

ACADEMIC REGULATIONS (R22)

for

M.Tech (P.G)

(w.e.f the academic year 2022-23)



LENDI INSTITUTE OF ENGINEERING & TECHNOLOGY

An Autonomous Institution

Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada

Accredited by NAAC with 'A Grade'

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Academic Regulations (R22) for M.Tech (P.G) Courses

The following academic regulations will be applicable for the students of M. Tech (Regular) from the Academic Year 2022-23 onwards under Autonomous system.

M. Tech Degree shall be conferred on candidates who are admitted to the program and who fulfill all the requirements for the award of the Degree.

1. Courses of Study: The following courses of study are offered at present two years M.Tech Program

S. No.	Branch	Course
01	Electrical and Electronics Engineering	Power System and Control Automation(PSCA)
02	Mechanical Engineering	Machine Design(MD)
03	Electronics and Communication Engineering	Embedded Systems & VLSI Design(ES&VD)
04	Computer Science and Engineering	Computer Science and Engineering(CSE)

2. Eligibility for Admissions:

The total seats available as per the AICTE approved intake are grouped into two categories (i.e) Category A and Category B in the ratio of 70:30 as per Andhra Pradesh State Council for Higher Education (APSCHE) in consonance with government reservation policy.

- Under Category A: 70% of the seats are filled through PG CET/GATE ranks through counseling conducted by APSCHE.
- Under Category B: 30% seats are filled on merit basis as per guidelines of APSCHE.

3. Duration of the Programme: The course duration for the award of the Degree in Master of Technology will be 2 academic years, with two semesters in each year. However, if a student is unable to complete the course within 2 years, he/she can do so by giving more attempts but within 4 consecutive academic years from the date of admission.

4. Definition of Credit:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
1 Hr. Practical (P) per week	0.5credits

5. Award of M. Tech Degree: A student will be declared eligible for the award of M.Tech. Degree if he/she fulfills the following academic regulations:

- a. A student pursues a course of study in not less than two and not more than four academic years.
- b. The student shall register for all 68 credits and secure all the 68 credits.

6. Program Structure, Method of Evaluation & Distribution and Weightage of Marks

The Outcome Based Curriculum Structure consists of courses of study viz. Theory, Practical, MOOCS, Seminar, Project stage-1, and Project stage 2 and Mandatory courses.

- a. **Theory Subject:** The performance of a student in each semester shall be evaluated

subject – wise with a maximum of 100 marks for theory subject. The distribution Shall be 30 marks for Internal Evaluation and 70 marks for the Semester End - Examinations.

(i) Internal Evaluation:

- i. The internal evaluation shall be made based on the Two Mid-Term Examinations and Assignments. The weightage of 30 marks for theory Courses is comprised of two mid examinations-each of 10 marks and 10 marks for assignments.
- ii. Each midterm examination shall be conducted for a total duration of 120 minutes with 3 questions (with internal choice) each question for 10 marks.
- iii. As the syllabus is framed for 5 units, the 1st mid examination is conducted in 1-2 ½ units and second test in 2 ½ -5 units of each subject in a semester.

(ii) Semester End - Evaluation:

- i. The end semester examination is conducted covering the topics of all Units for 70 marks.
 - ii. The question paper contains 5 Questions with internal choice, a student shall answer all the Questions with each question carrying 14 marks.
- b. **Practical Subject:** The performance of a student in practical subject shall be evaluated for a maximum of 75 marks. Such that 25 Marks allocated for continuous evaluation during the semester and 50 Marks for end semester practical examination.
- (i) Internal Evaluation:** The internal 25 marks shall be awarded as follows: day to day work - 10 marks, Record-5 marks and the remaining 10 marks to be awarded by conducting an internal laboratory test.
- (ii) External Evaluation:** The end semester practical examination shall be conducted by the internal examiner and an external examiner nominated by the Controller of Examinations (CoE). The end examination shall be conducted by both the examiners. The breakup marks include 10 Marks for Write-up, 20 Marks for Experimentation, 10 Marks for Results and 10 Marks for Viva-voce.
- c. **MOOCs:** Meeting with the global requirements, to inculcate the habit of self-learning and in compliance with UGC guidelines, MOOC (Massive Open Online Course) have been introduced.
- (i)** All departments shall declare list of MOOCs at the beginning of semester, with minimum duration of 8 to 12 weeks in a given semester.
 - (ii)** Course content for the selected MOOCs shall be drawn from respective MOOCs links or shall be supplied by the department. Course will be mentored by faculty members and assessment & evaluation of the courses shall be done by the department.
 - (iii)** A student shall complete at-least two MOOCs (NPTEL/SWAYAM) with minimum 8/12 weeks duration and submit completion certificate to that extent.
 - (iv)** The results obtained in MOOCs shall be accounted for the calculation of CGPA and Three Credits will be awarded upon successful completion of each MOOCs program. And the results will be indicated.
- d. **Seminar:** There shall be a seminar presentation during III semester. The student shall make an oral presentation before the Project Review Committee consisting of Head of the Department and

two other senior faculty members of the department. For each Seminar there will be only internal evaluation of 50 marks. A candidate has to secure a minimum of 50% of marks to be declared successful.

e. Mandatory Courses/Audit Courses: Mandatory courses/Audit Courses are among the compulsory courses and do not carry any credits.

- i. All the students shall complete the mandatory courses similar to other regular courses.
- ii. The weightage of 50 Marks for Mandatory Courses consists of Two Descriptive examinations each of 20 Marks and 10 Marks for Assignment.
- iii. Each Descriptive examination is of 90 minutes duration - conducted for 30 marks (Scaled down to 20 Marks each) such that the question paper consists of 3 questions and the student shall answer all the three questions.
- iv. The results shall be indicated as “Satisfactory” or “Unsatisfactory” and it will not be accounted for calculation of CGPA.
- v. A student shall be declared to have passed the Mandatory Courses/ Audit Courses only when he/she secures 40% or more in the final marks. In case of failure, the student shall appear for a re-examination of descriptive type that is conducted every six months/Next semester.
- vi. The Mandatory courses/Audit Courses includes only internal evaluation and does not contain any external evaluation.

Marks Percentage	Letter Grade	Level	Grade Point
≥ 40%	SA	Satisfactory	0
<40%	US	Un-Satisfactory	0

f. Evaluation of Project/Dissertation Work: Every candidate shall be required to submit a thesis or dissertation on a topic approved by the Project Review Committee.

- i. **Project Review Committee:** A Project Review Committee (PRC) shall be constituted with Head of the Department, project coordinator and two other senior faculty members.
- ii. **Registration of Project Work:** A candidate is permitted to register for the project work after satisfying the attendance requirement of all the subjects in the first year, both theory and practical.
- iii. **Project Work Approval:** After satisfying (ii) a candidate shall submit the title, objective and plan of action relevant to the project work - in consultation with his project supervisor for approval. The student can initiate the Project work, only after obtaining the approval from Project Review Committee (PRC).
- iv. **Change of Supervisor / Topic:** If a student aspires to change his supervisor or topic of the project, he can do so with the approval of the Project Review Committee (PRC). However, the Project Review Committee (PRC) shall examine whether or not the change of topic/supervisor leads to a major change of his initial plans of project proposal. If yes, his date of registration for the project work starts from the date of change of Supervisor or topic as the case may be.
- v. **Project Assessment:** Continuous assessment of Dissertation-I and Dissertation-II during the Semester(s) will be monitored by the PRC.
- vi. **Stages of Project:** A candidate shall submit his status report in two stages to the

