

ACADEMIC REGULATIONS

FOR B.TECH FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2016-17)



PRAGATI ENGINEERING COLLEGE (AUTONOMOUS)

Permanently Affiliated to JNTUK, Kakinada and Approved by AICTE, New Delhi

Accredited by NAAC with "A" Grade

Recognized by UGC 2(f) and 12(b) under UGC act, 1956

1-378, ADB Road, Surampalem- 533437, near Peddapuram

E.G.District, Andhra Pradesh.



**PRAGATI ENGINEERING COLLEGE : SURAMPALEM
(Autonomous)**

ACADEMIC REGULATIONS FOR B.TECH (REGULAR)

Applicable for the students of B.Tech (Regular) Admitted from the academic year 2016-2017.

1. 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.

- 1.1 A Student shall be declared eligible for the award of the B.Tech Degree, if he pursues a course of study for not less than four and for not more than eight academic years.
- 1.2 The candidate shall register for 180 credits and secure all the 180 credits.

2. COURSES OF STUDY

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

<i>S. No.</i>	<i>Branch / Course</i>
01.	Civil Engineering (CE)
02.	Electrical and Electronics Engineering (EEE)
03.	Mechanical Engineering (ME)
04.	Electronics and Communications Engineering (ECE)
05.	Computer Science and Engineering (CSE)
06.	Information Technology (IT)

3. MINIMUM INSTRUCTIONS DAYS.

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

4. PROGRAMME/ COURSE CREDITS

- 4.1. Each discipline / course of the four year B.Tech programme is designed to have a total of 180 credits. Depending upon the nature of each subject and the number of periods of instruction whether it is theory, laboratory, drawing etc., weightages are given in terms of number of credits. See course structure for details.



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5. ATTENDANCE REQUIREMENTS :

- 5.1. A student is eligible to appear for the End semester examinations only if he puts in a minimum of 75% of attendance in aggregate of all the subjects.
- 5.2. Condonation of shortage of attendance in the aggregate upto 10% (65% and above and below 75%) in each semester may be granted by a committee appointed for this purpose, after getting satisfied that the absence is due to genuine reasons.
- 5.3. Shortage of attendance below 65% in aggregate shall not be condoned.
- 5.4. A student who has shortage of attendance in a semester may seek readmission in to the course when offered next.
- 5.5. A fee stipulated by the college shall be paid along with the application for the condonation of shortage of attendance.
- 5.6. Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examinations and the registration shall stand cancelled.

6. DISTRIBUTION AND WEIGHTAGE OF MARKS

The performance of a student in each semester shall be evaluated subject-wise with a maximum of 100 marks. 40 marks for internal evaluation and 60 marks for the end examination have been earmarked. The Project Work shall be evaluated for 200 marks. The mini project/Term Paper/Seminar has a weightage of 50 marks and evaluated internally.

Depending upon the nature of the subject, the distribution and weightages for internal and external assessment are as detailed below:

6.1. Theory Subjects

i. Internal assessment : 40 marks

- a) For the Mid examinations there shall be two tests, one conducted in the middle and the other at the end of each semester. The duration of each test is two hours. The question paper contains **Part-A** and **Part-B**. Part-A consists of three questions. Out of three questions two questions carry seven marks and one question carry six marks. Part-B consists of twenty objective type questions each carry half mark. Answering all questions is compulsory.
- b) Students shall submit assignments at the end of each unit in the syllabus and the marks allotted for the assignments is 10.
- c) The formula for finding the total marks of internal assessment (40 marks) = $0.80 \times$ higher marks scored between the two internal tests + $0.20 \times$ marks scored in the other test + marks for the assignments.



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ii. External assessment :

- a) The end semester examination is of 3 hours duration and contains **Part A** and **Part B**. It covers all the topics in all the 6 units and the weightage is 60 marks.
- b) Part A consists of 6 short questions each carrying 2 marks ($6 \times 2 = 12$ marks). These 6 questions are compulsory and cover all the 6 units in the syllabus.
- c) Part B consists of 6 essay type / numerical questions, One question is set from each unit in the syllabus. Some questions may have sub sections. The student has to answer 4 out of 6 questions, each question with a weightage of 12 marks ($4 \times 12 = 48$ marks).

6.2. Laboratory Courses

i. Internal assessment : 40 marks

There shall be continuous evaluation during the semester for 40 marks as shown below:

Day-to-Day work and laboratory record	-	25 marks
One internal test at the end of the semester	-	15 marks

Total	-	40 Marks

ii. External Assessment :

At the end of the semester an examination for 3 hours duration shall be conducted for 60 marks by the concerned teacher and an external examiner.

