

# **BACHELOR OF TECHNOLOGY**

## **UNDERGRADUATE PROGRAM**

### **ACADEMIC REGULATIONS-R20**

**(Batches admitted from the Academic Year 2020 - 2021)**



## **MALLA REDDY ENGINEERING COLLEGE FOR WOMEN**

**(Autonomous Institution-UGC, Govt. of India)**

**Affiliated to JNTUH, Approved by AICTE, ISO 9001:2015 Certified Institution**

**Accredited by NBA & NAAC with 'A' Grade UGC, Govt. of India**

**NIRF Indian Ranking, Accepted by MHRD, Govt. of India**

**AAA+ Rated by Careers 360 Magazine, National Ranking-Top 100 Rank band by Outlook**

**Maisammaguda, Dhullapally, Secunderabad, Kompally-500100**

## ACADEMIC REGULATIONS FOR B.Tech. REGULAR STUDENTS

### WITH EFFECT FROM ACADEMIC YEAR 2020-21 (R-20)

#### 1.0 Under-Graduate Degree Programme in Engineering & Technology

Malla Reddy Engineering College for Women (MRECW) offers a 4-year (8 semesters) **Bachelor of Technology (B.Tech.)** degree programme, under Choice Based Credit System (CBCS) for the following branches of Engineering.

S.No	Name of the Department
1	Electrical and Electronics Engineering
2	Electronics & Communication Engineering
3	Computer Science and Engineering
4	Computer Science and Engineering(AI & ML)
5	Computer Science and Engineering (DATASCIENCE)
6	Computer Science and Engineering (CYBER SECURITIES)
7	Computer Science and Engineering (INTERNET OF THINGS)
8	Information Technology

#### 2.0 Eligibility for admission

2.1 Admission to the under graduate (UG) programme shall be made either on the basis of the merit rank obtained by the qualified student in entrance test conducted by the Telangana State Government (EAMCET) or the University or on the basis of any other order of merit approved by the University, subject to reservations as prescribed by the government from time to time.

2.2 The medium of instructions for the entire under graduate programme in Engineering & Technology will be **English** only.

#### 3.0 B.Tech. Programme structure

3.1 A student after securing admission shall complete 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, failing which student shall forfeit seat in B.Tech course. Each student shall secure 160 credits (with CGPA  $\geq 5$ ) required for the completion of the under graduate 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 listed below.

### 3.2.1 Semester scheme

Each under graduate programme is of 4 academic years (8 semesters) with the academic year divided into two semesters of 22 weeks (  $\geq 90$  instructional days) each, each semester having - ‘Continuous Internal Evaluation (CIE)’ and ‘Semester End Examination (SEE)’ under Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) indicated by UGC, and curriculum/course structure as suggested by AICTE are followed.

### 3.2.2 Credit courses

All subjects/ courses are to be registered by the student in a semester to earn credits which shall be assigned to each subject/ course in an 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 for theory/ lecture (L) courses or Tutorials.
- One credit for two hours/ week/ semester for laboratory/ practical (P) courses.

The candidate has to register for Mandatory- courses like Environmental Science, Foreign Language: French, Human Values & Professional Ethics, Indian Constitution, Indian Traditional Knowledge and Technical & Soft Skills lab in which 50% of scoring is required for the award of the Degree in Internal Examination. These courses will not carry any credits.

### 3.2.3 Subject Course Classification

All subjects/ courses offered for the under graduate programme in E&T (B.Tech. degree programmes) are broadly classified as follows. Malla Reddy Engineering College for Women (MRECW) has followed almost all the guidelines issued by JNTUH/AICTE/UGC.

