

UNIVERSITY OF PUNE

RULES AND REGULATIONS

FOR

**M.E. PROGRAMME
UNDER FACULTY OF ENGINEERING**

EFFECTIVE FROM JUNE 2013

PREFACE:

In a bid to fine tune our technical education system to the global standards & practices, the Credit-Grade based performance and assessment system has been implemented with effect from June 2008 onwards for all the Post Graduate Programms (PG) under the Faculty of Engineering, University of Pune.

This system has been running effectively and successfully till this point of time since its inception. With the advent of technology and ever-changing expectations from the Industry and Society, it has become imperative to relook at the structure and subject contents of various PG courses to make it contemporary and relevant.

As per the decision by the authorities of University of Pune the faculty of Engineering has prepared the credit system and structure. The revised course is of 100 credits and 1 credit is equivalent to 15 hours. Assessments in revised credit system consist of A) In-semester continuous assessment and B) End-semester assessment. Both shall have an approximately equal weightage.

The faculty of Engineering has shouldered the idea of incorporating latest advances in Science and technology and equip the subject/syllabus contents with latest and relevant topics and know-hows. Accordingly the new structure and syllabi are being introduced, to be implemented from **the academic year 2013-14**. The rules governing the programmes shall be as given below with suffix R, followed by the rule number.

- All PG programmes, under Faculty of Engineering shall be offered with credit system.
- All the M.E. programmes run under the Faculty of Engineering will be of two years duration. The total no. of credits required for the completion of the programme is 100 credits. One credit is equivalent to 15 hours.
- A student is required to earn 100 credits in a minimum period of four semesters.

M.E. PROGRAMME:

Each M.E. / M. Tech. programme is of 2 years duration. The minimum total no. of credits requirement for each programme is 100. In the structure, the credits are distributed over 4 semesters equally. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for M E programme is given below in table 1.

TABLE -1 Credit structure for M E programme

Course Work	Credits				
	Semester I	Semester II	Semester III	Semester IV	Total
Core Courses	16	12	8	--	36
Elective courses	5	5	5	--	15
Lab Courses	4	4	-	-	08
Seminar	-	4	4	5	13
Project Work	--	--	8	20	28
Total	25	25	25	25	100

The detail structure is given in Table 2

TABLE -2 Structure for M.E. 2013 Course

SEMESTER I

CODE	SUBJECT	TEACHING SCHEME	EXAMINATION SCHEME					CREDIT S
			Lect./ Pr	Paper		TW	Oral/ presentation	
	In Semester Assessment	End Semester Assessment						
	Theory 1	4	50	50	-	-	100	4
	Theory 2	4	50	50	-	-	100	4
	Theory 3	4	50	50	-	-	100	4
	Research Methodology	4	50	50	-	-	100	4
	Elective I	5	50	50	-	-	100	5
	Lab Practice I	4			50	50	100	4
	Total	25	250	250	50	50	600	25

SEMESTER II

CODE	SUBJECT	TEACHING SCHEME	EXAMINATION SCHEME					CRE DITS
			Lect./ Pr	Paper		TW	Oral/ presentation	
	In Semest er Assessment	End Semest er Assessment						
	Theory 5	4	50	50	-	-	100	4
	Theory 6	4	50	50	-	-	100	4
	Theory 7	4	50	50	-	-	100	4
	Elective II	5	50	50	-	-	100	5
	Lab Practice II	4	-	-	50	50	100	4
	Seminar I	4	-	-	50	50	100	4
	Total	25	200	200	100	100	600	25

SEMESTER III

CODE	SUBJECT	TEACHING SCHEME	EXAMINATION SCHEME				CRE DITS
			Lect./ Pr	Paper	TW	Oral/ presentation	

			In Semester Assessment	End Semester Assessment				
	Theory 8	4	50	50	-	-	100	4
	Theory 9	4	50	50	-	-	100	4
	Elective III	5	50	50	-	-	100	5
	Seminar II	4	-	-	50	50	100	4
	Project Stage I	08	-	-	50	50	100	8
	Total	25	150	150	100	100	500	25

SEMESTER IV

CODE	SUBJECT	TEACHING SCHEME	EXAMINATION SCHEME				CRE DITS
		Lect./ Pr	Paper	TW	Oral/ presentation	Total	
	Seminar III	5	-	50	50	100	5
	Project Work Stage II	20	-	150	50	200	20
	Total	25	-	200	100	300	25

Lab Practice I & II:

The laboratory work will be based on completion of assignments confined to the courses of that semester.

SEMINAR:

The student shall deliver the seminar on a topic approved by authorities.

Seminar I : Shall be on state of the art topic of student's own choice approved by an authority. The student shall submit the duly certified seminar report in standard format, for satisfactory completion of the work by the concerned Guide and head of the department/institute.

