

# ADITYA ENGINEERING COLLEGE

An Autonomous Institution

## ACADEMIC REGULATIONS (AR19) FOR M.TECH. (REGULAR)

Applicable to the students of M.Tech.(Regular) admitted from the academic year 2019-20 onwards

### 1. AWARD OF M. TECH. DEGREE

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

1.1 If he pursued a program of study in not less than two and not more than four academic years. After four academic years from the year of admission, he shall forfeit his seat in M. Tech and his admission stands cancelled.

1.2 The student shall register for all 68 credits and secure all the 68 credits.

### 2 PROGRAMS OF STUDY

The following specializations are offered at present for the M. Tech program.

S. No	Department	Specialization	Code
01	Civil Engineering	Structural Engineering	87
02	Electrical and Electronics Engineering	Power Electronics and Drives	43
03	Mechanical Engineering	Thermal Engineering	21
04	Electronics and Communication Engineering	Embedded Systems	55
05		VLSI Design	72
06	Computer Science and Engineering	Computer Science & Engineering	58
07		Software Engineering	25
08	Petroleum Technology	Petroleum Engineering	08

### 3 EVALUATION - DISTRIBUTION AND WEIGHTAGE OF MARKS

3.1 The performance of a student in each semester shall be evaluated course-wise with a maximum of 100 marks for Theory courses, Practical courses, Mini Project with Seminar, Audit Courses and Dissertation I & II.

3.2 For the theory courses, the distribution shall be 40 marks for Sessional examinations and 60 marks for Semester End Examinations. The Sessional marks shall be awarded based on the average of the marks secured in two Sessional examinations. The first Sessional examination is conducted for first 2 ½ units and second Sessional

examination for remaining 2 ½ units for each course in a semester. Each Sessional examination shall be conducted for duration of 120 minutes with 4 questions (no choice), each question is for 10 marks. The Semester End examination is conducted for 60 marks for a duration of 180 minutes, which contains ten questions, two questions are from each unit and each question may have sub-questions. The student has to write one question from each unit. Each question carries 12 marks.

**3.3** For practical courses, there shall be continuous evaluation during the semester for 40 Sessional marks and 60 End examination marks. The Sessional 40 marks shall be awarded as, continuous evaluation -15 marks, Record-10 marks and laboratory Exam - 15 marks. The End examination shall be conducted by the concerned teacher and external examiner appointed by the Principal from a panel of three examiners submitted by HOD.

**3.4** For Mini Project with Seminar, a student under the supervision of a faculty member, shall collect the literature on a topic and critically review the literature and submit it to the department in a report form and shall make an oral presentation before the Project Review Committee(PRC) consisting of Head of the Department, Supervisor/mentor and two other senior faculty members of the department. For Mini Project with Seminar, there will be only internal evaluation of 100 marks. A candidate has to secure a minimum of 50% of marks to be declared successful.

**3.5** For Audit Courses, during a semester there shall be one examination for 100 marks for a duration of 180 minutes in which a student should get minimum 50% of the marks for satisfactory, otherwise the student performance is considered as not satisfactory. The examination is conducted at the department level by covering the topics of all units, which contains five 20 marks questions with internal choice from each unit and each question may have sub-questions. If a student fails to get satisfactory marks or is absent for examination, he has to write the examination in that course when conducted next.

**3.6** Students going for Industrial Projects in III Semester, can complete their courses through MOOCs (Massive Open Online Courses) by registering and participating in 12 weeks courses in NPTEL / SWAYAM etc. with the approval of the Head of the Department. The Head of the Department shall appoint one mentor for each of the MOOCs offered. During the course, the mentor monitors the student's assignment submission at the end of every week. The student needs to submit all the assignments given and needs to take final exam at the proctor center. The student needs to earn a

certificate by passing the examination. The student will be awarded the credits given in the curriculum only upon submission of the certificate.