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 (E/C)	PE – Professional Electives	Includes elective subjects related to the parent discipline/ department/ branch of Engineering.
6		OE – Open Electives	Elective subjects which include inter- disciplinary subjects or subjects in an area outside the parent discipline/ department/ branch of Engineering.
7	Core Courses	PR-Project Work/ Industrial training/ Mini- project/ Seminar	B.Tech. project or UG project or UG major project or Project Stage I & II
8			Industrial training/ Summer Internship/
9			Industrial Oriented Mini-project/ Mini-project Seminar/ Colloquium based on core contents related to parent discipline/ department/ branch of Engineering.
10	Minor courses	-	1 or 2 Credit courses (subset of HS)
11	Mandatory Courses (MC)	-	Mandatory Courses (non-credit)

#### 4.0 Course Registration

- 4.1** A ‘faculty advisor or counselor’ shall be assigned to a group of 20 students, who will advise the students about the under graduate programme, its course structure and curriculum, choice/option for subjects/ courses, based on their 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 ‘on-line registration’, ensuring ‘date and time stamping’. The on-line 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 **on-line** registration, **only after** obtaining the ‘**written approval**’ from faculty advisor/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/ counselor and the student.
- 4.4** Every student has to register for a set of Courses in each Semester, with the total number of their Credits being limited by considering the permissible weekly Contact Hours (typically: 30/Week); For this, an average Course Registration of minimum 15 Credits/Semester (e.g., 6-7 Courses) and a maximum of 24 credits are generally acceptable on recommendation of concerned academic advisor by satisfying the pre-requisite conditions..
- 4.5** Approval of the Course Registration will be informed by the concerned Head of the Department on the beginning of the semester by taking the number of students registered (minimum **one-third** students per class) and availability of the faculty into consideration.

- 4.6 Dropping of the Course Registration can be permitted up to two weeks from the commencement of the semester. Thereafter no droppings are permitted.
- 4.7 Interchanging of Course Registrations are not permitted.
- 4.8 The Pre-requisite conditions for the additional course(s) registration by the students are based on the slots available in the Time Table, Class rooms and Faculty availability.
- 4.9 **Open Electives:** Open elective course may be offered to the students, only if a minimum of 30 students opt for it The students have to choose one open elective (OE-I) during III year I semester, one (OE-II) during III year II semester, one (OE-III) in IV year I semester and one (OE-IV) in IV year II Semester, from the list of open electives given. 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
- 4.10 **Professional electives:** Professional elective course may be offered to the students, only if a minimum of 30 students opt for it. Students have to choose Professional Elective – I (PE-I) in III year I semester, Professional Electives – II & III (PE-II and PE-III) in III year II Semester, Professional electives IV (PE-IV) in IV year – I Semester and Professional Electives – V & VI (PE-V and PE-VI) in IV year II semester, , from the list of professional electives given. However, the student can opt for an Professional elective subject offered by their own (parent) department.
- 5.0 Attendance Requirements:**
- 5.1 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 (excluding attendance in mandatory courses like Environmental Science, Foreign Language: French, Human Values & Professional Ethics, Indian Constitution , Indian Traditional Knowledge and Technical & Soft Skills) for that semester.
- 5.2 Shortage of attendance in aggregate up to 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.
- 5.3 A stipulated fee shall be payable for condoning of shortage of attendance.
- 5.4 Shortage of attendance below 65% in aggregate shall in **no** case be condoned.
- 5.5 **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. 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.

- 5.6** A student fulfilling the attendance requirement in the present semester shall not be eligible for readmission into the same class.

## **6.0 Academic requirements**

The following academic requirements have to be satisfied, in addition to the attendance requirements mentioned in item no.5.

- 6.1** 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% (25 marks out of 70 marks) in the semester end examination, and a minimum of 40% (40 marks out of 100 marks) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together; in terms of letter grades, this implies securing ‘C’ grade or above in that subject/ course.
- 6.2** A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each Industrial Oriented Mini Project/Summer Internship, if student secures not less than 35% (25 marks out of 70 marks) in the semester end examination, and a minimum of 40% (40 marks out of 100 marks) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together. The student is deemed to have failed, if she (i) does not submit a report on Industrial Oriented Mini Project/Summer Internship, or does not make a presentation of the same before the evaluation committee as per schedule, or (ii) does not present the seminar as required in the IV year I Semester, or (iii) secures less than 40% marks in Industrial Oriented Mini Project/Summer Internship and seminar evaluations.

