

**Savitribai Phule Pune University**

**RULES AND REGULATIONS**

**FOR**

**UG CREDIT SYSTEM PROGRAMME  
UNDER FACULTY OF ENGINEERING**

**EFFECTIVE FROM JUNE 2015**

## PREFACE:

In a bid to fine tune our technical education system to the global standards & practices, the Credit-Grade based performance and assessment system will be implemented with effect from June 2015 onwards for all the Under Graduate Programmes (UG) under the Faculty of Engineering, University of Pune, starting with First Year.

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 UG 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 190 credits and 1 credit is equivalent to 15 hours. Assessments in credit system consist of A) In-semester continuous assessment and B) End-semester assessment for the Theory head and Term Work/ Practical / Oral / Presentation at the end of the semester for Practical, Oral, Seminar and Project Head.

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 2015-16** from First Year and it will continue for subsequent years. The rules governing the programmes shall be as given below with suffix R, followed by the rule number.

- All UG programmes, under Faculty of Engineering shall be offered with credit system.
- All the B.E. programmes running under the Faculty of Engineering will be of four years duration.
- The total no. of credits required for the completion of the programme is 190 credits.
- One credit is equivalent to 15 hours.
- A student is required to earn 190 credits in a minimum period of eight semesters.

## 1. UG Programme Structure:

Each B.E. / B. Tech. programme is of 4 years duration. The minimum total no. of credits requirement for each programme is 190. In the structure, the credits are distributed over 8 semesters. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for B E programme is given below in table 1.

**TABLE -1** Credit structure for B E programme

Course Work	Credits								Total
	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6	Sem-7	Sem-8	
Mandatory Subjects <sup>\$</sup>	19	19	20	20	18	18	10	6	130
Elective Subjects							6	6	12
Lab Courses	6	6	5	5	5	4	4	4	39
Seminar						1			1
Project Work							2	6	8
<b>Total</b>	25	25	25	25	23	23	22	22	190

§ : Mandatory subjects of first, second and third semester must include at least 40 credits for Engineering Physics, Engineering Chemistry, Engineering Mathematics, social science and soft skills  
In addition to above credits, there should be audit courses in semester five, six and seven to develop the various skills.  
The detail structure is given in Tables

**TABLE -2 Structure for Semester-1**

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107001	Engineering Mathematics I		4	1	–	50	50	25	–	–	125	5
# 107002/ 107009.	Engineering Physics OR Engineering Chemistry		4	–	2	50	50	25	–	–	125	5
110003	Engineering Graphics I		3	–	2	50	50	–	–	–	100	4
# 103004/ 104012	Basic Electrical Engineering OR Basic Electronics Engineering		3	–	2	50	50	25	–	–	125	4
101005	Basic Civil and Environmental Engineering		3	–	2	50	50	25	–	–	125	4
102006	Fundamentals of Programming Languages I		1	–	2	–	–	–	50*	–	50	2
111007	Workshop Practice		–	–	2	–	–	50	–	–	50	1
<b>Total of Semester I</b>			18	1	12	250	250	150	50	–	700	25

**TABLE - 3 Structure for Semester-2**

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107008	Engineering Mathematics II		4	–	–	50	50	–	–	–	100	4
# 107009/ 107002	Engineering Chemistry OR Engineering Physics		4	–	2	50	50	25	–	–	125	5
110010	Basic Mechanical Engineering		3	–	2	50	50	25	–	–	125	4
101011	Engineering Mechanics		4	–	2	50	50	25	–	–	125	5
# 104012/ 103004.	Basic Electronics Engineering OR Basic Electrical Engineering		3	–	2	50	50	25	–	–	125	4
102013	Fundamentals of Programming Languages II		1	–	2	–	–	–	50*	–	50	2
102014	Engineering Graphics II		–	–	2	–	–	50	–	–	50	1
<b>Total of Semester II</b>			19	–	12	250	250	150	50	–	700	25

**Instructions:**

1. PR/Tutorial must be conducted in minimum three batches (batch size 22 maximum) per division
2. Minimum number of required Experiments/Assignments in PR/DRG/Tutorial be carried out as mentioned in the syllabi of related subjects.
3. \* for FPL-I and FPL-II: S.P. Pune University Online Practical Examination shall be conducted at the semester end.
4. # Every student should appear for Engineering Physics, Engineering Chemistry, Basic Electronics Engineering and Basic Electrical Engineering during the year.
5. # College is allowed to distribute Teaching Workload of subjects Physics, Chemistry, BEE, BXE in semester I and II by dividing number of FE divisions appropriately in two groups.

