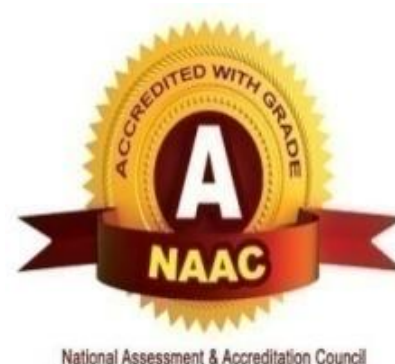


# ACADEMIC REGULATIONS

For

## B. Tech. Four Year Degree Programme (MR20 Regulations)

Effective from the Academic Year 2020-21 onwards



## MALLA REDDY ENGINEERING COLLEGE (Autonomous)

(An UGC Autonomous Institution, Approved by AICTE and Affiliated to JNTUH, Hyderabad)  
Recognized under section 2(f) & 12 (B) of UGC Act 1956, Accredited by NAAC with 'A' Grade (II Cycle) and NBA  
Maisammaguda, Dhulapally (Post Via Kompally), Secunderabad - 500 100.  
Website: [www.mrec.ac.in](http://www.mrec.ac.in) E-mail: [principal@mrec.ac.in](mailto:principal@mrec.ac.in)

## **MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)**

### **MR20 – ACADEMIC REGULATIONS (CBCS)** **for B.Tech. (REGULAR) DEGREE PROGRAMME**

Applicable for the students of B.Tech. (Regular) programme admitted from the Academic Year *2020-21* onwards

The B.Tech. Degree of Jawaharlal Nehru Technological University Hyderabad, Hyderabad shall be conferred on candidates who are admitted to the programme and who fulfill all the requirements for the award of the Degree.

#### **VISION**

To be a premier center of professional education and research, offering quality programs in a socio-economic and ethical ambience.

#### **MISSION**

- To impart knowledge of advanced technologies using state-of-the-art infrastructural facilities.
- To inculcate innovation and best practices in education, training and research.
- To meet changing socio-economic needs in an ethical ambience.

### PROGRAMME OUTCOMES (POs)

PO 1	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 2	<b>Problem analysis:</b> Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 3	<b>Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO 4	<b>Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO 5	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO 6	<b>The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO 7	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO 8	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	<b>Individual and team work:</b> Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 10	<b>Communication:</b> Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO 11	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 12	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

- 1. Malla Reddy Engineering College (Autonomous) (MREC-A) offers Four Year (Eight Semesters) Bachelor of Technology (B.Tech.) with Choice Based Credit System (CBCS) in the following Branches of Engineering.**

S. No.	Branch Code	Branch	Intake
1	01	Civil Engineering (CE)	180
2	02	Electrical and Electronics Engineering (EEE)	60
3	03	Mechanical Engineering (ME)	240
4	04	Electronics and Communication Engineering (ECE)	180
5	05	Computer Science and Engineering (CSE)	240
6	06	Information Technology (IT)	60
7	07	Computer Science and Engineering (Cyber Security)	60
8	08	Computer Science and Engineering (Data Science)	60
9	09	Computer Science and Engineering (AI &ML)	60
10	0A	Computer Science and Engineering (IOT)	60
11	25	Mining Engineering (Min.E)	60

## 2. Eligibility for Admission

**2.1** Admission to the B.Tech programme shall be made either on the basis of the merit rank obtained by the qualifying candidate in entrance test conducted by the Telangana State Government (TSEAMCET) or on the basis of any other order of merit approved by the University, subject to reservations as prescribed by the Government of Telangana from time to time.

**2.2** The medium of instructions for the entire B.Tech programme will be ENGLISH.

## 3. B.Tech. Programme Structure & Duration of Study

**3.1** A student after securing admission shall pursue the B.Tech programme in 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. Further 2 years of extension is allowed for appearing examinations, failing which student shall forfeit seat in B.Tech. Course. The total credits for the entire B.Tech. programme is 160 as prescribed by AICTE. Each student shall secure 160 credits (with CGPA  $\geq 5$ ) required for the completion of the B.Tech programme and award of the B.Tech. degree\*.

**3.2** UGC/ AICTE specified Definitions/ Descriptions are adopted appropriately for various terms and abbreviations used in these Academic Regulations/ Norms, which are as listed below.

### 3.2.1 Semester Scheme:

Each B.Tech programme is of 4 academic years (8 Semesters), with the academic year being divided into two semesters of 22 weeks ( $\geq 90$  instructional days) each, having ‘**Continuous Internal Evaluation (CIE)**’ and ‘**Semester End Examination (SEE)**’ under Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) as indicated by UGC. The Curriculum/ Course Structure is defined based on the model curriculum defined by AICTE.

### 3.2.2 Credit Courses:

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 general pattern.

- One Credit - for one hour/ Week/ Semester of Lecture (L) / Tutorials (T).
- One Credit - for two hours/ Week/ Semester of Practical's (P).