Seminar II : shall be on the topic relevant to latest trends in the field of concerned branch, preferably on the topic of specialization based on the electives selected by him/her approved by authority. The student shall submit the seminar report in standard format, duly certified for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

Seminar III: shall preferably an extension of **seminar II**. The student shall submit the duly certified seminar report in standard format, for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

PROJECT WORK:

The project work shall be based on the knowledge acquired by the student during the coursework and preferably it should meet and contribute towards the needs of the society. The project aims to provide an opportunity of designing and building complete system or subsystems based on area where the student likes to acquire specialized skills.

Project Work Stage – I

Project work Stage – I is an integral part of the project work. In this, the student shall complete the partial work of the project which will consist of problem statement, literature review, project overview, scheme of implementation (Mathematical

Model/SRS/UML/ERD/block diagram/ PERT chart, etc.) and Layout & Design of the Set-up. As a part of the progress report of Project work Stage-I, the candidate shall deliver a presentation on the advancement in Technology pertaining to the selected dissertation topic.

The student shall submit the duly certified progress report of Project work Stage-I in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

Project Work Stage - II

In Project Work Stage – II, the student shall complete the remaining part of the project which will consist of the fabrication of set up required for the project, work station, conducting experiments and taking results, analysis & validation of results and conclusions.

The student shall prepare the duly certified final report of project work in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute.

Note: Institute must submit the list of candidates, guide and project details (title, area, problem definition, abstract - clearly indicating objectives and scope, sponsorship details, if any) to the university within month of commencement of third semester. The guide must be approved/qualified full time teacher of the Institute. A guide can accept/enroll at the most 8 students per year.

1. Examination Rules

R-1.1 Assessment shall consist of a) In-semester and b) End-semester assessment c) Term work d) Oral/presentation

R-1.2 An In-semester assessment should be continuous and at least two tests should be conducted for a full course of 4/5 credits and a teacher must select a variety of procedures for examination such as:

- i. Written Test and/or Mid Term Test (not more than one or two for each course)
- ii. Assignments
- iii. An Open Book Test (with the concerned teacher deciding which books are to be allowed for this purpose) or
- iv. Mini Project by an individual student or a group of students, etc.

At the end of the semester, the final marks for a In-semester assessment shall be assigned based on the performance of the student and is to be submitted to the university.

R-1.3 The paper setting, conduct of examination and paper assessment for the End-Semester examination of the subjects Elective I, Elective II and Elective III shall be done by the respective college, as per the schedule of UoP. The End-Semester examination of 50 marks and of three hours duration for remaining theory subjects shall be conducted by the UoP covering the entire syllabus

R-1.4 Term Work assessment shall be conducted for the Lab Practice, Project and Seminar. Term work is continuous assessment based on work done, submission of work in the form of report, timely completion, attendance, and understanding. It should be assessed by post-graduate teacher of the institute. At the end of the semester, the final grade for a Term Work shall be assigned based on the performance of the student and is to be submitted to the UoP. A student who fails in the Term Work on account of unsatisfactory performance shall be given F grade and on the account of inadequate attendance shall be given FX grade.

R-1.5 Oral/Presentation Examination for Lab Practice/project/seminar: Oral/presentation is to be conducted and assessed jointly by internal and external examiners. The performance in the Oral examination shall be assessed by at least one pair of examiners appointed as examiners by the UoP. The examiners will prepare the mark / grade sheet in the format as specified by the UoP, authenticate and seal it. The examiner shall submit the original copy of the mark / grade sheet to the Principal of the concerned College/Institute and second copy to the concerned authority of the UoP.

Note: A student will become eligible to register for Project Work Stage II only after he/she secures passing grade in Project Work Stage I.

R-1.6 For passing course the student has to obtain at least 40 % marks in theory paper (In-Semester assessment plus end-Semester assessment) with securing at least 30 % in each in-semester and end-semester head separately.

R-1.7 For passing a course the student has to obtain at least 40 % marks in term work, oral/presentation

R-1.8 In order to qualify for obtaining the degree course, a student shall have a minimum aggregate 40% marks (E and above on grade point scale) in each course.

R-1.9 In case a student intend to improve the internal assessment score, the student can do so only by registering for the said course during the 5th / 6th semester whichever is applicable.

R-1.10 A student who failed to score minimum marks in the end-semester exam may reappear for the end-semester examination twice only in the subsequent period.

R-1.11 A student will be finally declared as fail, if he/she could not secure minimum 100 credits within a total period of four years. After that, such a student will have to seek fresh admission as per the admission rules prevailing at that time.

R-1.12 A student cannot register for the third semester, if he/she fails to earn 50% credits of the total of first and second semesters.

R-1.13 There shall be Revaluation of the End-Semester theory examination for all the theory subjects only, except Elective I, Elective II and Elective III.

R-1.14 The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA. The final grade sheet will also indicate the PG Centre at which the candidate completed the course.

R-1.15 To earn credits of a course (Theory/term work/practical/oral/presentation) student must pass the course with minimum passing marks/grade.