**TABLE -4 Structures for Semester-3**

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	20	250	250		100	20
Practical/Oral	10			150		5
<b>Total</b>	30	250	250	150	100	25

**TABLE -5 Structure for Semester-4**

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	20	250	250		100	20
Practical/Oral	10			150		5
<b>Total</b>	30	250	250	150	100	25

**TABLE -6 Structure for Semester-5**

Subject Head	Duration/week (hrs)	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	18	150	350		100	18
Practical/Oral	10			150		5
<b>Total</b>	28	150	350	150	100	23

**TABLE -7 Structure for Semester-6**

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	18	150	350		100	18
Practical/Oral	8			100		4
Seminar	1			50		1
<b>Total</b>	27	150	350	150	100	23

**TABLE -8 Structure for Semester-7**

Subject Head	Duration/week (hrs)	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	16	150	350	-	100	16
Practical/Oral	8			100		4
Project	2			50		2
<b>Total</b>	26	150	350	150	100	22

**TABLE -9 Structure for Semester-8**

Subject Head	Duration/week	In-semester Exam	End-semester Exam	Practical/Oral Exam	Term Work Marks	Credits
Theory	12	120	280	-	100	12
Practical/Oral	8			100		4
Project	6			100	50	6
<b>Total</b>	26	120	280	200	150	22

**Note: Semester 1 and semester 2 will be part of First Year of Engineering (FE)  
Semester 3 and semester 4 will be part of Second Year of Engineering (SE)  
Semester 5 and semester 6 will be part of Third Year of Engineering (TE)  
Semester 7 and semester 8 will be part of Final Year of Engineering (BE)**

**Practicals/Lab. Work:**

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

**SEMINAR:**

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.

**PROJECT WORK:**

The project work shall be based on the knowledge acquired by the student during the graduation 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 in the seventh semester 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 . As a part of the progress report of Project work, the candidate shall deliver a presentation on the advancement in Technology pertaining to the selected Project topic.

Project Work in the eighth semester, 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.

## **2. Examination Scheme:**

### **R 2.1**

The theory examination shall be conducted in three phases for all the subjects of semesters 1-4 and two phases for the semesters 5-8. For first four semesters (Semester 1, 2, 3 and 4), the Phase-1 and Phase-2 exam are part of in-semester exam and Phase 3 is a part of end-semester exam.

#### **R 2.1.1: Phases of FE and SE**

**Phase I** Online examination of 25 marks, 30 minutes duration, containing objective- multiple choice questions (MCQ) and fill in blanks; based on unit I and unit II of the subject, shall be conducted as per the schedule of the university.

**Phase II** Online examination of 25 marks, 30 minutes duration, containing objective- multiple choice questions (MCQ) ) and fill in blanks; based on unit III and unit IV of the subject, shall be conducted as per the schedule of the university.

**Phase III** Written examination of 50 marks, 2 hours duration; based on all the six units, shall be conducted at the end of semester, as per the schedule of the university.

#### **R 2.1.2: Phases of TE and BE**

##### **Phase I:**

Theory examination of 30 marks, 60/90 minutes duration based on unit I ,unit II and unit III of the subject, shall be conducted as per the schedule of the university.

##### **Phase II:**

Theory examination of 70 marks, 150/180 minutes duration, based on all the units of the subject, shall be conducted at the end of semester as per the schedule of the university.

### **R-2.2**

For the subject of Engineering Graphics- I at FE, the mode of examination shall be manual for phase I and phase II. Phase I and phase II examinations shall be of one hour duration each. All these examinations shall be conducted as per the schedule of the University.

### **R-2.4**

The practical examination of 50 marks, one hour duration for Fundamentals of Programming Languages- I and Fundamentals of Programming Languages-II, shall be conducted online at the end of respective semesters as per the schedule of the University.

### **R-2.5**

The third semester ( first semester of SE ) Phase 1 and Phase 2 will be conducted together by considering the direct second year admissions.

### 3. Structure of Question Paper :

#### R 3.1: For FE and SE:

- All questions for online examinations shall be objective type with multiple choice/ fill in the blanks type questions. The weightage for each question will be of one or two marks as per the difficulty level. More or less equal weightage is to be given to every unit pertaining to the examination.
- The nature of all questions in phase III written examination shall be Fundamental, Mathematical and analytical. The weightage for the syllabus units is as in table 10 and every question will have an internal option.

Table 10 Unitwise weightage

Unit	% Weightage
unit I & unit II	25%
unit III & unit IV	25%
unit V	25%
unit VI	25%

#### R 3.2: For TE and BE

- Three Units (Unit Nos. 1, 2 & 3 ) will be covered for 30 marks for Phase-1(In semester) Exam. Equal weightage will be given to all units (10 marks each).
- All the Six Units will be covered for 70 marks for Phase -2 ( End-semester ) Exam. 20 marks will be the weightage for first 3 units and 50 marks will be the weightage for Units 4,5 and 6. Question Paper will have only one section and five questions.

### 4. Assessment

#### A. Theory

##### R 4.1:

- **In-Semester Examination for FE and SE:**

Since in-semester exam for FE and SE is online, the assessment will be computer based.

- **In-Semester Examination for TE and BE:**

Assessment will be done at the CAP Centre of the College by the Expert who is appointed as an examiner for the subject as per 32/5 panel for the In-Semester exam.

##### R 4.2:

#### **End-Semester Examination for FE,SE,TE and BE:**

Assessment will be done at the CAP Centre by the Expert who is appointed as an examiner for the subject as per 32/5 panel for the End-Semester exam.