Courses like Environmental Sciences, Induction Programme, Gender Sensitization and students' activities like Internship, Sports/Yoga/NSS and courses relevant to emerging technologies are identified as Mandatory/Audit courses. These courses will not carry any credits.

### 3.2.3 Subject/ Course Classification:

All subjects/ courses offered for the B.Tech. Programmes are broadly classified as follows.

(a) Foundation Courses (FC)

(b) Core Courses (CC)

(c) Elective Courses (EC)

(d) Mandatory Courses (MC)

(e) Audit Courses (AC)

- **Foundation Courses (FC)** are further categorized as:

(i) Humanities and Social Sciences including Management courses (HSMC)

(ii) Basic Science Courses (BSC)

(iii) Engineering Science Courses (ESC).

- **Core Courses (CC) and Elective Courses (EC)** are categorized as

(i) Professional Core Courses(PCC)

(ii) Professional Elective Courses(PEC)

(iii) Open Elective Courses (OEC)

(iv) Project (PROJ)

- **Mandatory Courses (MC - Non-credit with evaluation).**

- **Audit Courses (AC – Non- credit without evaluation).**

### 3.2.4 Course Nomenclature:

The curriculum nomenclature or course structure grouping for each of the B.Tech. Programmes, is as listed below (along with AICTE specified range of total credits).

Sl. No.	Classification		Course Work – Subject Area	Distribution of credits	AICTE Suggested Breakup of Credits (Total 160)
	AICTE	UGC			
1	HSMC	Foundation Courses	Humanities and Social sciences including Management courses.	11	12
2	BSC		Basic Sciences (BSC) including Mathematics, Physics, Chemistry and Biology.	21	25
3	ESC		Engineering Science Courses (ESC) including Engineering Workshop, Engineering Graphics, Basics of Electrical and Electronics / Mechanical / Computer Engineering.	39	24
4	PCC	Core Courses	Professional core Courses are relevant to the chosen specialization/branch; [May be split into Hard (no choice) and Soft (with choice)], if required.	47	48
5	PEC	Professional Electives	Professional electives are relevant to the chosen specialization/ branch.	18	18
6	OEC	Open Electives	Open electives are the courses from other technical and/or emerging	9	18

			subject areas.		
7	PROJ	Project	Mini Project, Project and Seminar	<b>15</b>	15
8	MC	Mandatory Courses	These courses are non-credit courses with evaluation.	-	-
9	AC	Audit Courses	These courses are non-credit courses without evaluation.	-	-
<b>Total credits for B.Tech. Programme</b>					<b>160</b>

#### 4.0 Course Registration

**4.1** A ‘Faculty Advisor or Counselor’ shall be assigned to each student, who will advise him on the Under Graduate Programme (UGP), its Course Structure and Curriculum, Choice / Option for Subjects / Courses, based on his competence, progress, pre-requisites and interest.

**4.2** Academic section of the College invites ‘Registration Forms’ from students within 15 days from the commencement of class work for the semester.

**4.3** If the student submits ambiguous choices or multiple options or erroneous entries during 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.

**4.4 Open Electives:** A student has to complete 3 Open Electives during the period of UGP. The students have to choose only one open elective in a semester from III year I semester onwards from the given list. However, the student cannot opt for an open elective subject offered by their own (parent) department, if it is already listed under any category of the subjects offered by parent department in any semester.

**4.5 Professional Electives:** A student has to complete 6 Professional Electives during the period of UGP. Students have to choose professional electives from III year I semester onwards from the list of professional electives offered by their departments.

**4.6** For Audit Courses like Sports / Yoga and NSS, Computational Mathematics Lab, MOOC/NPTEL online courses etc, a ‘**Satisfactory Participation Certificate**’ from the authorities concerned for the relevant semester is essential. No Marks or Credits shall be awarded for these activities.

**4.7** For Mandatory Courses, a ‘**Satisfactory / Not Satisfactory**’ grade is awarded based on the performance in both CIE and SEE.

#### 5.0 Elective Subjects/ Courses to be offered

**5.1** An Elective Subject/ Course may be offered to the students, ONLY IF a minimum of 40 students opt for the same. The maximum strength of a section is limited to 75.

**5.2** If more entries for registration of a subject come into picture, then the concerned Head of the Department shall take necessary actions, whether to offer such a Subject / Course for TWO (or multiple) SECTIONS or NOT.

#### 6.0 Attendance Requirements:

**6.1** A student shall be eligible to appear for the Semester End Examinations, if he / she acquire a minimum of 75% of attendance in aggregate of all the Subjects/ Courses (including Non-Credit Courses) for that semester.

