

# ACADEMIC REGULATIONS

for

**B.Tech(U.G)**

(w.e.f the academic year 2019-20)



**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 for B.Tech (U.G) Courses

The following academic regulations will be applicable to the students of B. Tech. (Regular) from the Academic Year 2019-20 under Autonomous system.

### 1. Eligibility for Admission:

- a. **I Year B.Tech(U.G):** 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 EAMCET counseling.
  - Under Category B: 30% seats are filled based on 10+2 merits in compliance with guidelines of APSCHE.
- b. **II Year B.Tech (U.G):** Under Lateral Entry Scheme students with Diploma/ B.Sc qualification have an option of direct admission into 2<sup>nd</sup> year B.Tech. (Lateral Entry Scheme). Under this scheme 10% seats of sanctioned intake will be available in each course as supernumerary seats as per Andhra Pradesh State Council for Higher Education (APSCHE). Admissions to this three year B.Tech Lateral Entry Programme take place through ECET as per government policy.

### 2. Duration of the Programme:

- a. **B.Tech (U.G):** The course duration for the award of the Degree in Bachelor of Technology will be 4 academic years, with two semesters in each year. However, if a student is unable to complete the course within 4 years, he/she can do so by giving more attempts but within 8 consecutive academic years from the date of admission.
- b. **B.Tech (U.G) Under Lateral Entry:** The course duration for the award of the Degree in Bachelor of Technology will be 3 academic years, with two semesters in each year. However, if a student is unable to complete the course within 3 years, he/she can do so by giving more attempts but within 6 consecutive academic years from the date of admission.

### 3. 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

### 4. Award of B. Tech. Degree

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

- a. Student pursues a course of study in not less than four and not more than eight academic years.
- b. The Student shall register for 160 credits and secure all the 160 credits.

## 5. Courses of Study

The following courses of study are offered at present as specializations for the B. Tech. Courses with English as medium of Instruction.

S. No	Branch	Branch Code
01	Electrical and Electronics Engineering	EEE
02	Mechanical Engineering	MEC
03	Electronics and Communication Engineering	ECE
04	Computer Science and Engineering	CSE
05	Computer Science and Systems Engineering	CSS

## 6. Structure of Undergraduate Engineering Program

S. No.	Category	Suggested Breakup of Credits (Total 160)				
		CSE	CSS	ECE	EEE	ME
1	Basic Science Courses(BS)	21.5	20.5	20	21	21
2	Engineering Science Courses(ES)	18.5	19.5	19	20.5	16
3	Humanities, Social Sciences including Management(HM)	12	12	15	9	9
4	Professional Core Courses (PC)	71.5	71.5	72.5	73	77.5
5	Professional Elective Courses (PE)	15	15	15	15	15
6	Open Elective Courses(OE)	9	9	6	9	9
7	Project Work (PJ)	12.5	12.5	12.5	12.5	12.5
8	Mandatory Courses (MC)	(non-credit)				
9	Skill Development Courses(SD)	(non-credit)				
10	MOOCS	(non-credit)				
11	Summer Internships Course(SI)	(non-credit)				
	<b>Total</b>	160				

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

The Outcome Based Curriculum Structure consists of courses of study viz. Theory, Practical, Drawing, Socially relevant projects, Mini project, Project, Mandatory courses, MOOCs, Summer Internship. Under Choice Based Credit System (CBCS), the students also have the flexibility to choose one elective from the list of open electives offered by other branches of engineering technology in consultation with their respective departments.

- 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 weightage of Internal marks for 30 consists of Descriptive – 20 and Assignment - 10 (Theory).

- ii. Two descriptive examinations shall be conducted during the semester for theory subjects.
- iii. As the syllabus is framed for 5 units, the 1<sup>st</sup> and 2<sup>nd</sup> mid examinations (Descriptive exam) are conducted on 1-2½ units and 2½ -5 units respectively for each subject in a semester. The mid examination (Descriptive exam) question paper shall contain 3 questions and all questions need to be answered in 90 minutes duration for 30 marks. Further, each mid examination marks shall be scale down to 10 marks.
- iv. Assignments: The weightage of Assignments is 10 marks during the semester for each theory subjects. However, maximum of 2 marks shall be given for each unit.
- v. Internal Marks can be calculated for 30 marks by adding the marks of 1<sup>st</sup> mid, 2<sup>nd</sup> mid and Assignments.

