reappear for the same in the next subsequent semester, as and when it is scheduled next.

8.10 Project Stage - II: During the Project Stage - II the student executes the Project under the guidance of the Supervisor and submits the final Project Report to the Head of the Department for evaluation. The External Evaluation Committee shall evaluate the Project Stage - II work for 60 marks and the Internal Project Committee shall evaluate it for 40 marks. Out of 40 internal marks, the Departmental Review Committee shall evaluate the project work for 20 marks and Project Supervisor shall evaluate for 20 marks. The student is deemed to have failed, if the student (i) does not submit a Report on the Project, or (ii) does not make a Presentation of the same before the External Examiner as per schedule, or (iii) secures less than 40% marks in the sum total of the CIE and SEE taken together.

A student, who has failed, may reappear once for the above evaluation, when it is scheduled again; if student fails in such 'one re-appearance' evaluation also, the student has to reappear for the same in the next subsequent semester, as and when it is scheduled.

8.11 A student shall be given one time chance to re-register for a maximum of two subjects:

- If the internal marks secured by a student in the Continuous Internal Evaluation marks for 40 (Sum of average of two mid-term examinations consisting of two parts, Part-A (Short Answer Questions) and Part-B (Descriptive Questions), Average of two Assignments & Subject Viva-Voce/PPT/Poster Presentation/Case Study on a topic in the concerned subject) are less than 35% (14 out of 40 marks) and failed in those subjects.
- A student must re-register for the failed subject(s) for 40 marks within four weeks of commencement of the classwork in the next academic year.
- In the event of the student taking this chance, the Continuous Internal Evaluation marks for 40 and Semester End Examination marks for 60 obtained in the previous attempt stands cancelled.

8.12 Evaluation of Mandatory Non-Credit Courses: There shall be only Continuous Internal Evaluation for all mandatory (non credit) courses. Instead of marks, a letter grade ‘S’ for **Satisfactory** or ‘U’ for **Unsatisfactory** shall be indicated and this will not be counted for the computation of SGPA/CGPA.

9.0 GRADING PROCEDURE

9.1 Grades will be awarded to indicate the performance of students in each Theory Subject, Laboratory/Practical’s/Industry-Oriented Mini Project/Internship/Skill Enhancement Course and Project Stage. Based on the percentage of marks obtained (CIE+SEE) as specified in item 8 above, a corresponding letter grade shall be given.

9.2 As a measure of the student’s performance, a 10-point Absolute Grading System using the following letter grades (As per UGC/AICTE/JNTUH Guidelines) and corresponding percentage of marks shall be followed:

% of Marks Secured (Class Intervals)	Letter Grade (UGC Guidelines)	Grade Points
90% and above (≥ 90% , ≤ 100%)	O (Outstanding)	10
Below 90% but not less than 80% (≥ 80% , < 90%)	A ⁺ (Excellent)	9
Below 80% but not less than 70% (≥ 70% , < 80%)	A (Very Good)	8
Below 70% but not less than 60% (≥ 60% , < 70%)	B ⁺ (Good)	7
Below 60% but not less than 50% (≥ 50% , < 60%)	B (Average)	6
Below 50% but not less than 40% (≥ 40% , < 50%)	C (Pass)	5
Below 40% (< 40%)	F (Fail)	0
Absent	Ab	0

9.3 A student obtaining ‘F’ grade in any subject shall be considered ‘**failed**’ and will be required to reappear as ‘**Supplementary Student**’ in the SEE, as and when offered. In such cases, CIE in those subject(s) will remain the same as those obtained earlier.

9.4 To a student who has not appeared for an examination in any subject, ‘**Ab**’ grade will be allocated in that subject, and the student is deemed to have ‘**Failed**’. A student will be required to reappear as a ‘**supplementary student**’ in the SEE, as and when offered next. In this case also, the internal marks in those subjects will remain the same as those obtained earlier.

9.5 A letter grade does not indicate any specific percentage of marks secured by the student, but it indicates only the range of percentage of marks.