- 6.2 Condoning of shortage of attendance in aggregate up to 10% ( $\geq 65\%$  and  $< 75\%$ ) in each semester may be granted by the Academic Cell on genuine and **valid grounds** based on the student's representation with supporting evidence.
- 6.3 A stipulated fee prescribed by the CAC, 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 attendance is  $< 65\%$  are not eligible to register for Semester End Examinations, they get detained and their registration for that semester shall stand cancelled. They will not be promoted to the next semester. They may seek re-registration for all those Subjects registered in that Semester in which he got detained, by seeking re-admission for that semester as and when offered; in case 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 If any student fulfills the attendance requirement in the present semester shall not be eligible for readmission into the same semester.

#### 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 he / she secures not less than 35% marks in the Semester End Examination and with a minimum of 40% of the total marks allocated for the course; in terms of Letter Grades, this implies securing 'P' Grade or above in that Subject/ Course. If the student secured 'F' grade in any subject he/she can apply for recounting / revaluation by paying prescribed fee. If the student is not satisfied after the results declaration of recounting / revaluation he/she can apply for challenge valuation with the prescribed fee. College appoints a faculty member; student can bring another faculty member who taught the respective subject at least once (proof should be provided). The faculty member should be from any autonomous college affiliated to JNTUH or JNTUH constituent colleges.
- 7.2 A student shall be deemed to have satisfied the Academic Requirements and earned the credits allotted to Mini Project/Seminar/ Project, if he/ she secure not less than 40% of the total marks to be awarded for each. The student would be treated as failed, if he/ she (i) does not submit a report on his/ her Mini Project / Seminar / Project or does not make a presentation of the same before the Evaluation Committee as per schedule or (ii) secures less than 40% of marks in Mini Project/ Seminar/ Project evaluations.
- He/ She may reappear once for each of the above evaluations, when they are scheduled again; if he/ she fails in such '**one-reappearance**' evaluation also, he/ she has to reappear for the same in the next subsequent semester, as and when it is scheduled.

**7.3 Promotion Rules:** Every student has to fulfil the Attendance and Academic requirements by securing the required credits against registered credits as shown below:

<b>S. No.</b>	<b>Promotion</b>	<b>Conditions to be fulfilled</b>
1.	First year first semester (I Semester) to first year second semester (II Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of first year first semester. (I Semester)</li> </ul>
2.	First year second semester (II Semester) to second year first semester (III Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of first year second semester (II Semester).</li> <li>• Must have secured at least 50% credits up to first year second semester (II Semester) from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</li> </ul>
3.	Second year first semester (III Semester) to second year second semester (IV Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of second year first semester (III Semester)</li> </ul>
4.	Second year second semester (IV Semester) to third year first semester (V Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of second year second semester (IV Semester).</li> <li>• Must have secured at least 60% credits up to second year second semester (IV Semester) from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</li> </ul>
5.	Third year first semester (V Semester) to third year second semester (VI Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of third year first semester (V Semester).</li> </ul>
6.	Third year second semester (VI Semester) to fourth year first semester (VII Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of third year second semester (VI Semester).</li> <li>• Must have secured at least 60% credits up to third year second semester (VI Semester) from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</li> </ul>
7.	Fourth year first semester (VII Semester) to fourth year second semester (VIII Semester)	<ul style="list-style-type: none"> <li>• Regular course of study of fourth year first semester (VII Semester).</li> </ul>

**7.4 A** Student shall register for all subjects covering 160 credits as specified and listed (with the relevant Course/ Subject Classifications as mentioned) in the Course



Structure, fulfils all the Attendance and Academic requirements for 160 credits securing a minimum of 'P' Grade (Pass Grade) or above in each subject and earn 160 credits securing SGPA  $\geq 5.0$  (in each semester) and CGPA (at the end of each successive semester)  $\geq 5.0$ , to successfully complete the B.Tech Programme.

- 7.5** After securing the necessary 160 credits as specified for the successful completion of the B.Tech Programme, the student can avail exemption of two subjects up to 6 credits, that is, one open elective and one professional elective subject or two professional elective/open electives subjects for optional drop out from these 160 credits earned; resulting in 154 credits for B.Tech Programme performance evaluation, i.e., the performance of the student in these 154 credits shall alone be taken into account for the calculation of the final CGPA (at the end of B.Tech Programme, which takes the SGPA of the IV year II semester into account) and shall be indicated in the grade card of IV year II semester. However, the performance of student in the earlier individual semesters, with the corresponding SGPA and CGPA for which grade cards have already been given will not be altered.
- 7.6** If a student registers for some more '**Extra Subjects**' (in the parent Department or other Departments/ Branches of Engineering) other than those listed subjects totaling to 160 credits as specified in the Course Structure of his/ her department, the performances in those 'extra Subjects' (although evaluated and graded using the same procedure as that of the required 160 credits) will not be taken into account while calculating the SGPA and CGPA. For such extra subjects registered, 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 items No.6 and 7.1 to 7.5.
- 7.7** When a student is detained due to shortage of attendance in any semester, he/ she 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 that entire semester in which he/ she got detained.
- 7.8** When a student is detained due to lack of credits in any year, 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 to him.
- 7.9** A student eligible to appear in the Semester End Examination in any Subject/ Course, but absent from it or failed (thereby failing to secure 'P' Grade or above) may reappear for that Subject/ Course at the supplementary examination as and when conducted. In such cases, his / her 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 his/ her performance in that subject.