**(ii) Semester End - Evaluation:**

- i. The end semester examination is conducted covering the topics of all Units for 70 marks. And the question paper contains 5 Questions with internal choice.
  - ii. The question paper contains 5 Questions with internal choice. A student should be answered all Questions and each carrying 14 marks.
- b. **Practical Subject:** The performance of a student in each semester shall be evaluated subject – wise with a maximum of 75 marks for practical subject. For practical subjects there shall be continuous evaluation during the semester for 25 internal marks and 50 end examination marks.
- (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 examination shall be conducted by the teacher concerned and an external examiner nominated by the Controller of Examinations (CoE).
- c. **Project Work:** The project work shall be carried out during the 8<sup>th</sup> semester. Projects will be taken up batch wise. Internal evaluation will be done by the Project Review Committee (PRC), comprising of HOD, project co-ordinator and two senior faculty members along with the project supervisor. Semester end evaluation will be done by Project Evaluation Committee (PEC) comprising of three members including HOD, project guide and an external examiner nominated by the CoE.
- The performance of a student shall be evaluated subject – wise with a maximum of 200 marks for project work. Out of a total of 200 marks for the project work, 60 marks shall be for Internal Evaluation and 140 marks for the End Semester Examination.
- (i) **Internal Evaluation:** The Internal Evaluation shall be given by each student on the topic of his project and evaluated by an internal committee.
  - (ii) **External Evaluation:** The End Semester Examination (Viva – Voce) shall be conducted by the committee. The committee consists of an external examiner,

Head of the Department and Supervisor of the Project. The evaluation of project work shall be conducted at the end of the IV year.

- d. **Design/Drawing Subjects:** For the subject having design and / or drawing, (such as Engineering Graphics, Engineering Drawing, Machine Drawing) and estimation, the distribution shall be 30 marks for internal evaluation ( 20 marks for day – to – day work, and 10 marks for internal tests) and 70 marks for end examination.

**(i) Internal Evaluation:**

There shall be two internal tests in a Semester and the Marks for 10 can be calculated with 50% weightage for each of two tests and these are to be added to the marks obtained in day to day work.

**(ii) Semester End - Evaluation:**

- a. The end semester examination is conducted covering the topics of all Units for 70 marks. And the question paper contains 5 Questions with internal choice.
  - b. The question paper contains 5 Questions with internal choice. A student should be answered all Questions and each carrying 14 marks.
- e. **Mini project:** The curriculum offers Mini Projects for the students during 6<sup>th</sup>-7<sup>th</sup> semester. They will be divided into batches and the report will be evaluated by a committee as nominated by HOD constituted with members.

The performance of a student shall be evaluated with a maximum of 50 marks for mini project work with Internal Evaluation.

**Internal Evaluation:** 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. The results will be indicated with “Satisfactory” and it will not be accounted for the calculation of CGPA.

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

- f. **Mandatory Courses/ Skill Development Courses:** Mandatory courses/ Skill Development Courses are among the compulsory courses and do not carry any credits.
- i. All the students (regular and lateral entry students) shall complete the mandatory courses/ Skill Development Courses similar to other regular courses.
  - ii. The weightage of Mandatory Courses/ Skill Development Courses for 50 consists of Descriptive – 30, Objective -10, Assignments-10.
  - iii. Two descriptive examinations shall be conducted during the semester for theory subjects.
  - iv. As the syllabus is framed for 5 units, the 1st and 2nd mid examinations (Descriptive exam) are conducted on 1-2½ units and 2½ -5 units respectively for each subject in a semester. The mid examination (Descriptive exam) question paper shall contain 3 questions and all questions need to be answered in 90 minutes duration for 30 marks. Further, each mid examination marks shall be scale down to 15 marks.
  - v. The objective examination is for 20 minutes duration. Objective -10

(Conducted at College level with 20 Multiple choice question with a weightage of ½ Mark each).