**3.7** For Dissertation I/Industrial Project & Dissertation II, there shall be continuous assessment during the III and IV semesters, but evaluation is done in the IV semester. The Sessional Evaluation for 40 marks shall be done by the PRC based on four presentations given by each student on the topic of his project. The End Examination (Viva-Voce) for 60 marks shall be conducted by the committee that consists of an External Examiner, Head of the Department and Supervisor of the Project. For the Viva-Voce, every student shall submit a thesis or dissertation on the topic approved by the PRC.

- 3.7.1 Registration of Dissertation: A student is permitted to register for the project work after satisfying the attendance requirements of all the courses in I & II semesters.
- 3.7.2 A student has to submit, in consultation with his project supervisor, the title, objective and plan of action of his project work for approval. The student has to initiate the Project work, at the beginning of the III semester by obtaining the approval from the PRC. The project duration is for two semesters.
- 3.7.3 If a student wishes to change his supervisor or topic of the project, he can do so with the approval of the PRC. However, the 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.
- 3.7.4 A student should publish / present his research findings of his Project work in the form of research paper to a National or International Peer Reviewed Journal / at an International Conference with due permission from the Supervisor after getting Plagiarism check.
- 3.7.5 A student shall submit his status report at least with 4 reviews conducted by the PRC. The Sessional Evaluation shall be made on the basis of reviews and on the progress of the work evaluated by PRC.
- 3.7.6 A student is permitted to submit Project Thesis only after successful completion of theory and practical courses with the approval of PRC and not earlier than 40 weeks from the date of registration of the project work.
- 3.7.7 Three copies of the Project Thesis certified by the supervisor shall be submitted to the College after getting Plagiarism check.
- 3.7.8 The external examiner shall be appointed by the Principal from the panel of three

examiners, who are eminent in that particular field given by the Head of the Department. The project thesis is sent to the same examiner for the adjudication.

3.7.9 If the report of the examiner is favorable, Viva–Voce examination shall be conducted by PRC and the examiner who adjudicated the Thesis.

- a. Student has to secure 40% of marks in the Viva–Voce examination and a minimum aggregate of 50% of total marks in Viva–Voce examination and Sessional evaluation taken together.
- b. If the report of the Viva–Voce is fail, the student shall retake the Viva–Voce examination only after three months. If he fails to get a satisfactory report at the second Viva–Voce examination, the student has to re-register for the project and complete the project within the stipulated time after taking the approval from the Principal.

3.7.10 If the report of the examiner is unfavorable, the student shall revise and resubmit the Thesis, in the time frame as decided by the PRC. If the report of the examiner is unfavorable again, the thesis shall be summarily rejected. The student has to re-register for the project and complete the project within the stipulated time after taking the approval from the Principal.

#### **4 ATTENDANCE REQUIREMENTS**

- 4.1 A student shall be eligible to write the Semester End Examinations if he acquires a minimum of 50% of attendance in each course and 75% of attendance in aggregate of all the courses.
- 4.2 Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) on medical grounds in a semester may be granted by the College Academic Committee.
- 4.3 Shortage of Attendance below 65% in aggregate shall not be condoned.
- 4.4 Students whose shortage of attendance is not condoned in any semester are not eligible to write their End examinations of that semester.
- 4.5 A medical certificate and a fee of Rs. 500/- shall be payable towards condonation for the shortage of attendance.
- 4.6 A student will be promoted to the next semester if he satisfies the attendance requirement of the present semester.
- 4.7 If any student fulfils the attendance requirement in the present semester, he shall not be eligible for re-admission into the same semester.

- 4.8 A student who has shortage of attendance in a semester may seek re-admission into that semester when offered within 4 weeks from the date of the commencement of classwork.

## **5 MINIMUM ACADEMIC REQUIREMENTS**

The following academic requirements have to be fulfilled by the students in addition to the attendance requirements mentioned in item no.4.

- 5.1 A student is deemed to have passed a course and earns the credits allotted to that course by securing not less than 40% of marks in the End examination, and a minimum 50% of marks of the total marks (sum of Sessional marks and End examination marks).
- 5.2 All the credit courses shall be considered for the calculation of SGPA and CGPA.