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

## **6.3 Promotion Rules**

<b>S. No.</b>	<b>Promotion</b>	<b>Conditions to be fulfilled</b>
<b>1</b>	<b>First year first semester to</b>	<b>Regular course of study of first year</b>

	<b>first year second semester</b>	<b>first semester.</b>
<b>2</b>	<b>First year second semester to second year first semester</b>	<b>(i) Regular course of study of first year second semester. (ii) Must have secured 50% credits up to first year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</b>
<b>3</b>	<b>Second year first semester to second year second semester</b>	<b>Regular course of study of second Year first semester.</b>
<b>4</b>	<b>Second year second semester to third year first semester</b>	<b>(i) Regular course of study of second year second semester. (ii) Must have secured 60% credits up to second year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</b>
<b>5</b>	<b>Third year first semester to third year second semester</b>	<b>Regular course of study of third year first semester.</b>
<b>6</b>	<b>Third year second semester to fourth year first semester</b>	<b>(i) Regular course of study of third year second semester. (ii) Must have secured 60% credits up to third year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.</b>
<b>7</b>	<b>Fourth year first semester to fourth year second semester</b>	<b>Regular course of study of fourth year first semester.</b>

**6.4** A student (i) shall register for all courses/subjects covering 160 credits as specified and listed in the course structure, (ii) fulfills all the attendance and academic requirements for 160 credits, (iii) earn all 160 credits by securing SGPA  $\geq 5.0$  (in each semester), and CGPA (at the end of each successive semester)  $\geq 5.0$ , (iv) **passes all the Mandatory Courses**, to successfully complete the under graduate programme. The performance of the student in these 160 credits shall be taken into account for the calculation of 'the final CGPA (at the end of under graduate programme)', and shall be indicated in the grade card of IV year II semester.

- 6.5** A student eligible to appear in the end semester 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.
- 6.6** A student **detained in a semester due to shortage of attendance may be re-admitted in the same semester in the next academic year for fulfillment of academic requirements.** The academic regulations under which a 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.
- 6.7** 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 the student has been readmitted shall be applicable to her.
- 7.0 Evaluation - Distribution and Weightage of marks**
- 7.1** The performance of a student in each semester shall be evaluated subject-wise for a maximum of 100 marks for a theory and 100 marks for a practical subject. In addition, Technical Seminar, Mini Project and Project stage 1&2 shall be evaluated for 100 marks each.
- 7.2** For theory subjects the distribution shall be 30 marks for Internal Evaluation and 70 marks for the End-Examination.
- 7.3** For theory subjects, during a semester there shall be 2 mid-term examinations. Each mid-term examination consists of one descriptive paper, one objective paper and assignment. The descriptive paper shall be for 20 marks. The descriptive paper shall contain 6 full questions out of which, the student has to answer 4 questions, each carrying 5 marks. The objective paper shall be for Five (5) marks contain (10) objective questions - each carries half mark and no choice, with a total duration of 2 hours. Five (5) marks are allocated for Assignments (as specified by the subject teacher concerned). The first Assignment should be submitted before the conduct of the first mid-examination, and the second Assignment should be submitted before the conduct of the second mid-examination. While the first mid-term examination shall be conducted from 1 to 2 1/2 units of the syllabus, the second mid-term examination shall be conducted from 2 1/2 to 5 units. The total marks secured by the student in each mid-term examination are evaluated for 30 marks, and the average of the two mid-term examinations shall be taken as the final marks secured by each candidate.
- However, if any student is absent/scoring internal marks less than 40% in any subject of a mid-term examination she will be given a chance to write the internal exam



once again after she re-registering for the internal exam in the concerned subject and paying stipulated fees as per the norms.