## **8.0 Evaluation, Distribution and Weightage of Marks**

- 8.1.1** The performance of a student in each semester shall be evaluated subject - wise (irrespective of credits assigned) for 100 marks for Theory, Practicals, Seminar, Drawing / Design, Mini Project, Project and Minor Courses etc.,. The Theory / Practical courses are evaluated with two components. 1. Continuous Internal

Evaluation (CIE), 2. Semester End Examination (SEE). The distribution of 30 Marks for CIE and 70 Marks for SEE decided in the Academic Council.

## 8.2 Theory Courses:

### 8.2.1 Continuous Internal Evaluation (CIE):

CIE shall be carried out for all courses of B.Tech Programme twice in a semester (2 Midterm examinations) with the help of objective evaluation, subjective evaluation and regular assignments. Each mid-term examination shall consist of objective test with a duration of 20 minutes, subjective paper shall be conducted with a duration of 90 minutes and one assignment. The composition of objective test, subjective test and assignment shall be evaluated for 40%, 50% and 10% of the allocated internal marks.

Mid - Term Examination – UG				
Part	Type of Questions	No. of Questions	Marks per Question	Total
Part - A	Multiple – Choice Questions	20	1	20
Part - B	Internal choice questions (Module-wise)	5	5	25
Mid Term Exam Total				45
Assignment				5
<b>Grand Total</b>				<b>50</b>

\*The CIE will be conducted for 50 marks and scaled to 30 marks.

The first mid-term examination shall be conducted for the first 50% of the syllabus, and the second mid-term examination shall be conducted for the remaining 50% of the syllabus. First Assignment should be submitted before the conduct of the first mid-term examinations, and the Second Assignment should be submitted before the conduct of the second midterm examinations.

The weightage for the midterm examination shall be given as average of both mid-term examination. The student shall appear for both midterm examinations, in case of any specific reason the student appears only one midterm examination, 50% weightage of that examination shall be considered.

### 8.2.2 Semester End Examination (SEE):

Semester End Examination (SEE) shall be conducted for all courses of B.Tech Programmes at the end of the Semester. Duration of the examination is 3 hours. The paper setting and evaluation of all courses carried out by external examiners. The examiners will be selected by the Chief Controller of Examinations/Principal, from the panel of examiners submitted by the head of the respective department.

Semester End Examination - UG			
Type of Questions	No. of Questions	Marks per Question	Total
Internal choice questions (Module-wise)	5	14	70

### 8.3 Practical Courses:

#### 8.3.1 Continuous Internal Evaluation (CIE):

CIE marks shall be awarded with a distribution of 40% for day-to-day performance and timely submission of lab records, 40% for internal lab exam (average of the two exams) and 20% for viva-voce. The CIE will be conducted for 50 marks and scaled to 30 marks.

#### 8.3.2 Semester End Examination (SEE):

SEE marks shall be awarded with a distribution of 20% for design/procedure/schematic diagram of the given experiment, 40% for conduction of experiment, 20% for results and 20% for viva-voce. For conducting SEE (with duration of 3 hours), one internal examiner and one external examiner will be appointed by the Chief Controller of Examinations/Principal of the college. The external examiner should be selected from the outside college among the autonomous/reputed institutions from a panel of three examiners submitted by the concerned Head of the Department.

### 8.4 Engineering Graphics:

CIE: There will be 30% of total marks for CIE shall be awarded with a distribution of 40% of the CIE marks for day to day performance and timely submission of drawing sheets and remaining 60% of CIE marks for midterm examinations.

The distribution of marks for CIE is given below

<b>CIE for Engineering Graphics</b>				
<b>Part</b>	<b>Type of Questions</b>	<b>No. of Questions</b>	<b>Marks per Question</b>	<b>Total</b>
Part - A	Day – to – Day Work			20
Mid – Term Examination				
Part - B	Internal choice questions (Module-wise)	5	6	30
Total				50

\*The CIE will be conducted for 50 marks and scaled to 30 marks.

The distribution of marks for SEE is given below

<b>SEE for Engineering Graphics</b>			
<b>Type of Questions</b>	<b>No. of Questions</b>	<b>Marks per Question</b>	<b>Total</b>
Internal choice questions (Module-wise)	5	14	70

### 8.5 Machine Drawing:

CIE: There will be 30% of total marks for CIE shall be awarded with a distribution of 40% of the CIE marks for day-to-day performance and timely submission of drawing sheets and remaining 60% of CIE marks for midterm examinations.

The distribution of marks for CIE is given below

<b>CIE for Machine Drawing</b>			
<b>Type of Questions</b>	<b>No. of Questions</b>	<b>Marks per Question</b>	<b>Total</b>
Day to Day Work			20
I Mid Term Examination			
Part Drawing (4 out of 6)	4	7.5	30
II Mid Term Examination			
Assembly Drawing (1 out of 2)	1	30	30
Total			50

\*The CIE will be conducted for 50 marks and scaled to 30 marks.