#### **B. Term work:**

##### R 4.3:

Term Work assessment shall be conducted for the Lab Practice, Project, tutorials and Seminar. Term work is continuous assessment based on work done, submission of work in the form of report/journal, timely completion, attendance, and understanding. It should be assessed by

subject teacher of the institute for first to sixth semester and by the external examiner at seventh and eighth semester. 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 Savitribai Phule Pune University. 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.

### **C. Practical/Oral/Presentation :**

#### **R 4.4:**

Practical/Oral/presentation is to be conducted and assessed jointly by internal and external examiners. The performance in the Practical/Oral/Presentation examination shall be assessed by at least one pair of examiners appointed as examiners by the Savitribai Phule Pune University. The examiners will prepare the mark / grade sheet in the format as specified by the Savitribai Phule Pune University, authenticate and seal it.

## **5. RULES OF PASSING**

### **R-5.1**

To pass the term work / Practical / Oral the student has to earn Minimum of 40% marks in each head.

### **R-5.2**

To pass the Theory Subject head the student has to earn minimum of 40 per cent marks in End-Semester exam and 40 percent average marks (In-Semester marks + End-Semester marks).

### **R-5.3**

The failing student can repeat the End-Semester exam to pass the head in any semester and the In-Semester exam marks will be retained as it is. Or the failing student can repeat for End-Semester exam as well as in-semester exam. for the head of Even semester in the Even semester only and for the head of Odd semester in Odd semester only for the theory head.

### **R-5.4**

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

### **R 5.5**

Student can only apply for the revaluation/Photocopying of End-Semester exam only.

## **6. RULES OF A.T.K.T.:**

### **R-6.1**

A student can register for the third semester(SE), if he/she earns minimum 50% credits of the total of first and second semesters(FE).

### **R-6.2**

A student can register for the fifth semester(TE), if he/she earns minimum 50% credits of the total of third and fourth semesters(SE) and all the credits of first and second semester(FE).

### **R-6.3**

A student can register for the seventh semester(BE), if he/she earns minimum 50% credits of the total of fifth and sixth semesters(TE) and all the credits of third and fourth semester(SE).

### **R-6.4**

A student will be awarded the bachelor's degree if he/she earns 190 credits and clears all the audit courses specified in the syllabus.



## 7. Assessment and Grade Point Average:

### R-7.1

#### Marks/Grade/Grade Point

A grade is assigned to each head based on marks obtained by a student in examination of the course. The marks obtained in in-semester and end-semester examination are considered together to calculate the grade of the course. These grades, their equivalent grade points are given in Table 11.

**TABLE 11 Grade and Grade Point**

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)

- **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.
- **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.
- **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 Savitribai Phule Pune University 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.
- **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 Savitribai Phule Pune University 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.
- **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.

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

## 8. PERFORMANCE INDICES:

### R-8.1

The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA.

### R-8.2

**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-8.3

**CGPA-** The CGPA is the weighted average of the grade points obtained in all the courses (Theory/term work/practical/oral/presentation) of first semester to eighth semester for the students admitted in the First year and third to eighth semester for the students directly admitted at Second year. It is calculated in the same manner as the SGPA.

### R-8.3

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

- 9. RESULT:** 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.

### R-9.1

The class shall be awarded to a student on the CGPA calculated as mentioned in Rule no. R 8.3. The award of the class shall be as per Table 12.

**TABLE 12 -CGPA and Class awarded**

<b>Sr. No.</b>	<b>CGPA</b>	<b>Class of the Degree awarded</b>
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

# **Savitribai Phule Pune University**

## **UG CHOICE BASED CREDIT SYSTEM**



## **RULES AND REGULATIONS**

FOR  
UNDER GRADUATE PROGRAMME IN ENGINEERING  
UNDER  
FACULTY OF SCIENCE AND TECHNOLOGY  
WITH EFFECTIVE FROM A.Y. 2019-20

## Course Structure, Guidelines, Rules and Regulations

### **Preamble**

Economic progress of country is strongly linked with quality of technical education. Engineering education is gaining new heights and it contributes substantial share in overall education system. Engineering graduates are to be educated and trained with a view of employability and sustainability. With the advent of technology and ever-changing expectations from the Industry and Society, revision of curriculum is need of the day, making it contemporary and relevant. 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 already implemented with effect from June 2015 onwards for all the Under Graduate Programme (UG) under the Faculty of Science & Technology.

To fulfill the necessities, the youngsters pursuing engineering studies need to be well equipped and acquaint with the latest technological trends and industrial requirements. This is possible only when the students undergo studies with an updated and evolving curriculum to match global scenario. The faculty of Science & Technology has shouldered the idea of incorporating latest advances and to upgrade the course contents with latest and relevant topics and know-how. Accordingly the new structure and curriculum are being introduced to be implemented from the academic year 2019-20 for First Year Engineering and the process will continue for subsequent years for second, third and fourth year engineering.