The end examination will be conducted for 70 marks with Part A & B. Part-A consisting of 8 short answer questions out of which 5 question need to be answered, each question carries 2 marks. Part-B consisting of two parts each (a) and (b), out of which the student has to answer either (a) or (b), not both and each question carrying 12 marks.

- 7.4** For practical subjects, there shall be a continuous evaluation during a semester for 30 internal marks and 70 end semester examination marks. Out of the 30 marks for internal evaluation, day-to-day work in the laboratory shall be evaluated for 15 marks and internal practical examination shall be evaluated for 15 marks conducted by the laboratory teacher concerned. The end semester examination shall be conducted with an external examiner and the laboratory teacher. The external examiner shall be appointed from the clusters of colleges which are decided by the Principal of the College.
- 7.5** For the Engineering Graphics subject, the distribution shall be 30 marks for internal evaluation (15 marks for day-to-day work and 15 marks for internal tests) and 70 marks for end semester examination. There shall be two internal tests in a Semester and the average of the two shall be considered for the award of marks for internal tests.
- 7.6** For Mandatory Courses like Environmental Science, Foreign Language: French, Human Values & Professional Ethics, Indian Constitution , Indian Traditional Knowledge and Technical & Soft Skills, a student has to secure 50 marks out of 100 marks (i.e. 50% of the marks allotted) in the continuous internal evaluation for passing the subject/course.

## **7.7 INNOVATIVE PRODUCT DEVELOPMENT**

Innovative Product Development shall be carried out in three stages: Innovative Product Development-I during III Year I semester, Innovative Product Development-II during III Year II semester, Innovative Product Development-III during IV Year I semester. Each stage will be evaluated for 100 marks. Student has to work for implementation of their innovative idea, prepare a technical report and submit it to the department. Out of a total of 100 marks for the Innovative Product Development in each stage,30 marks shall be for internal and 70 marks shall be for external end semester examination (Viva – Voce). The Internal marks evaluation shall be evaluated by the departmental committee consisting of Head of the Department, mentor and a senior faculty member. External marks shall be evaluated by the committee consisting of an external examiner from Industry,Head of the Department and mentor based on the work carried out in Innovative Product Development.

A student shall acquire 1 credit assigned to the each stage of Innovative Product Development. The student is deemed to have failed, if she (i) does not submit a report on Innovative Product Development 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, she has to reappear for the same in the next subsequent semester, as and when it is scheduled.

### **7.8 INDUSTRY ORIENTED MINI PROJECT/INTERNSHIP**

- a) There shall be an Industry oriented Mini-Project / Internship, in collaboration with an Industry of the relevant specialization, to be registered immediately after III Year II Semester examinations, and taken up during the summer vacation for about eight weeks duration.
- b) Industrial Oriented Mini Project/Summer Internship shall be submitted in a report form and presented before the committee in IV year I semester. Out of a total of 100 marks for the Industry Oriented Mini Project / Internship, 30 marks shall be for internal and 70 marks shall be for external End Semester Examination (Viva – Voce). The Industrial Oriented Mini Project/Summer Internship shall be evaluated in the IV Year I Semester. The Internal marks evaluation for shall be evaluated by the departmental committee consisting of Head of the Department, supervisor and a senior faculty member. External marks shall be evaluated by the committee consisting of an external examiner; Head of the Department and supervisor of the Industrial Oriented mini project/Summer Internship.

- 7.9** UG project work shall be carried out in two stages: Project stage – I during IV Year I Semester, Project Stage – II during IV Year II Semester. Each stage will be evaluated for 100 marks. Student has to submit project work report at the end of each semester. First report includes project work carried out in IV Year I semester and second report includes project work carried out in IV Year II Semester. Semester End Examination for both project stages shall be completed before the commencement of Semester End Theory examinations.