The distribution of marks for SEE is given below

<b>SEE for Machine Drawing</b>			
<b>Type of Questions</b>	<b>No. of Questions</b>	<b>Marks per Question</b>	<b>Total</b>
Part A - Part Drawing (2 out of 4)	2	15	30
Part B - Assembly Drawing (Compulsory Question)	1	40	40
Total			70

### 8.6 Projects:

#### 8.6.1 Internship-III/Mini Project:

There shall be an Internship-III/Mini Project, for which the students will register after the completion of III year II semester (VI Semester) end examinations and pursue it during summer vacation. The evaluation of Mini project will be done at the end of IV Year I semester (VII semester). It shall be evaluated internally for 100 marks. The committee consisting Project Coordinator, Supervisor of the project and one senior faculty of the department will evaluate the Internship-III/Mini Project and award appropriate Grade, based on the report submitted to the department and presentation provided by the student in front of the committee.

#### Project:

Major Project has to be carried out during the VIII semester, as per the instructions of the project supervisor assigned by the Head of the Department. Out of total 200 marks allotted for the major project, 50 marks shall be for CIE (Continuous Internal Evaluation) and 150 marks for the SEE (Semester End Viva-voce Examination). CIE marks shall be awarded by a Departmental Committee consisting of Project coordinator, Supervisor of Major Project and a senior Faculty member, from two reviews (average). Review - I will be conducted within a month from the commencement of class work (problem definition, objective, literature survey and brief description - each 10 marks) and Review - II will be conducted before second mid examination (progress of work, results, discussion and presentation - each 10 marks). The Major Project Viva-voce (SEE) shall be conducted by a committee

comprising of an External Examiner, Head of the Department and Project Supervisor. In SEE of 150 marks, 75 marks for working model / simulation / data collection, 35 marks for report preparation and 40 marks for presentation and viva - voce. The external examiner should be selected by Chief Controller of Examinations from outside the college among the autonomous / reputed institutions from a panel of three examiners submitted by the concerned Head of the Department / Board of Studies (BOS) Chairman.

*The topics for mini project and seminar shall be different from one another.*

The student is deemed to be failed, if he/ she (i) does not submit a report on Project, or does not make a presentation of the same before the external examiner as per schedule, or (ii) 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 reappearance’ evaluation also, he has to reappear for the same in the next subsequent semester, as and when it is scheduled.

### **8.6.3 Seminar:**

For Seminar presentation, the student shall collect the information on a specialized topic, prepare a report and submit to the department at the time of seminar presentation. The seminar presentation (along with the report) shall be evaluated by a committee consisting of Seminar coordinator and two senior faculty members with appropriate grade. The seminar report shall be evaluated internally for 100 marks. There shall be no semester end examination for the seminar.

### **8.7 Non-Credit Courses:**

#### **8.7.1 Mandatory Courses:**

For Mandatory Courses offered in any semester, a ‘Satisfactory/ Not Satisfactory’ shall be awarded to the student based on the performance in both CIE and SEE.

#### **8.7.2 Audit Courses:**

For Audit Courses offered in any Semester, the student must submit a ‘**Participation Certificate**’ from the concerned authorities. Internship program is also conducted under the category of Audit Courses. The student needs to submit a detailed report to the department after internship program. No marks or Letter Grade shall be allotted for these activities.

### **9.0 Grading Procedure**

**9.1** Grades will be awarded to indicate the performance of each student in each theory subject, or Lab/ Practical or Seminar or Project or Mini-Project or Minor Course etc., based on the % of marks obtained in CIE + SEE both taken together as specified in Item No. 8 and 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 (UGC Guidelines) and corresponding percentage of marks shall be followed.

<b>% of Marks</b>	<b>Grade Points</b>	<b>Letter Grade</b>
≥90	10	( Out Standing)
≥80 to < 90	9	A <sup>+</sup> (Excellent)
≥70 to < 80	8	A (Very Good)
≥60 to < 70	7	B <sup>+</sup> (Good)

≥50 to <60	6	B (Average)
≥40 to < 50	5	C(Pass)
< 40	0	F (Fail)
Absent	0	Ab

**9.3** A student obtaining ‘F’ Grade in any subject shall be considered ‘Failed’ and will be required to reappear as ‘Supplementary Candidate’ in the Semester End Examination (SEE) as and when conducted. In such cases, his / her Internal Marks (CIE Marks) in those subject(s) will remain same as those he / she obtained earlier.

**9.4** A Letter Grade does not imply any specific % of marks.

**9.5** In general, a student shall not be permitted to repeat any Subject/ Course (s) only for the sake of ‘Grade Improvement’ or ‘SGPA / CGPA Improvement’. However, he / she has to repeat all the Subjects/ Courses pertaining to that semester, when he / she is detained (as listed in Items Nos.7.7 &7.8).