- vi. Assignments: The weightage of Assignments is 10 marks during the semester for each theory subjects. However, maximum of 2 marks shall be given for each unit.
- vii. The Objective examination conducted for 10 marks and Descriptive examination conducted for 30, Assignments 10 marks are to be added for finalizing internal marks for 50.
- viii. The results will be indicated with “Satisfactory” and it will not be accounted for the calculation of CGPA.
- ix. Student shall be declared to have passed the Mandatory Courses/ Skill Development Courses only when he/she secures 40% or more in the final marks. In case, the student fails, a re-examination on descriptive shall be conducted for failed candidates every six months/semester at a mutually convenient date of the college/students.
- x. The internal evaluation will be conducted. No external evaluation will be conducted .

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

- g. **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 will declare the list of the courses at the beginning of the semester, with duration of minimum of 8 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 should complete atleast two MOOCs courses with minimum 8 weeks duration and no credits will be awarded upon successful completion of each MOOCs.
  - iv. The results will be indicated with “Satisfactory” and it will not be accounted for the calculation of CGPA.
- h. **Summer Internship:** As a part of curriculum in all branches of engineering, it is mandatory for all students to undergo two summer internship programme at industries (core or allied) / R & D organization to get practical insight of their subject domain during summer break after the 4<sup>th</sup> semester.
  - i. The summer internship programme shall be availed to a minimum duration of 4 weeks.
  - ii. Student should submit the report after completion of Summer Internship and the assessment shall be carried out with internal experts leading to “Satisfactory”

and “Non-Satisfactory Performance” and it will not be accounted for the calculation of CGPA.

- i. **Socially Relevant Project:** The curriculum offers Socially Relevant Project for the students during 4<sup>th</sup>-6<sup>th</sup> semester. They will be divided into batches and the report will be evaluated by a committee as nominated by HOD constituted with internal members.

**Internal Evaluation:** The performance of a student shall be evaluated with a maximum of 25 marks for Socially Relevant Project work.

- i. The Internal Evaluation shall be on the basis of two seminars and report given by each student on the topic of his project and evaluated by an internal committee as nominated by HOD constituted with members.
- ii. The results will be indicated with “Satisfactory” and it will not be accounted for the calculation of CGPA.
- iii. Student shall be declared to have passed the Socially Relevant Project only when he/she secures 40% or more in the final marks. In case, the student fails, a re-examination shall be conducted for failed candidates every six months/semester at a mutually convenient date of the college/students.
- iv. The internal evaluation will be conducted. No external evaluation will be conducted .

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

- j. **Induction Program:** Induction Program will be conducted before commencement of I year I semester class work with 3 weeks duration. If the student is admitted after induction program, then college will arrange induction program classes in the free hours.

- i. Student should attend the induction program with 75% of attendance.
- ii. Student should submit the report after completion of induction program and the assessment shall be carried out with internal experts leading to “Satisfactory” and “Non-Satisfactory Performance” and it will not be accounted for the calculation of CGPA.
- iii. Student shall be declared to have passed the Induction Program only when he/she secures 40% or more in the final marks. In case, the student fails, a re-examination shall be conducted for failed candidates every six months/semester at a mutually convenient date of the college/students.
- iv. The internal evaluation will be conducted. No external evaluation will be conducted .