Each Student shall start the Project Work during the IV Year I Semester, as per the instructions of the Project Guide/Project Supervisor assigned by the Head of Department. Out of total 100 marks allotted for the Project Work, 30 marks shall be for CIE (Continuous Internal Evaluation and 70marks for the SEE (End Semester Viva-voce Examination). The report and the presentation shall be evaluated by the departmental committee consisting of Head of the Department, Project supervisor and a senior faculty member. It shall be evaluated for 30 marks by Project Supervisor and the other 70marks shall be awarded by a Departmental Committee consisting of Head of the Department, Senior faculty member and Project Supervisor based on the work carried out . A student shall acquire 4 credits assigned to the Project stage-I, when she secures 40% or more marks for the total of 100 marks. The Project stage-I shall be evaluated at the end of VII

semester by the department committee. There shall be no external evaluation for Project stage-I.

- 7.10** For Project Stage – I, the departmental committee consisting of Head of the Department, project supervisor and a senior faculty member shall evaluate the project work for 70 marks and project supervisor shall evaluate for 30 marks. The student is deemed to have failed, if he (i) does not submit a report on Project Stage - I or does not make a presentation of the same before the evaluation committee as per schedule, or (ii) secures less than 40% marks in the sum total of the Continuous Internal Evaluation and Semester End Examination taken together.

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

- 7.11** There shall be a Technical Seminar presentation in IV year II semester. For the seminar, the student shall collect the information on a specialized topic, prepare a technical report, and submit it to the department. It shall be evaluated by the departmental committee consisting of Head of the Department, seminar supervisor and a senior faculty member. The seminar report shall be evaluated for 100 internal marks. There shall be no external evaluation for the Technical Seminar.

Note: The topics for industrial oriented mini project, seminar and Project Stage – I shall be different from one another.

**7.12 INNOVATION STARTUP & ENTREPRENEURSHIP**

Innovation Startup & Entrepreneurship work shall be carried out in IV Year II Semester. The Innovation Startup & Entrepreneurship will be evaluated for 150 marks. Student has to work for implementation of their innovative idea, prepare a technical report, and submit it to the department. It shall be evaluated by the departmental committee consisting of Head of the Department, seminar supervisor and a senior faculty member. The report shall be evaluated for 150 internal marks. There shall be no external evaluation for the Technical Seminar.

Each Student shall start the Innovation Startup & Entrepreneurship Work during the IV Year II Semester, as per the instructions of the mentor assigned by the Head of Department. The Student has to work for implementation of their innovative idea, prepare a technical report, and submit it to the department. The Innovation Startup &

Entrepreneurship will be evaluated for 150 marks. Out of total 150 marks allotted for the Innovation Startup & Entrepreneurship Work 50 marks shall be for CIE (Continuous Internal Evaluation and 100marks for the SEE (End Semester Viva-voce Examination). The report and the presentation shall be evaluated by the departmental committee consisting of Head of the Department, mentor and a senior faculty member. It shall be evaluated for 50 marks by mentor and the other 100marks shall be awarded by a Departmental Committee consisting of Head of the Department, Senior faculty member and mentor based on the work carried out .

A student shall acquire 2 credits assigned to the Innovation Startup & Entrepreneurship, when she secures 40% or more marks for the total of 150 marks. Semester End Examination for The Innovation Startup & Entrepreneurship shall be completed before the commencement of Semester End Theory examinations. There shall be no external evaluation for Innovation Startup & Entrepreneurship.

- 7.13** For Project Stage – II, the external marks evaluation committee constituting of external examiner, Head of the Department and supervisor shall evaluate the project work for 100 marks and the internal marks evaluation committee constituting of Head of the department, senior faculty of the department and project supervisor shall evaluate it for 50 marks. The student is deemed to have failed, if she (i) does not submit a report on Project Stage - II, 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, she has to reappear for the same in the next subsequent semester, as and when it is scheduled.