R-1.16 The M.E./M.Tech. degree will be awarded to the student who has earned 100 credits and secured minimum 5.5 SGPA in each semester.

R-1.17 For the requirement of minimum SGPA of 5.5, student can reappear for the end-semester examination of the Theory courses for which he/she has secured passing grade.

2. Assessment and Grade Point Average:

R-2.1 Marks/Grade/Grade Point

A grade is assigned based on the total marks obtained by a student in all the heads of examination of the course. These grades, their equivalent grade points are given in Table 3. The guidelines for conversion of marks to grades is given below.

TABLE 3

Grade	Grade Points	Percentage of Marks Obtained	Remarks
O	10	90-100	Outstanding
A	9	80-89	Very Good
B	8	70-79	Good
C	7	60-69	Fair
D	6	50-59	Average
E	5	40-49	Below Average
F	0	Below 40	Fail
AP	0	--	Passed Audit Course
FX	0	--	Detained, Repeat the Course
II	0	--	Incomplete -- Absent for Exam but continue for the course
PP	--	--	Passed (Only for non credit courses)
NP	--	--	Not Passed (Only for non credit courses)

R-2.2 Passing Grade

The grades **O, A, B, C, D, E** are passing grades. A candidate acquiring any one of these grades in a course shall be declared as pass. And student shall earn the credits for a course only if the student gets passing grade in that course.

R-2.3 F Grade

The grade **F** shall be treated as a failure grade. The student with **F** grade will have to pass the concerned course by re-appearing for the examination. The student with **F** grade for any stage of the Project Work, will have to carry out additional work/ improvement as suggested by the examiners and re-appear for the examination.

R-2.4 AP Grade

The student registered for auditing a course shall be awarded the grade **AP** and shall be included such **AP** grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the UoP and satisfactory in-semester performance and secured a passing grade in that course. No grade points are associated with this grade and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA.

R-2.5 FX Grade

The grade **FX** in a course is awarded by the college, if a student does not maintain the minimum attendance in the Lecture / Tutorial class as prescribed by the UoP and/or his performance during the semester is not satisfactory and/or he/she fails in the Term Work head of that course.

The student with **FX** grade in a given course is not permitted to take the end of semester examination in that course. Such a student will have to re-register for the course.

R-2.6 Grade II

Grade **II** shall be awarded to a candidate in a course in which he has the minimum attendance as prescribed by the University and satisfactory in-semester performance but could not appear for the end-semester examination. Such a student will have to appear in the subsequent end-semester

examination.

R-2.7 PP / NP Grade

The non-credit courses, such as Practical Training, Communication Skill, Field Visit Courses etc. shall be awarded PP/NP grades. No grade points are associated with these grades and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. However, the award of the degree is subject to obtain a PP grade in all such compulsory courses.

R-2.8 The student with F / FX / grade II in a course shall not be awarded any credits for that course.

R-2.9 For the grade improvement a student must reappear for semester-end examination only for a minimum 30% credits from theory courses. These courses will be from the core subjects. A student can opt for the grade improvement only after the successful completion of minimum 100 credits.

3. PERFORMANCE INDICES:

R-3.1 SGPA

The performance of a student in a semester is indicated by a number called the Semester Grade Point Average (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses, seminars and projects registered by the student during the semester.

(i) Semester Grade Point Average (SGPA) =

$$SGPA = \frac{\sum_{i=1}^p C_i G_i}{\sum_{i=1}^p C_i}$$

$$SGPA = \frac{\sum \text{Grade Points Earned} \times \text{Credits for each course}}{\text{Total Credits}}$$

For Example: suppose in a given semester a student has registered for five courses having credits C1, C2, C3, C4, C5 and his / her grade points in those courses are G1, G2, G3, G4, G5 respectively.

Then students

$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

SGPA is calculated up to two decimal places by rounding off.

R-3.2 CGPA

The CGPA is the weighted average of the grade points obtained in all the courses, seminars and projects registered by the student since student is admitted to the college. It is calculated in the

same manner as the SGPA.

R-3.3 In case of a student clearing a failed course or improvement, the earlier grade would be replaced by the new grade in calculation of the SGPA and CGPA.

4. RESULT:

R-4.1 Based on the performance of the student in the semester examinations, the University of Pune will declare the results and issue the Semester Grade sheets.

The University of Pune will issue a Degree Certificate and the final grade sheet of Semester I, II, III & IV, to the student who is otherwise eligible for the award of Degree of Master of Engineering/Technology.

R-4.2 The class shall be awarded to a student on the CGPA calculated based on all the four semesters. The award of the class shall be as per Table 4.

TABLE 4

Sr. No.	CGPA	Class of the Degree awarded
1.	7.75 or More than 7.75	First Class with Distinction
2.	6.75 or more but less than 7.75	First Class
3.	6.25 or more but less than 6.75	Higher Second Class
4.	5.5 or more but less than 6.25	Second Class