



**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)
Mylavaram-521 230, Krishna Dist., Andhra Pradesh**

**ACADEMIC REGULATIONS R-20 FOR M.Tech (REGULAR)
(CHOICE BASED CREDIT SYSTEM)**

Applicable for the students of M.Tech (Regular) from the Academic Year 2020 – 21

1. ELIGIBILITY CRITERIA FOR ADMISSION

The eligibility criteria for admission into the first year of M.Tech programs is in accordance with the guidelines issued by AICTE, New Delhi, A.P State Council of Higher Education or any other competent authority from time to time.

2. PROGRAMMES OFFERED (POST GRADUATE)

The following M.Tech programmes approved by AICTE, New Delhi are offered in the college.

S.No	Department	Specialization
1	Computer Science and Engineering	Computer Science and Engineering
2	Electronics & Communication Engineering	VLSI and Embedded Systems
3	Electrical & Electronics Engineering	Power Electronics and Drives
4	Mechanical Engineering	Thermal Engineering

3. AWARD OF DEGREE

A student will be declared eligible for the award of M. Tech. degree if he/she fulfils the following academic requirements:

- A student shall be declared eligible for the award of the M. Tech degree, if he/she pursues a course of study in not less than two and not more than four academic years.
- The student shall register for 68 credits and secure all the 68 credits.
- The students, who fail to fulfill all the academic requirements for the award of degree within four academic years from the year of their admission, shall forfeit their seat in M.Tech programme.
- No disciplinary action pending against the student.

4. MEDIUM OF INSTRUCTION

The medium of instruction is English in all academic activities.

5. MINIMUM INSTRUCTION DAYS

The minimum instruction days for each semester shall be 90 days.

6. CREDIT ASSIGNMENT

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

Contact hours per week			Credits
L	T	P	
1	0	0	1
0	1	0	1
0	0	2	1

L: Lecture hours

T: Tutorial hours

P: Practical hours

7. SEMESTER –WISE DISTRIBUTION OF CREDITS

The entire course of study is for two academic years, all the years are on semester pattern. The distribution of credits in each semester is as follows.

Semester	Credits
I	18
II	18
III	16
IV	16
Total	68

8. ASSESSMENT AND EVALUATION

The performance of a student in each course shall be evaluated based on Continuous Internal Evaluation (CIE) and Semester End Examination (SEE) or only Continuous Internal Evaluation.

S.No	Category of course	Marks	
		CIE	SEE
1	Theory courses	40	60
2	Laboratory courses	40	60
3	Audit course	100	--
4	Mini project	100	--
5	Internship	100	--
6	Project work & Dissertation (Phase-I)	40	60
7	Project work & Dissertation (Phase-II)	40	60

PASS REQUIREMENT:

- A student shall be deemed to have satisfied the minimum academic requirements if he/she has earned the credits allotted to each course and secures not less than a minimum 40% of marks exclusively at the Semester End Examination. However, the student should have **secured minimum 50% of marks in both CIE and SEE** put together to be eligible for passing the course.
- The student shall secure minimum 50% of marks for the courses with only CIE to be eligible for passing the course.

8.1 THEORY COURSES

Each theory course is evaluated for maximum **100** marks with distribution of **40** marks for Continuous Internal Evaluation (CIE) and **60** marks for Semester End Examination (SEE).

8.1.1 Continuous Internal Evaluation (CIE):**Mid-term Examinations (40 marks):**

In each theory course there shall be 5 units. There shall be two mid-term examinations of 2 hours duration. The first mid-term examinations shall be conducted after completion of half of the syllabus and second mid-term examination for rest of syllabus. The question paper for any mid-term examination consists of 3 descriptive questions with 'either' / 'or' option and the student is required to answer all three questions. In final assessment, 75% weightage for the better of the two mid-term examinations and 25% for the other shall be considered for awarding marks.

- 8.1.2** The Semester End Examination (SEE) for theory courses requires evaluation for 60 marks. The question paper in each course for the semester end examination consists of 5 questions, one from each unit with 'either' / 'or' option, carrying 12 marks each. The students are required to answer all 5 questions for maximum 60 marks. The duration of SEE is 180 minutes.