## **8.0 Course pattern**

- 8.1** The entire course of study is for four academic years. I, II, III and IV years shall be on semester pattern.
- 8.2** A student, eligible to appear for the end examination in a subject, but absent for it or has failed in the end semester examination, may write the exam in that subject during the period of supplementary exams.
- 8.3** When a student is detained for lack of credits/shortage of attendance, she will not be promoted to the next semester for that particular academic year. However, the academic regulations under which she was first admitted shall continue to be applicable to her.

## **9.0 Grading procedure**

- 9.1** Grades will be awarded to indicate the performance of students in each theory subject, laboratory / Practical's, seminar, Industry Oriented Mini Project, and project Stage – I & II. Based on the percentage of marks obtained (Continuous Internal Evaluation plus Semester End Examination, both taken together) as specified in item 7 above, a corresponding letter grade shall be given.
- 9.2** As a measure of the performance of a student, a 10-point absolute grading system using the following letter grades (as per UGC/AICTE guidelines) and corresponding percentage of marks shall be followed:

<b>Letter Grade (UGC Guidelines)</b>	<b>Points</b>	<b>% of Marks secured in a subject or course (Class Intervals)</b>
O (Outstanding)	10	Greater than or equal to 90%
A+(Excellent)	9	80 and less than 90%
A(Very Good)	8	70 and less than 80%
B+(Good)	7	60 and less than 70%
B(Average)	6	50 and less than 60%
C(Pass)	5	40 and less than 50%
F(Fail)	0	Below 40%
AB (Absent)	0	-

- 9.3** A student who has obtained an 'F' grade in any subject shall be deemed to have 'failed' and is required to reappear as a 'supplementary student' in the semester end examination, as and when offered. In such cases, internal marks in those subjects 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 he is deemed to have 'failed'. A student will be required to reappear as a 'supplementary student' in the semester end examination, 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 secured in that subject/ course. 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** A 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 ( 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

$$\text{SGPA} = \left\{ \sum_{i=1}^N C_i G_i \right\} / \left\{ \sum_{i=1}^N C_i \right\} \dots \text{For each semester,}$$

where 'i' is the subject indicator index (takes into account all subjects in a semester), 'N' is the no. of subjects 'registered' for the semester (as specifically required and listed under the course structure of the parent department),  $C_i$  is the no. of credits allotted to the  $i^{\text{th}}$  subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that  $i^{\text{th}}$  subject.

- 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 II semester onwards at the end of each semester as per the formula

$$\text{CGPA} = \left\{ \sum_{j=1}^M C_j G_j \right\} / \left\{ \sum_{j=1}^M C_j \right\} \dots \text{for all S semesters registered}$$

(i.e., up to and inclusive of S semesters,  $S \geq 2$ ),

where '**M**' is the **total** no. of subjects (as specifically required and listed under the course structure of the parent department) the student has '**registered**' i.e., from the 1<sup>st</sup> semester onwards up to and inclusive of the **8<sup>th</sup>** semester, 'j' is the subject indicator index (takes into account all subjects from 1 to 8<sup>th</sup> semesters),  $C_j$  is the no. of credits allotted to the  $j^{\text{th}}$  subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that  $j^{\text{th}}$  subject. After registration and completion of I year I semester, 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	4	A	8	4 x 8 = 32
Course 2	4	O	10	4 x 10 = 40
Course 3	4	C	5	4 x 5 = 20

Course 4	3	B	6	$3 \times 6 = 18$
Course 5	3	A+	9	$3 \times 9 = 27$
Course 6	3	C	5	$3 \times 5 = 15$
	21			152