### **General Guidelines**

1. All undergraduate programmes in Engineering under faculty of Science & Technology will be of **four years** duration and **eight semesters**.
2. The total number of credits required to earn for the **completion of the programme is 170 credits** in a minimum period of **eight semesters**.
3. All UG programme, under Faculty of Science & Technology shall be offered with **170 credit**; one credit is approximately equivalent to 15 contact hours.
4. Assessments in Choice based Credit System consists of
  - A) In-semester examination
  - B) End-semester examination
  - C) Continuous assessment for various examination heads.Assessment and Evaluation is to be done as per guidelines provided by competent authority.
5. Semester 1 and semester 2 will be part of First Year of Engineering (FE), Semester 3 and semester 4 will be part of Second Year of Engineering (SE), Semester 5 and semester 6 will be part of Third Year of Engineering (TE), Semester 7 and semester 8 will be part of Final Year of Engineering (BE)
6. **Induction Program**

Induction programme for first year students is introduced to familiarize them to the new environment and encourage them to learn beyond classrooms. Objective is to help new students adjust and feel comfortable in the new environment, inculcate in them the ethos and culture of the institution, help them build bonds with other students and faculty members, and expose them to a sense of larger purpose and self exploration. Induction Program should be preferably of 3 weeks (**2 weeks at beginning first semester and 1 week at the beginning of second semester**). In order to implement the (SIP) in the College the following activities can be taken at College.

- Physical Activity: - This would involve a daily routine of physical activity with games and sports.
- Creative Arts: - Every students would chose one skill related to arts whether visual arts or performing arts.
- Mentoring and Universal Human values:-Mentoring and connecting the students with faculty members and other students is the most important part of student induction. This can be effectively done by forming a group of 22-24 students with a

faculty mentor each. This can be implemented through group discussion and real life activities rather than only lecturing.

- Familiarization with College, Department and Branch :-The incoming student should be told about the credit, grading system and scheme of the examination. They should be explained how the study in College differs from the study in school. They should be taken on College tour and shown important facilities such as library, canteen, gymkhana etc. They should be shown their own department.
- Literary Activity:-Literary Activity would compass reading book, writing a summary, debating, enacting a play etc.
- Proficiency modules: - The modules can be designed to overcome some critical lacunas that students might have like English Speaking, Computer familiarity etc.
- Lectures by Eminent People: - The lectures of Eminent people be organized to expose the students to social activity and public life.
- Visit to local Area:-A couple of visits to the landmarks of the city or a hospital or orphanage could be organized.
- Extracurricular activities in College:-The new students should be introduced to the extracurricular activities at the College.
- Feedback and Report on the program:-Students should be asked to give their mid program Feedback wherein each group of 22-24 students should be asked to prepare a single report on their experience of the program.

To summarize the above activity the sequence of activities can be planned as given below:

- Address by Principal, HOD's and other functionaries and welcome the new students along with their parents.
- The branch wise allocation of students to be done and a group of 22-24 students is to be formed along with one faculty as mentor.
- A detail time table of various activities is to be prepared and displayed for all students. The timetable should give details of location and details of faculty in charge of the activity.
- The visit to local areas can be arranged on Saturdays.
- The various activities to be carried out can be divided into three phases :-
  1. Initial phase:- Which may include Address by Principal, HOD's and other functionaries College and Dept Visit, interaction with parents Forming of students group and assigning of mentor mentee.
  2. Regular Phase:- This phase may include the activities such as creative arts / universal Human values Games & Sports in the morning session and in the afternoon session. Literary activities, Proficiency module, Lectures & workshop, Extracurricular Activities etc. can be scheduled.
  3. Closing Phase:- This phase may include taking feedback of students, preparation of Report by each group, Test of creative Arts, Human Values can be taken.

These are summarized guidelines to be given to the student inducing induction programme (SIP). Please refer SIP Manual published by AICTE for detail guidelines[2].

## 7. **Project based Learning:**

For better learning experience, along with traditional classroom teaching and laboratory work based learning, project based learning has been introduced with an objective to motivate students to learn by working in group (**5 to 6 students per group**) courteously to

solve a problem. Students may undertake a problem which can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students' wondering within different disciplines and professional environments. A chosen problem has to be **exemplary**. The problem may involve an interdisciplinary approach in both the analysis and solving phases. Such practice will also increase their capacity and learning through shared cognition. [3] [5].

8. **Laboratory Course:**

The laboratory work will be based on completion of experiments/ lab assignments confined to the related companion courses of the semester.

9. **Seminar:**

Seminar shall be on state-of-the-art topic selected by student and approved by the 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.

10. **Project Work at Final Year:**

Project work in the seventh semester is an integral part of the project work. The project work shall be based on the knowledge acquired by the student during the graduation 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. 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.

11. **Internship**

Internships are educational and career development opportunities, providing practical experience in a field or discipline. Internships are far more important as employers are looking for employees who are properly skilled. They are structured, short-term, supervised placements often focused around particular tasks or projects with defined time scales. Core objective is to expose technical students to the industrial environment, which cannot be simulated/experienced in the classroom and hence creating competent professionals in the industry and to understand the social, economic and administrative considerations that influence the working environment of industrial organizations. Student may choose to undergo Internship at Industry/Govt./NGO/MSME/Rural Internship/ Innovation/ IPR/Entrepreneurship. Student may choose either to work on innovation or entrepreneurial activities resulting in start-up or undergo internship with industry/NGO's/Government organizations/Micro/Small/ Medium enterprises to make themselves ready for the industry [4]. Conduction, monitoring, assessment, and evaluation is to be done as per guidelines provided by AICTE [4].