8.2 LABORATORY COURSES

Each Laboratory course is evaluated for maximum 100 marks with distribution of 40 marks for Continuous Internal Evaluation (CIE) and 60 marks for Semester End Examination (SEE).

i) Continuous Internal Evaluation (CIE)

The Continuous Internal Evaluation (CIE) is based on the following parameters:

Parameter	Marks
Day to day work	20
Internal test	10
Viva voce	10
Total	40

ii) Semester End Examination (SEE)

The Semester End examination (SEE) for laboratory courses shall be jointly conducted by internal and external examiners for three hours duration and evaluated for 60 marks. The performance of the students shall be evaluated as per the parameters indicated below:

Parameter	Marks
Procedure / Algorithm	10
Experimentation / Program execution	15
Observations / Calculations / Testing	15
Result/Inference	10
Viva voce	10
Total	60

8.3 AUDIT COURSES

There shall be audit courses in semester I & II. There shall be one end semester examination in which a **student shall secure a minimum 50% marks** to secure a satisfactory grade (Y) otherwise unsatisfactory grade (N) will be indicated. However, a student who secures 'N' grade /abstains shall reappear in the subsequent semester(s).

8.4 MINI PROJECT

A student is required to undergo a mini project of his/her choice by applying theoretical concepts to develop a practical component /element/system that includes design/ testing/ analysis. The performance of a student in mini project is evaluated for 100 marks by a three-member committee constituted by the HoD. The performance of a student in CIE shall be evaluated as per the parameters indicated below:

Parameter	Marks
Survey	10
Quality of work	30
Mini project report	20
Presentation	20
Interaction	20
Total	100

A student who fails to secure minimum 50% marks or abstains will be permitted to reappear for the same when offered next.

8.5 INTERNSHIP

Internship must involve practical work related to systems engineering, industry practices etc. A student shall undergo internship for a period of 6 weeks continuously, scheduled immediately after completing II semester. The internship can be carried out at premier institutions/ research laboratories/industries and shall submit a report. A three-member committee constituted by the HoD shall finalize the CIE marks based on the following parameters:

Parameter	Marks
Internship report	30
Quality of work	20
Presentation	30
Interaction	20
Total	100

A student who fails to secure minimum 50% marks or abstains will be permitted to reappear for the same when offered next.

8.6 PROJECT WORK & DISSERTATION

A student is required to undertake a project work by using the knowledge acquired by him/her during the course of study. The student is expected to design and build a complete system or subsystem on an area of interest.

- Project work & Dissertation shall be carried out in two phases during the III semester (Project work & Dissertation –Phase I) and IV semester (Project work & Dissertation – Phase II) respectively.
- A Project Review Committee (PRC) shall be constituted with the HoD as the chairman and two senior faculty as members to supervise the proceedings of the Project work & & Dissertation.
- A student has to submit, in consultation with project supervisor, the title, abstract and plan of action of project work to the PRC for approval.
- There shall be two reviews for Project work & Dissertation (Phase-I and Phase-II) and the average of the two reviews shall be considered for CIE.
- The student shall pass all the courses upto III semester to attend viva voce or defense of Project work & Dissertation (Phase-II). In case of unsuccessful defense of Project work & Dissertation (Phase-II), the student shall reappear for viva voce subsequently as and when notified.
- The student who completes the project work and dissertation within the stipulated time or within six months after stipulated time will be considered as regular pass. The student who completes the project work and dissertation after six months from the stipulated time will be considered as supplementary pass.

(a) PROJECT WORK & DISSERTATION (PHASE-I)

The Project work & Dissertation (Phase-I) is evaluated for maximum 100 marks with distribution of 40 marks for Continuous Internal Evaluation (CIE) and 60 marks for Semester End Examination (SEE).

i) Continuous Internal Evaluation

The performance of a student shall be evaluated is based on the following parameters:

Parameter	Marks
Literature Survey	10
Problem Statement	10
Presentation	10
Interaction	10
Total	40

ii) Semester End Examination

The student shall make a presentation on the project work before a three-member committee consisting of external examiner, internal examiner (HoD) and a project supervisor. The performance of a student shall be evaluated is based on the following parameters:

Parameter	Marks
Interim report	20
Presentation	20
Innovation	10
Interaction	10
Total	60

The student shall submit an interim report on the Project work & Dissertation (Phase-I) carried out in III semester. A student who fails to secure minimum 50% marks or abstains will be permitted to reappear for the same within 6 weeks.