- PRC, at least with a gap of 3 months between them.
- vii. **Requirements of Project Submission:** The work on the project shall be initiated at the beginning of the II year and the duration of the project is two semesters. A candidate is permitted to submit Project Thesis only after successful completion of theory and practical course with the approval of PRC not earlier than 40 weeks from the date of registration of the project work. The candidate has to pass all the theory and practical subjects before submission of the Thesis.
 - viii. **Project Stage-1:** The curriculum offers Project Stage-1 for the students during 3rd semester and the Dissertation-I will be evaluated by a committee as nominated by HOD constituted with members.
 - a. The Internal Evaluation shall be on the basis of seminar given by each student on the topic of his project and evaluated by an internal committee.
 - b. The results will be indicated with grades: O. Outstanding, A. Excellent B. Very Good C. Good D. Satisfactory F. Unsatisfactory.
 - c. In case of failure (F Grade), a student shall re-submit the project dissertation after three months and obtains any grade other than F.
 - ix. **Project Stage-2:** The curriculum offers Project Stage-2 for the students during 4th semester and the Dissertation-II will be evaluated by PRC.
 - a. A candidate shall submit his status report in two stages to the PRC, at least with a gap of 3 months between them.
 - b. The work on the project shall be initiated at the beginning of II year and the duration of the project is two semesters. A candidate is permitted to submit Project Thesis only after successful completion of theory and practical course with the approval of PRC not earlier than 40 weeks from the date of registration of the project work. The candidate has to pass all the theory and practical subjects before submission of the Thesis.
 - c. Three copies of the Project Thesis certified by the supervisor shall be submitted to the Institute.
 - d. The thesis shall be adjudicated by one examiner selected by the CoE. Prior to this - HOD shall submit a panel of 3 external examiners eminent in that field.
 - e. Viva-Voce examination shall be conducted by a board comprised of Supervisor, Head of the Department, project co-coordinator and external examiner. Members of the panel shall jointly evaluate the thesis work for a maximum of 100 marks based on the following criteria: O. Outstanding, A. Excellent B. Very Good C. Good D. Satisfactory F. Unsatisfactory.
 - f. If the report of Viva-Voce examination is unsatisfactory, the candidate shall retake the Viva-Voce examination in a time frame decided by the PRC. If he fails to get a satisfactory report at the second Viva-Voce examination, the candidate has to re-register for the project and complete the project within the stipulated time within the stipulated time with prior approval from the CoE.
 - g. It is mandatory for all M.Tech students to publish a research paper in either UGC approved Journal/Peer Reviewed index Journal or present a research paper in national/international Conferences.

S.No.	Course	Credits	Marks for Assessment	
			Internal	Semester End
1	Theory Course	3	30	70
2	Laboratory	2	25	50
3	Seminar	2	50	-
4	MOOCS	3	-	-
5	Project work stage-1	10	Grade	-
6	Project work stage-2	16	Grade	Grade
7	Mandatory Courses	0	50	-

7. Attendance:

- A student shall be eligible to write semester end examinations if he acquires a minimum of 75% of attendance in aggregate of all the subjects.
- Condonation for shortage of attendance in aggregate up to 10% (i.e., 65% and above and below 75%) in each semester shall be granted by the College Academic Committee. Further, he/she shall maintain a minimum of 50% of attendance in every subject.
- Shortage of Attendance below 65% in aggregate shall not be condoned.
- Students whose shortage of attendance is not condoned in any semester are not eligible to write the end semester examinations of that particular semester.
- A prescribed fee shall be payable towards Condonation for shortage of attendance.
- A student shall not be promoted to the next semester unless he satisfies the prescribed minimum attendance requirements of current semester, as applicable, in such a case the student shall seek readmission in the next academic year in the same semester.

8. Minimum Academic Requirements: The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no 7.

- A candidate shall be deemed to have secured the minimum academic requirement in a subject if he secures a minimum of 40% of marks in the End semester Examination and a minimum aggregate of 50% of the total marks in the End Semester Examination and Internal Evaluation taken together.
- In case of a student not fulfilling the above point (i.e. a) he/she may appear for supplementary examinations to fulfill the above point within the stipulated period of Four Years.