**9.6** A student earns Grade Point (GP) in each Subject/ Course, on the basis of the Letter Grade obtained by him 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.

**Credit Points (CP) = Grade Point (GP) x Credits ...For a Course**

**9.7** The Student passes the Subject/ Course only when he / she gets  $GP \geq 5$ (‘C’ Grade or above).

**9.8** The Semester Grade Point Average (SGPA) is calculated by dividing the Sum of Credit Points ( $\Sigma CP$ ) 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. SGPA is thus computed as

$$SGPA = \frac{\{\sum_{i=1}^N C_i G_i\}}{\{\sum_{i=1}^N C_i\}} \dots \text{for each semester}$$

where ‘i’ is the subject indicator index (takes into account all subjects in a semester), ‘N’ is the number of subjects registered for the semester (as specifically required and listed under the Course Structure of the parent department) is the number of credits allotted to the i<sup>th</sup> subject and represents the Grade Points (GP)corresponding to the Letter Grade awarded for that i<sup>th</sup> subject.

**9.9** The Cumulative Grade Point Average (CGPA) is a measure of the overall cumulative performance of a student over 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 II semester onwards, at the end of each semester, as per the formula.

$$CGPA = \frac{\{\sum_{j=1}^M C_j G_j\}}{\{\sum_{j=1}^M C_j\}} \dots \text{for all ‘S’ semesters registered}$$

(i.e., up to and inclusive of ‘S’ semesters,  $S \geq 2$ )where ‘M’ is the total number of subjects (as specifically required and listed under the course structure of the parent department) the student has registered from the 1<sup>st</sup>semester onwards up to and inclusive of the semester ‘S’ (obviously  $M > N$ ), ‘j’ is the subject indicator index (takes in to account all subjects from ‘1’ to ‘S’ semesters) is the number of credits allotted to the j<sup>th</sup> subject, and represents the Grade Points (GP) corresponding to the Letter Grade awarded for that j<sup>th</sup> subject. After registration and completion of I Year I Semester however, the SGPA of that semester itself may be taken as the CGPA, as there are no cumulative effects.

**ILLUSTRATION OF CALCULATION OF SGPA**

Course/ Subject	Credits	Letter Grade	Grade Points	Credit Points
Course 1	3	A	8	$3 \times 8 = 24$
Course 2	3	O	10	$3 \times 10 = 30$
Course 3	3	C	5	$3 \times 5 = 15$
Course 4	3	B	6	$3 \times 6 = 18$
Course 5	3	A+	9	$3 \times 9 = 27$
Course 6	1.5	B	6	$1.5 \times 6 = 09$
Course 7	1.5	A	8	$1.5 \times 8 = 12$
Course 8	2	A	8	$2 \times 8 = 16$
	Total = 20			Total Credit Points = 151

$$\text{SGPA} = 151/20 = 7.55$$

**ILLUSTRATION OF CALCULATION OF CGPA:**

Semester	Credits	SGPA	Credits X SGPA
Semester I	21	7	$21 \times 7 = 147$
Semester II	19	6	$19 \times 6 = 114$
Semester III	22	6.5	$22 \times 6.5 = 143$
Semester IV	20	6	$20 \times 6 = 120$
Semester V	22	5.75	$22 \times 5.75 = 126.5$
Semester VI	18	7.25	$18 \times 7.25 = 130.5$
Semester VII	18	8	$18 \times 8 = 144$
Semester VIII	20	8.5	$20 \times 8.5 = 170$
	160		1095

$$\text{CGPA} = 1095/160 = 6.84$$

**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** For calculations listed in Item Nos.9.6 to 9.10, performance in failed Subjects/ Courses (securing 'F' Grade) will also be taken into account and the credits of such Subjects/Courses will also be included in the multiplications and summations. However, Mandatory Courses will not be taken into consideration.

**9.12 Passing Standards:**

**9.12.2** A student shall be declared successful or 'passed' in a semester, only when he / she gets a SGPA  $\geq 5.00$  (at the end of that particular semester); and a student shall be declared successful or 'passed' in the entire B.Tech Programme, only when he / she gets a CGPA  $\geq 5.00$ ; subject to the condition that he / she secures a GP  $\geq 5$  ('C' Grade or above) in every registered Subject/ Course in each semester (during the entire B.Tech Programme) for the award of degree, as required.

**9.12.3** In spite of securing 'P' Grade or above in some (or all)Subjects/ Courses in any semester, if a student receives a SGPA  $< 5.00$  and/ or CGPA  $< 5.00$  at the end of such a semester, then he / she 'may be allowed' (on the 'specific recommendations' of the Head of the Department and subsequent approval from the Principal) (i) to go into the next subsequent semester (subject to fulfilling all other attendance and academic requirements as listed under Item Nos. 7&8);(ii) to 'improve his / her SGPA of such a semester (and hence CGPA) to 5.00 or above', by reappearing for one or more (as per student's choice) of the same course(s) in

which he / she has secured 'P' Grade(s) in that semester, at the Supplementary Examinations to be held in the next subsequent semester(s). In such cases, his / her Internal Marks (CIE Marks) in those subject(s) will remain same as those he / she obtained earlier. In these considerations, the newly secured Letter Grades will be recorded and taken into account for calculation of SGPA and CGPA, only if there is an improvement.