12. **Abbreviations:**

**TW:** Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical  
**Sem:** Semester, **PROJ:** Project Work, **ESE:** End Semester Examination **ISE:** In Semester Examination, **CA:** Continuous Assessment, **DW:** Drawing.

**Definition of Credit [1]\*\*:**

1 Hour Lecture (L) per week	1 credit for 1 Hour
Tutorial (T) per week	1 credit for 1 Hour
Practical (P) per week 2 Hours Practical(Lab)/week	1 credit for 2 Hours

\*\* The head of Tutorial and Practical (as a special case) may be merged for common credit with the permission of authority.

**This document includes following sections-**

- I. Undergraduate Engineering Programme Structure
  - II. Examination Scheme
  - III. Structure of Question Paper
  - IV. Assessment
  - V. Rules of Passing
  - VI. Rules of ATKT (Allowed To Keep Term)
  - VII. Assessment and Grade Point Average
  - VIII. Performance Indices
  - IX. Result
- References

**1) UG Programme Structure and Credit Distribution:**

Each B.E. / B. Tech. programme is of 4 years duration. The minimum total number of credit requirement for each programme is 170. In the structure, the credits are distributed over 8 semesters. The open elective included, gives the student a wide choice of subjects from other programme. The Credit structure for Bachelor of Engineering programme is given below in Table 1.

**TABLE 1: Credit Structure for UG programme in Engineering**

Credits offered									
Course Work	Semester								Total
	I	II	III	IV	V	VI	VII	VIII	
Professional Theory Courses *	17	16	15	15	12	06	06	06	90
Elective Courses <sup>^</sup>	-	-	-	-	03	03	06	06	18
Laboratory Courses/ continuous assessment/TW	05	04	07	05	05	05	06	02	42
Seminar & Communication Skills	-	-	-		01	01		-	02
Project Work	-	-	-	-	-	02	02	06	10
Project Based Learning		02		02	--	--	--	--	04
Internship <sup>\$</sup>	--	--	--	--		04	--	--	04
Total	22	22	22	22	21	21	20	20	170
Mandatory Non_Credit_Graded_Audit Course <sup>#</sup> per semester									
Induction Program at first year Engineering	3 week duration ( 2 week at the beginning of Sem-I & 1 week at the beginning of Sem -II)								

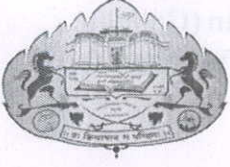
\*: Professional Courses include - Engineering Science Courses including Workshop, Drawing, basics of Electrical/Electronics/Mechanical/Computer/Civil Engineering, Humanities and Social Sciences including Management/Finance Management courses, Basic Science courses and Professional core courses.

<sup>^</sup>: Professional Elective courses relevant to chosen specialization/branch and Open Electives (interdisciplinary and /or emerging technology)

<sup>#</sup>: There will be mandatory **Non\_Credit Course** per Semester viz- Environmental Studies, Indian Constitution, Essence of Indian Traditional Knowledge, financial Management and courses introduced time to time by university or apex bodies.

<sup>\$</sup>: Internship to be completed after semester 5 and to be assessed in semester 6. Internship will be of 4 to 6 weeks maximum.





# सावित्रीबाई फुले पुणे विद्यापीठ

गणेशखिंड, पुणे - ४११००७

## Savitribai Phule Pune University

Ganeshkhind, Pune - 411007



सावित्रीबाई फुले पुणे विद्यापीठ  
॥ प. शिक्षणान् व सन्निधे ॥

दूरध्वनी क्रमांक : ०२०-२५६२११५६/५७/५९

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शैक्षणिक विभाग (मान्यता कक्ष)

Academic Section (Approval Cell)

संकेतस्थळ/ Website: [www.unipune.ac.in](http://www.unipune.ac.in)

संदर्भ क्र : सीबी/१०१

दिनांक : १५-०२-२०२४

### परिपत्रक क्र. २९/२०२४

विषय :- राष्ट्रीय शैक्षणिक धोरण - २०२० ची राज्यात अंमलबजावणी करताना पदवी/पदव्युत्तर अभ्यासक्रमांसाठी निश्चित केलेल्या श्रेयांक आराखडयानुसार विद्यापीठे, संलग्नित महाविद्यालये/ उच्च शिक्षण संस्थांमधील विद्यार्थ्यांसाठी आंतरवासिता (Internship) उपलब्ध करून देण्याबाबतच्या मार्गदर्शक तत्वांबाबत...