$$\text{SGPA} = 152/21 = 7.24$$

**Illustration of calculation of CGPA up to 3<sup>rd</sup> semester:**

Semester	Course/Subject Title	Credits Allotted	Letter Grade Secured	Corresponding Grade Point (GP)	Credit Points (CP)
I	Course 1	3	A	8	24
I	Course 2	3	O	10	30
I	Course 3	3	B	6	18
I	Course 4	4	A	8	32
I	Course 5	3	A+	9	27
I	Course 6	4	C	5	20
II	Course 7	4	B	6	24
II	Course 8	4	A	8	32
II	Course 9	3	C	5	15
II	Course 10	3	O	10	30
II	Course 11	3	B+	7	21
II	Course 12	4	B	6	24
II	Course 13	4	A	8	32
II	Course 14	3	O	10	30
III	Course 15	2	A	8	16
III	Course 16	1	C	5	5
III	Course 17	4	O	10	40
III	Course 18	3	B+	7	21
III	Course 19	4	B	6	24
III	Course 20	4	A	8	32
III	Course 21	3	B+	7	21
	<b>Total Credits</b>	<b>69</b>		<b>Total Credit Points</b>	<b>518</b>

$$\text{CGPA} = 518/69 = 7.51$$

The above illustrated calculation process of CGPA will be followed for each subsequent semester until 8<sup>th</sup> semester. The CGPA obtained at the end of 8th semester will become the final CGPA secured for entire B.Tech. Programme.

**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 regulations 9.6 to 9.9, 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. After passing the failed subject(s) newly secured letter grades will be taken into account for calculation of SGPA and CGPA. However, Mandatory Courses will not be taken into consideration.

## **10.0 Passing standards**

**10.1** Student shall be declared successful or ‘passed’ in a semester, if student secures a GP  $\geq 5$  (‘C’ grade or above) in every subject/course in that semester (i.e. when student gets an SGPA  $\geq 5.00$  at the end of that particular semester); and a student shall be declared successful or ‘passed’ in the entire under graduate programme, only when gets a CGPA  $\geq 5.00$  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, no. of credits, and grade earned etc.), credits earned, SGPA, and CGPA.

## **11.0 Declaration of results**

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

**11.2** For final percentage of marks equivalent to the computed final CGPA, the following formula may be used

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

## **12.0 Award of degree**

In assessing the performance of the students in examinations, the usual approach is to award marks based on the examinations conducted at various stages (mid-term, end-semester etc.) in a semester. As per UGC Autonomous guidelines, the following system is implemented in awarding the grades and CGPA under the **Choice Based Credit System (CBCS)**.

**12.1** A student shall register and put up minimum attendance in all 160 credits and shall earn a total of 160 credits for the award of B.Tech degree. Further, marks obtained in the 160



credits shall be considered for the calculation of percentage of marks as well as overall CGPA  $\geq 5.0$ , within 8 academic years from the date of commencement of the first academic year, 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.

- 12.2** A student who qualifies for the award of the degree as listed in 12.1 shall be placed in the following classes.
- 12.3** Students with final CGPA (at the end of the under graduate programme)  $\geq 7.50$ , and shall be placed in **'first class with distinction'**.
- 12.4** Students with final CGPA (at the end of the under graduate programme)  $\geq 6.50$  but  $< 7.50$ , shall be placed in **'first class'**.
- 12.5** Students with final CGPA (at the end of the under graduate programme)  $\geq 5.50$  but  $< 6.50$ , shall be placed in **'Second class'**.
- 12.6** All the other students who qualify for the award of the degree (as per item 12.1), with final CGPA (at the end of the under graduate programme)  $\geq 5.00$  but  $< 5.50$ , shall be placed in **'pass class'** provided they secure a total of 160 credits.
- 12.7** A student with final CGPA (at the end of the under graduate programme)  $< 5.00$  will not be eligible for the award of the degree.
- 12.8** Students fulfilling the conditions listed under item 12.3 alone will be eligible for award of **'university rank'** and **'gold medal'**.