9.6 A student earns grade point (GP) in each subject/course, on the basis of the letter grade obtained in that subject/course (excluding mandatory non-credit courses). Then the corresponding ‘**credit points**’ (CP) are computed by multiplying the grade point with credits for that particular subject/course.

$$\text{Credit Points (CP)} = \text{Grade Point (GP)} \times \text{Credits}$$

9.7 The student passes the subject /course only when $GP \geq 5$ (C grade or above).

9.8 The Semester Grade Point Average (SGPA) is calculated by dividing the sum of credit points (ΣCP) secured from all subjects/courses registered in a semester, by the total number of credits registered during that semester. SGPA is rounded off to **two** decimal places. The SGPA is

$$SGPA (S_i) = \frac{\sum (C_i \times G_i)}{\sum C_i}$$

Where C_i is the no. of credits of the i^{th} course and G_i is the GP scored in the i^{th} course.

9.9 The Cumulative Grade Point Average (CGPA) is a measure of the overall cumulative performance of a student in all semesters considered for registration. The CGPA is the ratio of the total credit points secured by a student in **all** registered courses in **all** semesters, and the total number of credits registered in **all** the semesters. CGPA is rounded off to **two** decimal places. CGPA is thus computed from the I year second semester onwards, at the end of each semester, as per the following formula:

$$CGPA = \sum (C_i \times S_i) / \sum C_i$$

where S_i is the SGPA of the i^{th} semester and C_i is the total no. of credits in that semester.

Illustration of calculation of SGPA					Illustration of calculation of CGPA			
Course /Subject	Credits	Letter Grade	Grade Points	Credit Points	Sem.	Credits	SGPA	Credits x SGPA
Course 1	4	A	8	4 x 8 = 32	Sem I	20	7	20 x 7 = 140
Course 2	4	O	10	4 x 10 = 40	Sem II	20	6	20 x 6 = 120
Course 3	3	C	5	3 x 5 = 15	Sem III	20	6.5	20 x 6.5 = 130
Course 4	3	B	6	3 x 6 = 18	Sem IV	20	6	20 x 6 = 120
Course 5	1.5	A ⁺	9	1.5x9 = 13.5	Sem V	20	7.5	20 x 7.5 = 150
Course 6	1.5	A	8	1.5x8 = 12	Sem VI	20	8	20 x 8 = 160
Course 7	1.5	B ⁺	7	1.5x7 = 10.5	Sem VII	20	8.5	20 x 8.5 = 170
Course 8	1.5	A ⁺	9	1.5x9 = 13.5	Sem VIII	20	8	20 x 8 = 160
Total	20		62	154.5	Total	160		1150
SGPA = 154.5/20 = 7.70					CGPA = 1150/160 = 7.19			

9.10 For merit ranking or comparison purposes or any other listing, **only** the ‘rounded off’ values of the CGPAs will be used.

9.11 SGPA and CGPA of a semester will be mentioned in the semester Memorandum of Grades if all subjects of that semester are passed in the first attempt. Otherwise the SGPA and CGPA shall be mentioned only on the Memorandum of Grades in which the student passed in the last exam in that semester. However, mandatory courses will not be taken into consideration.

10.0 PASSING STANDARDS

10.1 A student shall be declared ‘successful’ or ‘passed’ in a semester, if student secures a GP ≥ 5 (‘C’ grade or above) in every subject/course in that semester (i.e. when student gets an SGPA ≥ 5.00 at the end of that particular semester); and a student shall be declared ‘successful’ or ‘passed’ in the entire undergraduate programme, only when a student gets a CGPA ≥ 5.00 for the award of the degree as required.

10.2 After the completion of each semester, a grade card or grade sheet (or transcript) shall be issued to all the registered students of that semester, indicating the letter grades and credits earned. It will show the details of the courses registered (course code, title, number of credits, grade earned etc.), credits earned, SGPA, and CGPA. **There is NO exemption of credits in any case.**

11.0 DECLARATION OF RESULTS

11.1 Computation of SGPA and CGPA are done using the procedure listed in 9.6 – 9.9.

11.2 The conversion formula from CGPA to percentage of Marks:

$$\text{Percentage of Marks} = (\text{final CGPA} - 0.5) \times 10$$

12.0 AWARD OF DEGREE

12.1 After a student has satisfied the requirement prescribed for the completion of the programme and is eligible for the award of B.Tech. Degree the student shall be placed in one of the following four classes based on CGPA:

Class Awarded	Grade to be Secured	Remarks
First Class with Distinction	≥ 8 CGPA	From the aggregate marks secured from 160 Credits for Regular Students and 120 Credits for Lateral Entry Students.
First Class	≥ 7 to < 8 CGPA	
Second Class	≥ 6 to < 7 CGPA	
Pass Class	≥ 5.00 to < 6 CGPA	
FAIL	CGPA < 5	

- 12.2** First class with distinction will be awarded to those students who clear all the subjects in single attempt during their regular course of study by fulfilling the following conditions:
- Should have passed all the subjects/courses in **'first appearance'** within the first 4 academic years (or 8 sequential semesters) for B.Tech. (Regular) and first 3 academic years (or 6 sequential semesters) for B.Tech. (LES) from the date of commencement of first year first semester for B.Tech. (Regular) and II year I semester for B.Tech. (LES).
 - Should not have been detained or prevented from writing the End Semester Examinations in any semester due to shortage of attendance or any other reason, shall be placed in **'first class with distinction'**.
- 12.3 Award of Medals:** Students fulfilling the conditions listed under item 12.2 alone will be eligible for award of **'College Ranks'** and **'Medals'**.
- 12.4 Graduation Day:** The College shall have its own Annual Graduation Day for the award of Degrees issued by the University.
- 12.5 Transcripts:** After successful completion of prerequisite credits for the award of degree a transcript containing performance of all academic years will be issued as a final record. Duplicate transcripts will also be issued if required, after the payment of requisite fee and also as per norms in vogue.
- 12.6 Award of 2-Year B.Tech. Diploma Certificate**
- A student is awarded 2-Year UG Diploma Certificate in the concerned engineering branch on completion of all the academic requirements and has earned all the 80 credits (within 4 years from the date of admission) upto B.Tech. IV Semester, if the student wants to exit the 4-Year B.Tech. programme and *requests for the 2-Year B.Tech. (UG) Diploma Certificate.*
 - The student **once opted and awarded a 2-Year UG Diploma Certificate will be permitted to join** in B.Tech. V Semester and continue for completion of remaining years of study for 4-Year B. Tech. Degree **ONLY** in the next academic year along with next batch students. *However, if any student wishes to continue the study after opting for exit, student should register for the subjects/courses in V Semester before commencement of class work for that semester.*
 - The students, who exit the 4-Year B. Tech. program after IV semester of study and wish to rejoin the B.Tech. program, must submit the 2 -Year B. Tech. (UG) Diploma Certificate awarded to him, subject to the eligibility for completion of Course/Degree.*
 - A student may be permitted to take one year break after completion of IV Semester or B. Tech. VI Semester (with university permission through the Principal of the college well in advance) and can re-enter the course in **next Academic Year in the same college** and complete the course on fulfilling all the academic credentials within a stipulated duration i.e. double the duration of the course (Ex. within 8 Years for 4-Year program).

13.0 WITHHOLDING OF RESULTS

- 13.1 If the student has not paid the fees to the Institute at any stage, or has dues pending due to any reason whatsoever, or if any case of indiscipline is pending, the result of the student may be withheld, and the student will not be allowed to go into the next higher semester. The award or issue of the degree may also be withheld in such cases.

14.0 SUPPLEMENTARY EXAMINATIONS

- 14.1 Supplementary examinations for odd semester subjects will be conducted along with even semester regular examinations and vice versa.

15.0 TRANSITORY REGULATIONS

A. For students detained due to shortage of attendance:

- a) A Student who has been detained in I year of R18/R20 Regulations due to lack of attendance, shall be permitted to join I year I Semester of R22 Regulations and the student is required to complete the study of B.Tech. programme within the stipulated period of eight academic years from the date of first admission in I Year.
- b) A student, who has been detained in any semester of II, III and IV years of R18/R20 regulations for want of attendance, shall be permitted to join the corresponding semester of R22 Regulations and is required to complete the study of B.Tech. within the stipulated period of eight academic years from the date of first admission in I Year. The R22 Academic Regulations under which a student has been readmitted shall be applicable to that student from that semester. See rule (C) for further Transitory Regulations.