महोदय/महोदया,

उपरोक्त विषयास अनुसरून कळविण्यात येते की, महाराष्ट्र शासनाचे उच्च व तंत्र शिक्षण विभागाने प्रसिध्द केलेल्या, शासन निर्णय क्रमांक: एनईपी-२०२४/प्र.क्र.११/विशि-३ नुसार विद्यापीठ अनुदान आयोगाने एप्रिल, २०२३ मध्ये विहित केलेल्या नॅशनल क्रेडिट फ्रेमवर्कबाबतच्या मार्गदर्शक तत्त्वानुसार शासनाने उपरोक्त शासन निर्णयान्वये पारंपारिक/ व्यावसायिक अभ्यासक्रमाच्या पदवी/पदव्युत्तर अभ्यासक्रमांसाठी श्रेयांक आराखडा निश्चित केला आहे. या शासन निर्णयामध्ये आंतरवासितासाठी सत्रनिहाय ८ ते १२ श्रेयांक निश्चित करण्यात आले असून आंतरवासिता बंधनकारक करण्यात आली आहे.

राष्ट्रीय शैक्षणिक धोरण - २०२० ची राज्यात अंमलबजावणी करताना पदवी/पदव्युत्तर पदवी अभ्यासक्रमांसाठी निश्चित केलेल्या श्रेयांक आराखडयानुसार विद्यापीठे, संलग्नित महाविद्यालये/उच्च शिक्षण संस्थांमधील विद्यार्थ्यांसाठी आंतरवासिता (Internship) उपलब्ध करून देण्याबाबतची मार्गदर्शक तत्त्वे प्रसिध्द केली आहेत व सोबत आंतरवासिता कक्षाच्या कामकाजाबाबतचे परिशिष्ट क्र. १ ते ९ जोडली आहेत. उपरोक्त संदर्भीय पत्राची प्रत सोबत जोडलेली आहे.

शासन निर्णय क्रमांक: एनईपी- २०२४/प्र.क्र.११/विशि-३ मधील मुद्दा क्र. २ नुसार मा. विभागप्रमुख/मा. प्राचार्य/मा. संचालक, विद्यापीठ शैक्षणिक विभाग/संलग्न महाविद्यालये/मान्यताप्राप्त परिसंस्था यांनी विद्यापीठ/उच्च शिक्षण

संस्था/महाविद्यालय स्तरावर आंतरवासिता कक्षाची स्थापना करून त्याची माहिती विद्यापीठाच्या [www.unipune.ac.in](http://www.unipune.ac.in) या संकेतस्थळावर BOD Online – Login (College Username & Password) – Important Links – Internship Cell या शीर्षकाखाली प्रस्तुत करावी, ही विनंती.

कळावे,

आपला

(स. द. डासखर)

उपकुलसचिव

प्रत माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी:—

१. मा. अधिष्ठाता, सर्व विद्याशाखा, प्रस्तुत विद्यापीठ
२. मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ
३. मा. विभागप्रमुख, सर्व शैक्षणिक विभाग, प्रस्तुत विद्यापीठ
४. मा. प्राचार्य, सर्व संबंधित संलग्न महाविद्यालये
५. मा. संचालक, मान्यताप्राप्त परिसंस्था
६. मा. उपकुलसचिव, शैक्षणिक विभाग (संलग्नता कक्ष), प्रस्तुत विद्यापीठ
७. मा. उपकुलसचिव, शैक्षणिक प्रवेश विभाग, प्रस्तुत विद्यापीठ

संदर्भ : महाराष्ट्र शासन, उच्च व तंत्र शिक्षण विभाग, शासन निर्णय क्रमांक: एनईपी—  
२०२४/प्र.क्र.११/विशि—३

# **Savitribai Phule Pune University**

## **RULES AND REGULATIONS**

**for**

### **PG Choice Based Credit System for Science Programme of Affiliated Colleges**

#### **Under Faculty of Science and Technology**

**Effective from June 2019**



**Prof. S. D. Dhole**  
Chairman  
UG/PG Rule & Regulation committee,  
SPPU, Pune



**Prof. A. D. Shaligram**  
Dean,  
Faculty of Science & Technology  
SPPU, Pune

## 1. Background/Preamble:

Education plays enormously significant role in building of a nation. There are quite a large number of educational institutions, engaged in imparting education in our country. Majority of them have entered recently into semester system to match with international educational pattern. However, our present education system is churning out youth who have to compete locally, regionally, nationally as well as globally. The present alarming situation necessitates transformation and/or redesigning of system, not only by introducing innovations but developing "learner-centric approach.

Majority of Indian higher education institutions have been following the system which obstructs the flexibility for the students to study the subjects/courses of their choice and their mobility to different institutions. There is need to allow the flexibility in education system, so that students depending upon their interests can choose inter-disciplinary, intra-disciplinary and skill-based courses. This can only be possible when choice based credit system (CBCS), an internationally acknowledged system, is adopted. The choice based credit system not only offers opportunities and avenues to learn core subjects but also explore additional avenues of learning beyond the core subjects for holistic development of an individual. The CBCS will undoubtedly facilitate benchmarking of our courses with best international academic practices.

### 1.1 Preface

In a bid to fine tune our scientific education system to the global standards & practices, the Credit-Grade based performance and assessment system will be implemented with effect from June 2019 onwards for all the Post Graduate Programmes (PG) of affiliated colleges under the Faculty of Science, Savitribai Phule Pune University, Pune, starting with First Year.