(b) PROJECT WORK & DISSERTATION (PHASE-II):**i) Continuous Internal Evaluation**

The performance of a student shall be evaluated is based on the following parameters:

Parameter	Marks
Significance of the work & contribution	10
Novelty and approach	05
Scientific findings/Publications	10
Presentation	10
Interaction	05
Total	40

ii) Semester End Examination

The student shall make a presentation on the project work before a three-member committee consisting of external examiner, internal examiner (HoD) and a project supervisor. The performance of a student shall be evaluated is based on the following parameters:

Parameter	Marks
Report	20
Innovation	10
Findings and conclusions	10
Presentation	10
Interaction	10
Total	60

A student who fails to secure minimum 50% marks or abstains will be permitted to reappear for the same when offered next.

9. ATTENDANCE REQUIREMENTS

- (i) A student is eligible to appear in the semester end examinations only if he/she acquires a minimum of 75% of attendance in aggregate of all the courses.
- (ii) In case of shortage of attendance, condonation up to 10 % in the aggregate will be allowed on valid medical grounds (65% and above and below 75%) in each semester by the college in accordance with the rules stipulated by the affiliating university.
- (iii) A shortage of attendance below 65% in aggregate shall not be condoned under any circumstances.
- (iv) A student whose shortage of attendance is not condoned will be detained and shall have to seek readmission into the same semester.
- (v) A student is required to submit the application along with the valid medical certificate by paying the stipulated fee towards condonation of shortage in attendance.
- (vi) If any student fulfils the attendance requirements in the present semester, he/she shall not be eligible for readmission into the same semester.

10. MINIMUM ACADEMIC REQUIREMENTS

The following academic requirements must be satisfied, in addition to the attendance requirements.

- (i) A student shall be deemed to have satisfied the minimum academic requirements if he/she has earned the credits allotted to each course and secures not less than a minimum 40% of marks exclusively at the Semester End Examination. However, the student should have secured minimum 50% of marks in both CIE and SEE put together to be eligible for passing the course.
- (ii) The student should have secured minimum 50% of marks for the courses with only CIE to be eligible for passing the course.
- (iii) A student shall be promoted to next semester, if he/she satisfies the minimum attendance requirements.
- (iv) Students who fail to earn 68 credits as indicated in the course structure within 4 academic years from the year of admission, shall forfeit their seat in M.Tech programme and admission stands cancelled.

11. CRITERIA FOR RECOUNTING/REVALUATION/REVALUATION BY CHALLENGE

A student, who failed or passed a theory course in SEE, is permitted for applying recounting/revaluation/revaluation by challenge.

- (i) **Recounting:** A student, who wishes to verify the total marks obtained by him/her in any theory course in SEE, can apply for recounting in response to the notification. The outcome of the recounting gets reflected in the results sheet and grade card.
- (ii) **Revaluation:** A student who wishes to apply for revaluation of a theory course in SEE can submit an application, along with the prescribed fee as per the notification issued.
 - (a) If the variation in marks of the first valuation and revaluation is $\leq 15\%$ of the total marks, then the better of the two evaluations shall be considered as the final marks.
 - (b) If the variation in marks of the first valuation and revaluation is $>15\%$ of the total marks, then there shall be a third evaluation by another examiner. The average marks of two nearer evaluations shall be taken into consideration. In case of any fractional value of marks, it can be rounded off to the next integer value.
 - (c) If a student secures a higher grade in the revaluation, that grade will be declared as the final grade, otherwise, the original grade will remain valid.

12. RE-REGISTRATION

- Re-registration is applicable only after the completion of course of study.
- A student shall be given only one chance to re-register for a maximum of two theory courses, if the CIE marks secured is less than 50% and failed in that course for maximum of two times.
- The students shall register within 2 weeks from the commencement of the class work and shall secure the required minimum attendance.
- If a student opts for re-registration, his/her continuous internal evaluation marks and semester end examination marks obtained in the previous attempt stands cancelled.
- If a student opts for re-registration, the academic regulations under which he/she was first admitted continuous to be applicable.