6.3. Subjects such as Engineering Graphics, Engineering Drawing, Machine Drawing, Design and Drawing of R.C. Structures, Steel structures, Irrigation structures, Estimation cost and valuation, Building Planning and Drawing etc.

i. Internal assessment : 40 marks

a) There shall be continuous evaluation with a weightage of 40 marks as shown below :

Day-to-Day work	-	20 marks
b) Internal tests :		
There shall be two internal tests One in the middle of the semester and the other at the end. Marks for Internal Tests = $0.8 \times$ higher marks scored between the two tests + $0.2 \times$ marks scored in the other test.	-	20 marks

Total	-	40 Marks



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ii. External assessment :

Same as for theory subjects given in 6.1.ii.

6.4. Mini Project /Term paper

There shall be a Mini Project/Term paper in the III year I / II semester. It has a weightage of 50 marks and evaluated internally at the end of the semester.

6.5. Project

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. 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. The Internal Evaluation shall be on the basis of two seminars given by each student on the topic of his project and evaluated by an internal committee.

6.6. Seminar

For the Seminar, Each student has to be evaluated based on the presentation of any latest topic with a report of 10-15 pages and a power point presentation of minimum 10 slides. The student shall collect the information on a specialized topic and prepare a technical report, showing his understanding of the topic, and submit to the department, which 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 50 marks. There shall be no external examination for seminar.

7. MINIMUM ACADEMIC REQUIREMENTS

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned under rule 5.

- 7.1.** 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 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.**
- 7.2.** A Student is deemed to have satisfied the minimum academic requirements if he has **earned the credits allotted to each laboratory / project by securing not less than 40% of marks in the end semester exam, and minimum 50% of marks in the sum total of the internal marks and end semester examination marks.**
- 7.3.** A student is deemed to have satisfied the minimum academic requirements if he has earned the credits allotted to mini project/term paper and seminar by securing not less than 50% of Marks.



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7.4. A student shall register and put in minimum attendance in all 180 credits and earn all 180 credits.

8. COURSE PATTERN

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

9. PROMOTION TO NEXT HIGHER CLASS

- 9.1. A Student shall be promoted from 1st year to II year if he fulfills the minimum attendance requirement under rule 5.
- 9.2. A Student shall be promoted from II year to III year, if he fulfills the academic requirement of 50% of the credits upto 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.
- 9.3. A student shall be promoted from III year to IV year if he fulfills the academic requirements of 50% of the credits upto 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.

10. CUMULATIVE GRADE POINT AVERAGE (CGPA)

Theory/Design/ Drawing (%)	Laboratory/Mini Project/Term Paper/ Project/ Seminar (%)	Letter Grade	Level	Grade Point
≥ 90	≥ 90	O	Outstanding	10
≥ 80 to < 90	≥ 80 to < 90	S	Excellent	9
≥ 70 to < 80	≥ 70 to < 80	A	Very Good	8
≥ 60 to < 70	≥ 60 to < 70	B	Good	7
≥ 50 to < 60	≥ 50 to < 60	C	Fair	6
≥ 40 to < 50	--	D	Satisfactory	5
<40	<50	F	Fail	0
			Absent	0



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Computation of Semester Grade Point Average (SGPA)

The following procedure is to be adapted to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).

The **SGPA** is the ratio of sum of 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 = $(\text{CGPA} - 0.75) \times 10$

11. 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 shall be placed in one of the following four classes.

Class Awarded	CGPA to be secured	From the CGPA secured from 180 credits
First Class with Distinction	≥ 7.75	
First Class	≥ 6.75 to < 7.75	
Second Class	≥ 5.75 to < 6.75	
Pass Class	≥ 4.75 to < 5.75	

12. WITHHOLDING OF RESULTS :

If the students has not paid the dues, if any, to the college or if any case of indiscipline or malpractice is pending against him, the examination results of the student will be withheld.