B. For students detained due to shortage of credits:

- c) A student of R18/R20 Regulations, who has been detained due to lack of credits, shall be promoted to the next semester of R22 Regulations only after acquiring the required number of credits as per the corresponding regulations of their first admission. The total credits required are 160 including both R18/R20 & R22 regulations. The student is required to complete the study of B.Tech. within the stipulated period of eight academic years from the year of first admission. The R22 Academic Regulations are applicable to a student from the year of readmission. See rule (C) for further Transitory Regulations.

C. For readmitted students in R22 Regulations:

- d) A student who has failed in any subject under any regulation has to pass those subjects in the same regulations.
- e) The maximum credits that a student acquires for the award of degree, shall be the sum of the total number of credits secured in all the regulations of their study including R22 Regulations. **There is NO exemption of credits in any case.**
- f) If a student is readmitted to R22 Regulations and has any subject with 80% of syllabus common with their previous regulations, that particular subject in R22 Regulations will be substituted by another subject to be suggested by the University.

Note: If a student readmitted to R22 Regulations has not studied any subjects/topics in their earlier regulations of study which is prerequisite for further subjects in R22 Regulations, the Principal shall conduct remedial classes to cover those subjects/topics for the benefit of the students.

16.0 STUDENT TRANSFERS

There shall be no transfers from other colleges/streams.

17.0 RULES OF DISCIPLINE

- 17.1 Any attempt by any student to influence the teachers, examiners, faculty members and staff of Controller of Examination office for undue favours in the exams, and bribing them either for marks or attendance will be treated as malpractice case and the student can be debarred from the college.
- 17.2 When the performance of the student in any subject(s) is cancelled as a punishment for indiscipline, student is awarded zero marks in that subject(s).
- 17.3 When the student's answer book is confiscated for any kind of attempted or suspected malpractice the decision of the Malpractice Prevention Committee is final.

18.0 MALPRACTICE

18.1 Malpractice Prevention Committee: The committee shall examine the student’s malpractice and indiscipline cases occurred, while conducting the examinations and recommend appropriate punishment to the Academic Council after taking explanation from the student and concerned invigilator as per the malpractice rules mentioned below. The committee consists of

- a) Controller of Examinations - Chairman
- b) Addl. Controller of Examinations.- Convener
- c) Subject Expert - Member
- d) Head of the Department of which the student belongs to - Member
- e) The Invigilator concerned - Member

18.2 Malpractice Rules: Disciplinary Action for Improper Conduct in Examinations

S. No.	Nature of Malpractices / Improper Conduct	Punishment
1(a)	Possesses or keeps accessible in examination hall, any paper, notebook, programmable calculators, cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which the student is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
1(b)	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, the student will be handed over to the police and a case is registered against them.
2	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that Semester/year. The Hall Ticket of the candidate is to be cancelled and sent to the Principal.
3	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from the examination hall. The candidate is also debarred and forfeits the seat. The performance of the original candidate who has been impersonated, shall be cancelled in all the subjects of the examination (including practical’s and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for two consecutive semesters from classwork and all examinations. The continuation of the

		course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4	Smuggles in the Answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.
6	Refuses to obey the orders of the Addl. Controller of examinations / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the addl. Controller of examinations or any person on duty in or outside the examination hall of any injury to his person or to any of their relations whether by words, either spoken or written or by signs or by visible representation, assaults the addl. Controller of examinations, or any person on duty in or outside the examination hall or any of their relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the College campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7	Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The

		candidate is also debarred for two consecutive semesters from class work and all examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
8	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.
9	If a student of the college, who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the College will be handed over to police and a police case will be registered against them.
10	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year.
11	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/year examinations.
12	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the principal for further action to award suitable punishment.	

19.0 SCOPE

- i) The Academic Regulations should be read as a whole, for the purpose of any interpretation.
- ii) The above mentioned rules and regulations are applicable in general to both B.Tech. (Regular) and B.Tech. (LES), unless and otherwise specific.
- iii) In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.
- iv) The Academic Council may revise or amend the academic regulations, course structure or syllabi at any time, and the changes or amendments made shall be applicable to all students with effect from the dates notified by the Academic Council.