With the advent of frontier science, 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 Savitribai Phule Pune University, the faculty of Science has prepared the choice based credit system and its structure. The revised course is of 80 credits and 1 credit is equivalent to 15 hours of teaching in a semester. Assessments in credit system consist of A) In-semester continuous assessment and B) End-semester assessment for the Theory head and Term Work/ Practical / Oral / Presentation at the end of the semester for Practical, Oral, Seminar and Project Head.

The faculty of Science has shouldered the idea of incorporating latest advances in Science and technology and equips 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 2019-20 from First Year and it will continue for subsequent years. The rules governing the programmes shall be as given below with suffix R, followed by the rule number.

- R.1. All PG programmes, under Faculty of Science shall be offered with credit system.
- R.2. All the M.Sc programmes running under the Faculty of Science will be of two years duration.
- R.3. The M.Sc. degree will be awarded to students who complete a total of 80 credits (120 credits) in a minimum of two (three) years by completing on an average 20 credits per semester. .

- R.4. Each theory credit is equivalent to 15 clock hours of teaching and Each practical credit is equivalent to 30 clock hours of teaching in a semester
- R.5. A student is required to earn 80 credits in a minimum period of four semesters.
- R.6. Final CGPA will be calculated on the basis of 80 credits.
- R.7. There is 15 weeks teaching during the semester.
- R.8. Except practical credits wherever applicable, students may be allowed to complete less courses per semester on a condition they complete the two-year degree course in a maximum of four years and a three-year degree course in a maximum of five years. This facility will be available subject to the availability of concerned courses in a given semester and with a maximum variation of 25 per cent credits (in case of fresh credits) per semester.
- R.9. A student may opt for courses equivalent to 25 percent credits from any other department than the one where he/she is registered. In case a student wishes to take all courses from the parent department he/she can also do so.
- R.10. Regular students can take extra credit courses from their own department or from other departments. In such cases, students shall specify the extra credits and this will be so noted on their Grade sheets. The CGPA of a student will be computed on the basis of
  - a. his/her performance in the core courses from parent Department
  - b. best performance of the required number of credits from all elective courses opted by him/her.

### **1.2 Advantages of the choice based credit system:**

1. Shift in focus from the teacher-centric to student-centric education.
2. Student may undertake as many credits as they can cope with (without repeating all courses in a given semester if they fail in one/more courses).
3. CBCS allows students to choose inter-disciplinary, intra-disciplinary courses, skill oriented papers (even from other disciplines according to their learning needs, interests and aptitude) and more flexibility for students.
4. CBCS makes education broad-based and at par with global standards. One can take credits by combining unique combinations. For example, Physics with Economics, Microbiology with Chemistry or Environment Science etc.
5. CBCS offers flexibility for students to study at different times and at different institutions to complete one course (ease mobility of students). Credits earned at one institution can be transferred to another institution.

### **1.3 Implementation of PG course structure:**

1. For the purpose of computation of work-load the following mechanism may be adopted as per UGC guidelines:
  - i) 1 Credit = 1 Theory period of one hour duration per week
  - ii) 1 Credit = 1 Tutorial period of one hour duration per week
  - iii) 1 Credit = 1 Practical period of two hour duration per week
2. Each theory Lecture time is of 1 hour = 60 min
3. Each practical session time for Compulsory Practical Paper is of 8 hour = 480 min
4. Each practical session time Choice Based Optional Paper is of 4 hour = 240 min

5. Exam pattern: University assessment 70 % and continuous internal assessment 30%.

## 2. PG Programme Structure:

2.1 Each M.Sc. programme is of 2 years duration. The minimum total no. of credits requirement for each programme is 80. In the structure, the credits are distributed over 4 semesters. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for M.Sc. programme is given below in Table 1.

**Table 1**

### Structure of Choice Based Credit System for Postgraduate Science Programme

#### M.Sc. (Semester - 1)

Sr. No.	Core Compulsory Theory Paper (CCTP)	Choice Based Optional Paper (CBOP)	Theory/ practical	Core Compulsory Practical Paper (CCPP)	Credit
1	CCTP – 1	-		-	4
2	CCTP – 2	-		-	4
3	CCTP – 3	-		-	4
4	-	CBOP - 1	Theory	-	2
			Practical		2
5	-	-		CCPP - 1	4
<b>Total Credit of Semester 1</b>					<b>20</b>

#### M.Sc. (Semester - 2)

	Core Compulsory Theory Paper (CCTP)	Choice Based Optional Paper (CBOP)	Theory/ practical Credit	Core Compulsory Practical Paper (CCPP)	Credit
1	CCTP – 4	-		-	4
2	CCTP – 5	-		-	4
3	CCTP – 6	-		-	4
4	-	CBOP - 2	Theory	-	2
			Practical		2
5	-	-		CCPP - 2	4
<b>Total Credit of Semester 2</b>					<b>20</b>