### **13.0 Withholding of results**

- 13.1** If the student has not paid the fees to the university/ college 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 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

### **14.0 Transitory regulations.**

- 14.1** A student who has discontinued for any reason, or has been detained for want of attendance or lack of required credits as specified, or who has failed after having undergone the degree programme, may be considered eligible for readmission to the same subjects/ courses (or equivalent subjects/ courses, as the case may be), and same Professional Electives/ Open Electives (or from set/category of electives or equivalents suggested, as the case may be) as and when they are offered (within the time-frame of 8 years from the date of commencement of student's first year first semester).
- 14.2** After the revision of the regulations, the students of the previous batches will be given two chances for passing in their failed subjects, one supplementary and the other regular.

If the students cannot clear the subjects in the given two chances, they shall be given equivalent subjects as per the revised regulations which they have to pass in order to obtain the required number of credits.

- 14.3** In case of transferred students from other Universities, the credits shall be transferred to JNTUH as per the academic regulations and course structure of the MRECW.

## **15.0 Minimum Instruction Days**

- 15.1** The minimum instruction days for each semester shall be 90 days.

## **16.0 General**

- 16.1** The academic regulation should be read as a whole for the purpose of any interpretation.
- 16.2** In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.
- 16.3** The regulations hereunder are subject to amendments as may be made by the Academic Council of the College from time to time. Any or all such amendments will be effective from such date and to such batches of candidates (including those already pursuing the program) as may be decided by the Academic Council.
- 16.4** The students seeking transfer to colleges affiliated to JNTUH from various other Universities/Institutions, have to pass the failed subjects which are equivalent to the subjects of prescribed curriculum of the institute, and also pass the subjects of prescribed curriculum of the institute which the candidates have not studied at the earlier Institution on their own without the right to sessional marks. Further, though the students have passed some of the subjects at the earlier institutions, if the same subjects are prescribed in different semesters of prescribed curriculum of the institute, the candidates have to study those subjects in prescribed curriculum of the institute in spite of the fact that those subjects are repeated.

## **17.0 Scope**

- 17.1** The academic regulations should be read as a whole, for the purpose of any interpretation.
- 17.2** In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.
- 17.3** The college may change 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 date notified by the College Authorities.

### **Academic Regulations for B.Tech. (Lateral Entry Scheme) w.e.f the AY 2018-19**

**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 123 credits and secure total 123 credits with CGPA  $\geq 5$  from II year to IV year B.Tech. programme (LES) for the award of B.Tech. degree.
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.
4. The attendance requirements of B. Tech. (Regular) shall be applicable to B.Tech. (LES).
5. **Promotion rule**
  - 5.1 A student is deemed to have satisfied the minimum academic requirements if he has earned the credits allotted to each theory/practical design/drawing subject/project and secures not less than 35% of marks in the mid examination (rounded to 10 marks out of 30 marks) and also not less than 35% in end semester examination and minimum 40% of marks in the sum total of the mid-term and end semester exams put together.
  - 5.2 A student will be eligible to be promoted from II year to III year, upon fulfilling the academic requirements of 60 % credits up to II year II semester examinations and secures prescribed minimum attendance in II year.
  - 5.4 A student will be eligible to be promoted from III year to IV year, upon fulfilling the academic requirements of 60 % credits up to III year II semester examinations and secures prescribed minimum attendance in III year.
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**

S.No	Nature of Malpractices/Improper conduct	Punishment
	<i>If the candidate:</i>	
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 he is appearing but has not	Expulsion from the examination hall and cancellation of the performance in that subject only.

	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)	
(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, 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 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 University.
3.	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from 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 practicals 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 class work and all University 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 University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5.	Using 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 Chief Superintendent/Assistant Superintendent / 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 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	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

	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.	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 University 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 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 of the colleges 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 University for further action to award suitable punishment.	

### Malpractices identified by squad or special invigilators

1. Punishments to the candidates as per the above guidelines.
2. Punishment for institutions: (if the squad reports that the college is also involved in encouraging malpractices)
  - i. A show cause notice shall be issued to the college.
  - ii. Impose a suitable fine on the college.
  - iii. Shifting the examination centre from the college to another college for a specific period of not less than one year.

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