**9.12.4** A student shall be declared successful in any Non-Credit Course, if he / she secures a 'Participation Certificate' for that Audit Course and "Satisfactory Grade' for Mandatory Course.

**9.13** 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, No. of Credits and Grade Earned etc.), Credits earned, SGPA and CGPA.

## **10 Declaration of Results**

**10.1** Computation of SGPA and CGPA are done using the procedure listed in items 9.6 to 9.10.

**10.2** For final % of marks equivalent to the computed final CGPA, the following formula may be used ...

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

## **11 Award of Degree**

**11.1** A student who register for all the specified courses as listed in the Course Structure, satisfies all the course requirements, passes all the examinations prescribed in the entire B.Tech Programme within the specified period (refer 4.1) and secures the required 160 Credits (with CGPA  $\geq 5.0$ ) shall be declared to have '**Qualified**' for the award of the B.Tech. Degree in the chosen branch of engineering as selected at the time of admission.

**11.2** A student who qualifies for the award of the degree as listed in Item 11.1, shall be placed in one of the following classes:

<b>Class Awarded</b>	<b>CGPA</b>
First Class with Distinction	$\geq 8.00$
First Class	$\geq 6.50$ and $< 8.00$
Second Class	$\geq 5.50$ and $< 6.50$
Pass Class	$\geq 5.00$ and $< 5.50$

**11.3** A student with final CGPA (at the end of the B.Tech Programme)  $< 5.00$  will not be eligible for the award of the degree.

**11.4** Students will be eligible for the award of '**Gold Medal**', if he/she should have passed all the subjects/courses in first appearance within the first academic years (or eight sequential semesters) from the date of commencement of first year first semester and should have secure CGPA  $\geq 8.00$  at the end of eight sequential semesters.

**11.5** A student will be eligible to get under graduate with honours or additional minor engineering if he/she completes an additional 20 credits through MOOCs.



## **12 Withholding of Results**

If the student has not paid fees to college at any stage or has pending dues against his / her name due to any reason whatsoever or if any case of indiscipline is pending against him, the result of the student may be with-held and he / she 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.

## **13 Transitory Regulations**

### **A. For students detained due to shortage of attendance:**

1. A student who has been detained in I year of MR15 (2016 admitted)/ MR17/MR18 regulations due to lack of attendance, shall be permitted to join I year I Semester of MR20 regulations and he / she 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.
2. A student who has been detained in any semester of II, III and IV years of MR15/MR17/MR18 regulations for want of attendance shall be permitted to join the corresponding semester of MR20 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 MR20 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:**

- 1 A student of MR15/MR 17/MR18 regulations, who has been detained due to lack of credits, shall be promoted to the next semester of MR20 regulations only after acquiring the required credits as per the corresponding regulations of his/her first admission. The student is required to complete the B.Tech Programme within the stipulated period of eight academic years from the year of first admission. The MR20 academic regulations are applicable to a student from the year of readmission onwards. See rule (C) for further Transitory Regulations.

### **C. For readmitted students in MR20 regulations:**

- 1 A student who has failed in any subject under any regulation has to pass those subjects in the same regulations.
- 2 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 his/her study including MR20 regulations. The performance evaluation of the student will be done after the exemption of two subjects if total credits acquired are  $\leq$  160, (see item 7.5).
- 3 If a student readmitted to MR20 regulations, has any subject with 80% of syllabus common with his/her previous regulations, that particular subject in MR20 regulations will be substituted by another subject to be suggested by the College Academic Committee (CAC).

**Note:** If a student readmitted to MR20 regulations, has not studied any subjects/topics in his/her earlier regulations of study which is prerequisite for further subjects in MR20 regulations, the departments concerned shall conduct remedial classes to cover those subjects/topics for the benefit of the students.

## **14 Student Transfers**

**14.1** There shall be no branch transfers after the completion of admission process.

**14.2** The students seeking transfer to MALLA REDDY ENGINEERING COLLEGE (Autonomous)-MREC(A) from various other Universities/ Institutions have to pass the failed subjects which are equivalent to the subjects of MREC(A) and also pass the subjects of MREC(A) which the students have not studied at the earlier institution. Further, though the students have passed some of the subjects at the earlier institutions, if the same subjects are prescribed in different semesters of MREC(A), the students have to study those subjects in MREC(A) inspite of the fact that those subjects are repeated.

**14.3** The transfer students from other Universities / Institutions to MREC(A) who are on rolls will be provided one chance to write internal examinations in the failed subjects and/or subjects not studied as per the clearance letter issued by the JNTUH.