13. AWARD OF LETTER GRADES

A letter grade and grade points shall be awarded to a student in each course based on his/her performance as per the 10-point grading system given below.

Percentage of Marks	Letter Grade	Grade Points	Level
≥ 90	O	10	Outstanding
80 to <90	A	9	Excellent
70 to <80	B	8	Very Good
60 to <70	C	7	Good
50 to <60	D	6	Satisfactory
<50	F	0	Fail
	-Ab-	0	Absent
Audit courses (Non-credit courses)			
≥ 50	Y	--	Satisfactory
<50	N	--	Unsatisfactory
	-Ab-	--	Absent

- A student who secures ‘F’ grade in any course shall be considered ‘Failed’ and is be required to reappear as ‘Supplementary student’ in SEE, as and when offered. In such cases, his/her CIE marks in those subjects will remain same as obtained earlier.
- A student, who is absent for any examination shall be treated as ‘Failed’.

14. COMPUTATION OF SGPA & CGPA

- **Semester Grade Point Average (SGPA)**

The performance of each student at the end of each semester is indicated in terms of SGPA. The SGPA is the ratio of sum of the product of the number of credits and the grade points scored by a student in all the courses to the sum of the number of credits of all the courses.

$$SGPA (S_i) = \Sigma (C_i \times G_i) / \Sigma C_i$$

Where C_i is the number of credits of the i^{th} course and G_i is the grade point scored by the student in the i^{th} course.

- **Cumulative Grade Point Average (CGPA)**

The CGPA is a measure of the overall cumulative performance of a student. The CGPA is calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme.

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

Where S_i is the SGPA of the i^{th} semester and C_i is the total number of credits in that semester.

- The SGPA and CGPA is rounded off to 2 decimal points and reported in grade cards.

15. AWARD OF CLASS

After a student has satisfied the minimum requirements prescribed for completion of the programme and is eligible for the award of M.Tech degree, he/she shall be placed in one of the following three classes on a 10 point scale.

Class Awarded	CGPA	From the CGPA secured from 68 credits
First Class with Distinction	≥ 7.75 (Without any supplementary appearance)	
First Class	≥ 7.75 (With any supplementary appearance) (OR) 6.75 to < 7.75 (Without any supplementary appearance)	
Second Class	6.75 to < 7.75 (With any supplementary appearance) (OR) 6.0 to < 6.75 (Without any supplementary appearance)	
Pass Class	6.0 to < 6.75 (With any supplementary appearance)	

- The equivalent percentage will be computed using below formula.

$$\text{Equivalent percentage} = (CGPA - 0.75) \times 10$$

16. DISCIPLINE

- A student is required to observe discipline and decorum both inside and outside the college and not to indulge in any activity that may tarnish the prestige of the college. The head of the institution shall constitute a disciplinary committee to enquire into acts of indiscipline and notify the college about the disciplinary action taken. In case of any serious disciplinary action, which leads to suspension or dismissal, a committee shall be constituted by head of the institution for taking final decision.

- Those students who indulge in examination related malpractices shall be punished as per the scale of punishment notified by JNTUK, Kakinada (Annexure-I).
- Those students involved in the illegal acts of ragging shall be punished as per the provisions of Act 26, 1997 of Govt. of Andhra Pradesh. (Annexure-II).

17. REVISION OF REGULATIONS, CURRICULUM AND SYLLABI

The college may revise, amend or change the regulations, curriculum, syllabus and scheme of examinations from time to time subject to decisions/recommendations of Boards of Studies and the College Academic Council.

18. WITHHOLDING OF RESULTS

If a student has not cleared dues, if any, payable to the institution or any case of indiscipline is pending against him, the result of the student will be withheld. Also, the award of his/her degree is withheld in such cases.