9. Cumulative Grade Point Average (CGPA)

Marks Range Theory (Max – 100)	Marks Range Lab (Max – 75)	Letter Grade	Level	Grade Point
≥ 90	≥ 67	O	Outstanding	10
≥80 to <90	≥60 to <67	A	Excellent	9
≥70 to <80	≥52 to <60	B	Very Good	8
≥60 to <70	≥45 to <52	C	Good	7
≥50 to <60	≥37 to <45	D	Satisfactory	6
<50	<37	F	Fail	0
			Absent	0

Computation of SGPA

The following procedure shall be adopted to compute the Semester Grade Point Average. (SGPA) and Cumulative Grade Point Average (CGPA):

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

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

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.

Computation of CGPA

- The **CGPA** is also calculated in the same manner taking into account all the courses Undergone by a student over all the semester of a programme, i.e.

$$\text{CGPA} = \frac{\sum (C_i \times S_i)}{\sum C_i}$$

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

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- Equivalent Percentage = $(\text{CGPA} - 0.75) \times 10$

10. Award of Degree and Class

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of M. Tech. Degree, he/she shall be placed in one of the following four classes:

Class Awarded	CGPA to be secured	From the CGPA Secured from 68 Credits.
First Class with Distinction	≥ 7.75 (Without any supplementary Appearance)	
First Class	≥ 6.75	
Second Class	≥ 5.75 to < 6.75	
Pass Class	≥ 5.00 to < 5.75	

11. WITHHOLDING OF RESULTS If the student has any case of indiscipline is pending against him; the result of the student will be withheld. His degree will be withheld in such cases.

12. TRANSITORY REGULATIONS

- a. Discontinued or detained candidates are eligible for readmission into same or equivalent subjects at a time as and when offered.
- b. The candidate who fails in any subject will be given two chances to pass the same subject; otherwise, he has to identify an equivalent subject as per academic regulations.

13. GENERAL

- a. Wherever the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- b. The academic regulation should be read as a whole for the purpose of any interpretation.
- c. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision

of the Principal is final.

- d. The institute may change or amend the academic regulations or syllabi at any time and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the Institution.

14. MALPRACTICES RULES

Disciplinary Action For / Improper Conduct In Examinations

	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 made use of (material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that Subject only.
1. (b)	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, 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.	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.

6.	Refuses to obey the orders of the 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-in-charge, 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.	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7.	Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all 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.	

M.TECH PROPOSED COURSE STRUCTURE- R22

M.TECH I – YEAR

<u>SEMESTER-I</u>				
<u>Sl. No</u>	<u>Type of Course</u>	<u>Lectures</u>	<u>Practical</u>	<u>Credits</u>
1	Professional Core-1	3	0	3
2	Professional Core-2	3	0	3
3	Professional Core-3	3	0	3
4	Professional Core-4	3	0	3
5	Professional Elective -1	3	0	3
6	Professional Core Lab-1	0	4	2
7	Audit Course-1	3	0	0
Total		18	4	17

<u>SEMESTER-II</u>				
<u>Sl. No</u>	<u>Type of Course</u>	<u>Lectures</u>	<u>Practical</u>	<u>Credits</u>
1	Professional Core-5	3	0	3
2	Professional Core-6	3	0	3
3	Professional Core-7	3	0	3
4	Professional Core-8	3	0	3
5	Professional Elective -2	3	0	3
6	Professional Core Lab-2	0	4	2
7	Audit Course-1	3	0	0
Total		18	4	17

M.TECH II – YEAR

<u>SEMESTER-III</u>				
<u>Sl. No</u>	<u>Type of Course</u>	<u>Lectures</u>	<u>Practical</u>	<u>Credits</u>
1	Professional Elective-3 (MOOCS-NPTEL)	3	0	3
2	Professional Elective-3 (MOOCS-NPTEL)	3	0	3
3	Seminar	0	0	2
4	Project phase-I		10	10
Total		6	0	18

<u>SEMESTER-IV</u>				
<u>Sl. No</u>	<u>Type of Course</u>	<u>Lectures</u>	<u>Practical</u>	<u>Credits</u>
1	Project phase-II	0	20	16
Total		0	20	16