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13. TRANSITORY REGULATIONS:

13.1. For Re-admitted Candidates:

- i) A student who is following JNTUK curriculum and detained due to shortage of attendance at the end of the first semester of first year shall join the autonomous batch of first year first semester. Such students shall study all the courses prescribed for the batch in which the student joins and considered on par with regular candidates of Autonomous stream and will be governed by the autonomous regulations.
- ii) A student who is following JNTUK curriculum, detained due to lack of credits or shortage of attendance at the end of the second semester of first year or at the subsequent semesters shall join with the autonomous batch in the appropriate semester. Such candidates shall be required to pass in all the courses in the Programme prescribed by the Board of Studies concerned for that batch of students from that semester onwards to be eligible for the award of degree.
- iii) However, exemption will be given in the courses of the semester(s) of the batch which he had passed earlier and substitute subjects will be offered in place of them as decided by the Board of Studies.
- iv) The student has to clear all his backlog subjects up to previous semester by appearing for the supplementary examinations conducted by JNTUK for the award of degree. The total number of credits to be secured for the award of the degree will be sum of the credits up to previous semester under JNTUK regulations and the credits prescribed for the semester in which a candidate seeks readmission and subsequent semesters under the autonomous stream. The class will be awarded based on the academic performance of a student in the autonomous pattern.
- v) 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 courses offered. The additional courses that are offered can be of theory or laboratory courses.

13.2. Transfer candidates (from non-autonomous college affiliated to JNTUK):

- i) A student who is following JNTUK curriculum, transferred from other college to this college in second year first semester or subsequent semesters shall join with the autonomous batch in the appropriate semester. Such candidates shall be required to pass in all the courses in the Programme prescribed by the Board of Studies concerned for that batch of students from that semester onwards to be eligible for the award of degree.
- ii) However, exemption will be given in the courses of the semester(s) of the batch which he had passed earlier and substitute subjects are offered in their place as decided by the Board of Studies.
- iii) The student has to clear all his backlog subjects up to previous semester by appearing for the supplementary examinations conducted by JNTUK for the award of degree. The total number of credits to be secured for the award of the



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degree will be the sum of the credits upto previous semester under JNTUK regulations and the credits prescribed for the semester in which a candidate joined after transfer and subsequent semesters under the autonomous stream. The class will be awarded based on the academic performance of a student in the autonomous pattern.

- iv) 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 courses offered. The additional courses that are offered can be of theory or laboratory courses.

13.3. Transfer candidates (from an autonomous college affiliated to JNTUK):

- i) A student who has secured the required credits upto previous semesters as per the regulations of other autonomous institutions shall also be permitted to be transferred to this college.
- ii) A student who is transferred from the other autonomous colleges to this college in second year first semester or subsequent semesters shall join with the autonomous batch in the appropriate semester. Such candidates shall be required to pass in all the courses in the Programme prescribed by the Board of Studies concerned for that batch of students from that semester onwards to be eligible for the award of degree.
- iii) However, exemption will be given in the courses of the semester(s) of the batch which he had passed earlier and substitute subjects are offered in their place as decided by the Board of Studies. The total number of credits to be secured for the award of the degree will be the sum of the credits upto previous semester as per the regulations of the college from which he is transferred and the credits prescribed for the semester in which a candidate joined after transfer and subsequent semesters under the autonomous stream. The class will be awarded based on the academic performance of a student in the autonomous pattern.
- iv) 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 courses offered. The additional courses that are offered can be of theory or laboratory courses.



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ACADEMIC REGULATIONS FOR B.TECH LATERAL ENTRY SCHEME (LES)

Applicable for the students admitted into II year B.Tech I semester from the Academic year 2017-18.

1. 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.

- 1.1. A Student shall be declared eligible for the award of the B.Tech Degree, if he pursues a course of study for not less than three academic years and not more than six academic years.
- 1.2 The candidate shall register for 132 credits and secure all the 132 credits.

2. The attendance regulations of B.Tech (Regular) shall be applicable to B.Tech (LES) students as well.

3 PROMOTION RULES

- 3.1. A Student shall be promoted from II year to III year, if he fulfills the minimum attendance requirement under rule 5 of B.Tech (Regular).
- 3.2. A student shall be promoted from III year to IV year if he fulfills the academic requirements of 50% of the credits upto 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.

4. 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 shall be placed in one of the following four classes.

Class Awarded	CGPA to be secured	From the CGPA secured from 132 credits
First Class with Distinction	≥ 7.75	
First Class	≥ 6.75 to < 7.75	
Second Class	≥ 5.75 to < 6.75	
Pass Class	≥ 4.75 to < 5.75	

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



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GENERAL :

- i) Whenever the words “he”, “him”, “his” secure in the regulations, they include “she”, “her”, “hers”.
- ii) The academic rules and regulations should be read as a whole for the purpose of interpretation.
- iii) In case of any doubt or ambiguity in the interpretation of rules, the decision of the Principal of the college is final.
- iv) The college may change or amend the academic rules and regulations or syllabi at any time and the changed rules come into effect from the date of issue of such orders.



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MALPRACTICES RULES

The rules laid down in JNTUK R16 regulations will be followed into to.