## **6 RE-REGISTRATION FOR IMPROVEMENT OF SESSIONAL MARKS:**

Following are the conditions to avail the benefit of improvement of Sessional marks.

- 6.1 A student shall be given one chance to re-register for each course provided the Sessional marks secured by a student are less than 50% and has failed in the End examination.
- 6.2 For re-registration, the student has to get approval from the Principal and has to pay the requisite fee which is of one third of the semester tuition fee before the start of the semester in which re-registration is required.
- 6.3 At any time, a student is permitted to re-register for a maximum of two courses in addition to the regular semester.
- 6.4 In the event of the student taking re-registration, his Sessional marks and End examination marks obtained in the previous attempt stand cancelled in that course(s). The attendance shall be calculated separately for the re-registered courses.
- 6.5 If the student gets required minimum attendance in any re-registered course(s), he shall be eligible for writing the End examination in that course(s). Otherwise, he shall not be permitted to write the End examination in that course(s). He shall re-register again in that course(s) when next offered.

## 7 PROGRAM PATTERN

- 7.1 The entire program of study is for two academic years and all the years are in semester pattern.
- 7.2 The medium of instruction for the entire program will be in English only.
- 7.3 A student is eligible to appear for the End examination in a course but absent from it or has failed in the End examination, may write the examination in that course when conducted next.
- 7.4 When a student is detained due to shortage of attendance, he may be re-admitted into the same semester in which he has been detained.

## 8 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 shall be placed in one of the following three classes:

<b>Class Awarded</b>	<b>CGPA secured from 68 Credits</b>
First Class with Distinction	$\geq 7.75$
First Class	$\geq 6.75$ to $< 7.75$
Second Class	$\geq 5.75$ to $< 6.75$

### 8.1 Cumulative Grade Point Average (CGPA)

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

For Credit Courses:

<b>Range of Marks (%)</b>	<b>Letter Grade</b>	<b>Level</b>	<b>Grade Point</b>
$\geq 90$	O	Outstanding	10
$\geq 80$ to $<90$	A+	Excellent	9
$\geq 70$ to $<80$	A	Very Good	8
$\geq 60$ to $<70$	B+	Good	7
$\geq 50$ to $<60$	B	Fair	6
$<50$	F	Fail	0
	AB	Absent	0

For Audit Courses:

Range of Marks	Letter Grade	Result
$\geq 50$	S	Satisfactory
$< 50$	N	Not Satisfactory

### COMPUTATION OF SGPA

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.

$$SGPA(S_i) = \frac{\sum(C_i \cdot G_i)}{\sum(C_i)}$$

Where  $C_i$  is the number of credits of the  $i^{\text{th}}$  course and

$G_i$  is the grade point scored by the student in the  $i^{\text{th}}$  course

### COMPUTATION OF CGPA

- i. The CGPA is also calculated in the same manner taking into consideration all the courses undergone by a student over all the semesters of the program, i.e.

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

Where  $S_i$  is the SGPA of the  $i^{\text{th}}$  semester and

$C_i$  is the total number of credits in that semester

- ii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- iii. Grade Point Average can be converted into equivalent percentage using

$$\text{Percentage of Marks} = (\text{CGPA} - 0.75) \times 10$$

## 9 MINIMUM INSTRUCTION DAYS

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

## 10 WITHHOLDING OF RESULTS

If the student has any dues in the college or involved in indisciplinary/malpractice/court cases, his result will be withheld.

**11 TRANSITORY REGULATIONS**

11.1 Discontinued or detained students are eligible for re-admission into same or equivalent courses as and when offered.

**12 GENERAL**

12.1 Wherever the words "he", "him", "his", occur in the regulations, they include "she", "her", "hers".

12.2 The academic regulations should be read as a whole for the purpose of any interpretation.

12.3 In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.

12.4 The college may change or amend the academic regulations or syllabi as and when the need arises, and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the College.

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