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

No	Course	Credits	Marks for Assessment	
			Internal	Semester End
1	Theory Course	2-4	30	70
2	Laboratory	1-3	25	50
3	Drawing Course	2.5	30	70
4	Elective Courses	3	30	70
5	Socially Relevant Course	0.5	25	-
6	Mini Project	4	50	-
7	Project Work	8	60	140
8	Summer Internship	0	50	-
9	Mandatroy Courses	0	50	-
10	MOOCs	0	100	-
11	Skill Development Courses	0	50	-
12	Induction Program	0	50	-

### 8. Attendance Requirements

- a. A student is eligible to write the semester examinations if he acquires a minimum of 75% of attendance in aggregate of all the subjects.
- b. Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester may be granted by the College Academic Committee. Further, he acquires a minimum of 50% of attendance in each the subject.
- c. Shortage of attendance below 65% in aggregate shall not be condoned.
- d. Students whose shortage of attendance is not condoned in any semester are not eligible to write their corresponding end semester examination.
- e. The maximum number of times a student can avail condonation should be 3 times in all the 8 semesters.
- f. A stipulated fee shall be payable towards condonation of shortage of attendance.
- g. A student who is short of attendance in semester may seek re-admission into that semester when offered within 4 weeks from the date of the commencement of class work.
- h. A student will be promoted to the next semester if he/she satisfies the (i) attendance requirement of the present semester and (ii) minimum required credits.
- i. If any candidate fulfills the attendance requirement in the present semester, he shall not be eligible for readmission into the same class.

### 9. Minimum Academic Requirements

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no 8.

- a. A student is deemed to have satisfied the minimum academic requirements if he/she has earned the credits allotted to each theory/practical design/drawing



subject/project by securing not less than 35% of marks in the end semester exam, and minimum 40% of marks in the sum total of the internal marks and end semester examination marks.

- b. A student shall be promoted from first year to second year if he fulfills the minimum attendance requirement.
- c. A student will be promoted from II year to III year if he fulfills the academic requirement of 40% of the credits up to either II year I semester or II year II semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in II year II semester.
- d. A student shall be promoted from III year to IV year if he fulfills the academic requirements of 40% of the credits up to either III year I semester or III year II semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in III year II semester.
- e. A student shall register and put up minimum attendance in all 160 credits and earn all 160 credits.

#### 10. Course Pattern

- a. The entire course of study is for four academic years; all the years are on semester pattern.
- b. A student eligible to appear for the end semester examination in a subject, but absent from it or has failed in the end semester examination, may write the exam in that subject when conducted next.
- c. When a student is detained for lack of credits / shortage of attendance, he/she may be re-admitted into the same semester / year in which he has been detained. However, the academic regulations under which he/she was first admitted shall continue to be applicable to him/her.

#### 11. 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	S	Excellent	9
≥70 to <80	≥52 to <60	A	Very Good	8
≥60 to <70	≥45 to <52	B	Good	7
≥50 to <60	≥37 to <45	C	Fair	6
≥40 to <50	≥30 to <37	D	Satisfactory	5
<40	<30	F	Fail	0
			Absent	0

#### Computation of SGPA

The following procedure is to be adopted to compute the Semester Grade Point Averagae. (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.,

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

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.  $CGPA = \sum (C_i \times S_i) / \sum C_i$  Where  $S_i$  is the SGPA of the  $i$ th semester and  $C_i$  is the total 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  $= (CGPA - 0.75) \times 10$

### 12. Award of Class

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. 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 160 Credits.
First Class with Distinction	$\geq 7.75$	
First Class	$\geq 6.75$	
Second Class	$\geq 5.75$ to $< 6.75$	
Pass Class	$\geq 4.75$ to $< 5.75$	

### 13. Minimum Instruction Days

For all the eight semesters a common academic calendar shall be followed in each semester by having sixteen weeks of instruction, one week for the conduct of practical exams and with three weeks for theory examinations and evaluation. Further, the minimum instruction days for each semester shall be 90 days. Dates for registration, sessional and end semester examinations shall be notified in the academic calendar of every semester. The schedule for the conduct of all the curricular and co-curricular activities shall be notified in the academic plan.

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

15. **Withholding of Results:** If any case of indiscipline is pending against him, the result of the student will be withheld. His degree will be withheld in such cases.

### 16. Transitory Regulations

- a. Discontinued or detained candidates are eligible for readmission in the next following academic years.
- b. A student in one academic regulation of JNTUK, detained due to lack of required number of credits or percentage of attendance at the end of any semester is permitted to take re-admission at appropriate level in any other scheme prevailing in the institute subject to the following rules and regulations.