19. TRANSITORY REGULATIONS

- Discontinued or detained candidates are eligible for re-admission as and when next offered.
- The re-admitted candidate will be governed by the rules & regulations under which the candidate has been admitted.
- Students admitted by transfer from other institutions shall follow transitory regulations with suitable fitment formulae approved by the competent authority.
- A student who is seeking readmission shall apply in the prescribed format within one week after the commencement of the class work. However, the readmission of a student shall be approved by the competent authority.

20. GENERAL

- (i) Wherever the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- (ii) The academic regulations should be read as a whole for the purpose of any interpretation.
- (iii) In case of any doubt or ambiguity in the interpretation of the above rules, decision of the Chairman of the CAC is final and binding.
- (iv) The college may change or amend academic regulations or syllabi at any time subject to approval of the concern authority and the changes or amendments made shall be applicable to all students with effect from the dates notified.

21. STATUTORY DECLARATION

In case the regulations do not specify application of an appropriate rule in a unique case, the decision of the competent authority of the college shall be final.

ANNEXURE-I

MALPRACTICE RULES

DISCIPLINARY ACTION FOR MALPRACTICE/ IMPROPER CONDUCT IN EXAMINATIONS

	Nature of Malpractices/Improper Conduct	Punishment
1(a)	If a student possesses or tries to access 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 made use of(material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(b)	If as student gives assistance or guidance or receives any such help from any other candidate orally or through gestures, communicates through cell phones with any candidate or persons in or outside the exam hall.	Expulsion of all the candidates involved from the examination hall and cancellation of the performance in that subject. In case of an outsider, he will be handed over to the police and a case will be registered against him.
2.	If a student is found to have 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 he/she is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject as well as all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear in the remaining examinations of that Semester. The Hall Ticket of the candidate will be cancelled.
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 from the college and forfeits his 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 in examinations of the remaining subjects of that semester. The candidate is also debarred for two consecutive semesters from class work and all semester end 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.	If a student smuggles inside the exam hall an Answer book or additional sheet or takes out or arranges to send out the question paper, 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. The candidate is also debarred from class work for two consecutive semesters and all semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5.	If a student uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting/threatening him/her to award pass marks.	Cancellation of the performance in that subject.
6.	If a student refuses to obey the orders of the Chief Superintendent / CoE / 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, causes injury to his person or to any other persons whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall 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.	Such a student(s) shall be expelled from the examination hall along with 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. The candidate(s) will be debarred from the college and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7.	If a student leaves the exam hall taking away answer script or intentionally tears/mutilates/deforms 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. The candidate is also debarred from class work and semester end examinations for two consecutive semesters. The continuation of the course by the candidate is subject to the academic regulations.

8.	If a student is in possession of 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. 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. 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.	If a student comes to the examination hall in a drunken condition	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 that semester.
11.	If copying is 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 examinations.
12.	Any other malpractice not covered in the above clauses i.e. from 1 to 11 shall be reported to the head of the institution or further action/ suitable punishment.	






ANNEXURE-II

Ragging

Prohibition of ragging in educational institutions Act 26 of 1997

Salient Features

- Ragging within or outside any educational institution is prohibited.
- Ragging means doing an act which causes or is likely to cause Insult or Annoyance of Fear or Apprehension or Threat or Intimidation or outrage of modesty or Injury to a student

	Imprisonment upto		Fine Upto
Teasing, Embarrassing and Humiliation	 6 Months	+	Rs. 1,000/-
Assaulting or Using Criminal force or Criminal intimidation	 1 Year	+	Rs. 2,000/-
Wrongfully restraining or confining or causing hurt	 2 Years	+	Rs. 5,000/-
Causing grievous hurt, kidnapping or Abduction or rape or committing unnatural offence	 5 Years	+	Rs. 10,000/-
Causing death or abetting suicide	 10 Years	+	Rs. 50,000/-

ABSOLUTE NO TO RAGGING

1. Ragging is prohibited as per Act 26 of A.P. Legislative Assembly, 1997.
2. Ragging entails heavy fines and/or imprisonment.
3. Ragging invokes suspension and dismissal from the College.
4. Outsiders are prohibited from entering the College and Hostel without permission.
5. All the students must carry their Identity Cards and show them when demanded
6. The Principal and the Wardens may visit Hostels and inspect the rooms any time.

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