## **15 Scope**

- (i) Where the words “he”, “him”, “his”, occur in the write – up of regulations, they include “she”, “her”, “hers”.
- (ii) Where the words “Subject” or “Subjects”, occur in these regulations, they also imply “Course” or “Courses”.
- (iii) The academic regulations should be read as a whole, for the purpose of any interpretation.
- (iv) In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the College Academic Committee headed by the Principal will be considered as final.

## Academic Regulations for B.Tech.(Lateral Entry Scheme)

w.e.f the A Y 2021-22

### 1. Eligibility for award of B. Tech. Degree(LES)

The LES students after securing admission shall pursue a course of study for not less than three academic years and not more than six academic years.

2. The student shall register for 120 credits and secure 120 credits with CGPA  $\geq 5$  from II year to IV year B.Tech. Programme (LES) for the award of B.Tech. degree. **Out of the 120 credits secured, the student can avail exemption up to 6 credits**, that is, one open elective subject and one professional elective subject or two professional elective subjects resulting in 114 credits for B.Tech. Programme performance evaluation.

3. The students, who fail to fulfill the requirement for the award of the degree in six academic years from the year of admission, shall forfeit their seat in B.Tech. Programme.

4. The attendance requirements of B. Tech. (Regular) shall be applicable to B.Tech.(LES).

### 5. Promotion Rule:

Sl.No.	Promotion	Conditions to be fulfilled
1	Second year first semester (III Semester) to second year second semester (IV Semester)	Regular course of study of second year first semester (III Semester).
2	Second year second semester (IV Semester) to third year first semester (V Semester).	(i) Regular course of study of second year second semester (IV Semester) (ii) Must have secured at least 60% credits up to second year second semester (IV Semester) from all the relevant regular and supplementary examinations, whether the
3	Third year first semester (V Semester) to third year second semester (VI Semester)	Regular course of study of third year first semester (V Semester).
4	Third year second semester (VI Semester) to fourth year first semester (VII Semester)	(i) Regular course of study of third year second semester (VI Semester) (ii) Must have secured at least 60% credits up to third year second semester (VI Semester) from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
5	Fourth year first semester (VII Semester) to fourth year second semester (VIII Semester)	Regular course of study of fourth year first semester (VII Semester)

6. All the other regulations as applicable to B. Tech. 4-year degree course (Regular) will hold good for B. Tech. (Lateral Entry Scheme).

## MALPRACTICES RULES

### DISCIPLINARY ACTION FOR IMPROPER CONDUCT IN EXAMINATIONS

Sl.No.	Nature of Malpractices/Improper conduct	Punishment
	If the candidate:	
1. (a)	Possesses or keeps accessible in examination hall any paper, note book, 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 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 course of the examination)	Expulsion from the examination hall and cancellation of the performance in that course only.
(b)	Gives assistance or guidance or receives it from any other student 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 course only of all the students involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to that course of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the student has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the courses of that semester. The hall ticket of the candidate shall be cancelled.
3	Impersonates any other candidate in connection with the examination.	The student who has impersonated shall be expelled from examination hall. The candidate is also debarred and forfeits the seat. The performance of the original student who has been impersonated, shall be cancelled in all

		the courses of the examination (including practical's and project work) already appeared and shall not be allowed to appear for examinations of the remaining courses of that semester. The candidate is also debarred for two consecutive semesters from class work and all SEE. The continuation of the programme 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 course and all the other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that semester. The student is also debarred for two consecutive semesters from class work and all SEE. The continuation of the programme 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 course.
6	Refuses to obey the orders of the Chief Controller of Examinations (CCE) / Controller of Examinations (CE) / Assistant Controller of Examinations (ACE) / 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	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that course and all other courses the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the courses of that semester. The students also are debarred and forfeit their seats. In case of outsiders, they will be handed over

	<p>threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-incharge, or any person on duty in or outside the examination hall or any of his 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</p>	<p>to the police and a police cases registered against them.</p>
7	<p>Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.</p>	<p>Expulsion from the examination hall and cancellation of performance in that course and all the other courses the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that semester. The candidate is also debarred for two consecutive semesters from class work and all SEE. The continuation of the programme by the student is subject to the academic regulations in connection with forfeiture of seat.</p>
8	<p>Possess any lethal weapon or firearm in the examination hall.</p>	<p>Expulsion from the examination hall and cancellation of the performance in that course and all other courses the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that semester. The candidate is also</p>

		debarred and forfeits the seat.
9	If student of the college, who is not a student 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.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that semester. 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 course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that semester.
11	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that course and all other courses the student has appeared including practical examinations and project work of that SEE.
12	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the CCE for further action toward suitable punishment.	

**Note: The student(s) found indulging in malpractices during the CIE also will be punished based on the recommendations of the College Academic Committee.**

**Malpractices identified by squad or special invigilators**

1. Punishments to the students as per the above guidelines.