- i. Student shall pass all the courses in the earlier scheme of JNTUK. However, in case of having backlog courses, they shall be cleared by appearing for supplementary examinations conducted by JNTUK from time to time.
  - ii. After readmission, the student is required to study the courses as prescribed in the JNTUK regulations for the re-admitted program at that level and thereafter.
- c. A student in one academic regulation under autonomous, detained due to lack of required number of credits or percentage of attendance at the end of any semester is permitted to take re-admission at appropriate level in any other scheme prevailing in the institute subject to the following rules and regulations.
  - i. Student shall pass all the courses in the earlier scheme. However, in case of having backlog courses, they shall be cleared by appearing for supplementary examinations conducted by college in their regulations from time to time.
  - ii. After readmission, the student is required to study the courses as prescribed in the new regulations for the re-admitted program at that level and thereafter.
  - iii. If the student has already passed any courses of readmitted program in the earlier regulation/semester of study, such courses are exempted.
  - iv. The courses that are not done in the earlier regulations/semester as compared with readmitted program need to be cleared after readmission by appearing for the examinations conducted time to time under the new regulations.
  - v. In general, after transition, course composition and number of credits/semester shall be balanced between old and new regulations on case to case basis.
  - vi. In case the students who do not have option of acquiring required credits with the existing courses offered as per the curriculum under autonomy, credit balance can be achieved by clearing the additional/substitute courses offered.
- d. (i) In case of transferred students from other Universities, the credits shall be transferred to this institution as per the academic regulations and course structure of this institution.
  - (ii) The students seeking transfer to colleges affiliated to JNTUK from various other Universities / Institutions have to obtain the credits of any equivalent subjects as prescribed by this institution. In addition, the transferred candidates have to pass the failed subjects at the earlier institute with already obtained sessional marks to be conducted by this institution.
- e. The decision of the Principal is final on any other clarification in this regard.

### **17. 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 case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Institute academic counsel is final.
- d. The Institution 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.

## **Academic Regulations For B. Tech. (Lateral Entry Scheme)**

The following academic regulation will be applicable for the students admitted into II year B. Tech. from the Academic Year 2020-21 onwards.

### **1. Eligibility for Admission:**

**II Year B.Tech (U.G) :** Under Lateral Entry Scheme students with Diploma/B.Sc qualification have an option of direct admission into 2<sup>nd</sup> year B.Tech. (Lateral Entry Scheme). Under this scheme 10% seats of sanctioned intake will be available in each course as supernumerary seats as per Andhra Pradesh State Council for Higher Education (APSCHE). Admissions to this three year B.Tech Later Entry Programme will be through ECET as per government policy..

### **2. Award of B. Tech. Degree**

A student will be declared eligible for the award of B. Tech. Degree if he fulfills the following academic regulations:

- a. A student shall be declared eligible for the award of the B. Tech Degree, if he pursues a course of study in not less than three academic years and not more than six academic years.
- b. The candidate shall register for 120 credits and secure all the 120 credits.

### **3. The attendance regulations of B. Tech. (Regular) shall be applicable to B.Tech.**

### **4. Promotion Rule**

- a. A student shall be promoted from second year to third year if he fulfills the minimum attendance requirement.
- b. A student shall be promoted from III year to IV year if he fulfills the academic requirements of 40% of the credits up to either III year I semester or III year II semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in III year II semester.

### **5. Award of Class**

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

<b>Class Awarded</b>	<b>CGPA to be secured</b>	<b>From the CGPA secured from 120 Credits from II Year to IV Year</b>
First Class with Distinction	$\geq 7.75$	
First Class	$\geq 6.75$	
Second Class	$\geq 5.75$ to $< 6.75$	
Pass Class	$\geq 4.75$ to $< 5.75$	

The marks obtained in the internal evaluation and the end semester examination shall be shown separately in the marks memorandum.

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