### M.Sc. (Semester - 3)

	Core Compulsory Theory Paper (CCTP)	Choice Based Optional Paper (CBOP)	Theory/ practical Credit	Core Compulsory Practical Paper (CCPP)	Credit
1	CCTP – 7	-		-	4
2	CCTP – 8	-		-	4
3	CCTP – 9	-		-	4
4	-	CBOP -3	Theory	-	2
			Practical		2
5	-	-		CCPP - 3	4
<b>Total Credit of Semester 3</b>					<b>20</b>

### M.Sc. (Semester - 2)

	Core Compulsory Theory Paper (CCTP)	Choice Based Optional Paper (CBOP)	Theory/ practical Credit	Core Compulsory Practical Paper (CCPP)	Credit
1	CCTP – 10	-		-	4
2	CCTP – 11	-		-	4
3	-	CBOP – 4	Theory	-	2
			Practical		2
4	-	CBOP – 5	Theory	-	2
			Practical		2
			Practical Credit	2	
5	-	-		CCPP - 4 (Project)	4
<b>Total Credit of Semester 4</b>					<b>20</b>

**Note:** i) Each credit will be equivalent to 15 clock hours of teaching

ii) 75% of the credits (60) is compulsory from the core subject and 25% i.e. 20 credits from any other department than the one where he/she is registered. In case student wishes to take all courses from the department he/ she can also do so.

iii) Credit: A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.

iv) Refer detailed rules and regulations for credit and semester system in postgraduate department/centers of the university with effect from academic year 2018-19 which displayed on the website of the university.

v) Choice Based Optional Papers (CBOP) means elective course (departmental course) to be offered along with practical i.e. theory (2 credit) + practical (2 credit) = 4 credit OR those boards feel that they cannot have practical for the CBOP, then they can offer different 4 credit full theory courses and choice be given to the students.

vi) Core Compulsory Practical Paper (CCPP) means the practical to be given to the student based on the Core Compulsory Theory Paper (CCTP) taught in the respective semester.

### 3. Eligibility for Admission:

- Eligibility to take admission for M.Sc. program is the student has to complete Bachelor degree in specific subject.
- Admissions will be given as per the selection procedure / policies adopted by the respective college keeping in accordance with conditions laid down by the Savitribai Phule Pune University of Pune.
- Reservation and relaxation will be as per the Government rules.

#### 3.2 Medium of Instruction: English

#### 3.3 Award of Credits:

- Each course having 4 credits shall be evaluated out of 100 marks and student should secure at least 40 marks (40%) to earn full credits of that course.
- Each course having 3 credits shall be evaluated out of 75 marks as students should secure at least 30 marks (40%) to earn full credits of that course.
- Each course having 2 credits shall be evaluated out of 50 marks and student should secure at least 20 marks (40%) to earn full credits of that course.
- Each course having 1 credit shall be evaluated out of 25 marks as student shall secure 10 marks (40%) to earn full credits of that course.
- GPA shall be calculated based on the marks obtained in the respective subject provided that student should have obtained credits for that course. Structure of marks scheme for choice based credit system program is given in Table 2.



**Table 2:****Structure of Examination Mark Scheme of Choice Based Credit System for Postgraduate Science Programme**

Semester	Course Name	Subject Name	Credit	Maximum Internal Marks	Maximum External Marks
I	CCTP – 1		4	30	70
	CCTP – 2		4	30	70
	CCTP – 3		4	30	70
	CBOP –1 (Theory )		2	15	35
	CBOP –1 (Practical)		2	15	35
	CCPP – 1		4	30	70
II	CCTP – 4		4	30	70
	CCTP – 5		4	30	70
	CCTP – 6		4	30	70
	CBOP – 2 (Theory )		2	15	35
	CBOP – 3 (Practical)		2	15	35
	CCPP – 2		4	30	70
III	CCTP – 7		4	30	70
	CCTP – 8		4	30	70
	CCTP – 9		4	30	70
	CBOP – 3 (Theory )		2	15	35
	CBOP – 3(Practical)		2	15	35
	CCPP – 3		4	30	70
IV	CCTP – 10		4	30	70
	CCTP – 11		4	30	70
	CBOP – 4 (Theory )		2	15	35
	CBOP – 4 (Practical)		2	15	35
	CBOP – 5 (Theory )		2	15	35
	CBOP – 5 (Practical)		2	15	35
	CCPP – 4		4	30	70

Core Compulsory Theory Paper (CCTP)

Choice Based Optional Paper (CBOP)

Core Compulsory Practical Paper (CCPP)



## 4. Evaluation Pattern:

### Examination Rules

- 4.1 A student cannot appear for semester end examination unless he/she has maintained 75% attendance during the teaching period of that course. If a student fails to maintain attendance up to 75%, at the time of filling of examination forms, an undertaking from the student should be taken stating that he/she will be allowed to appear for examination subject to fulfillment of required attendance criteria during the remaining period of teaching of the course.
- 4.2 Each course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- 4.3 Continuous assessment shall be of 30 marks (30%) while University Evaluation shall be of 70 marks (70%). To pass in a course, a student has to secure minimum 40 marks (40%) provided that he should secure minimum 28 marks (40%) in University Evaluation (UE) and 12 marks (40%) in continuous assessment.
- 4.4 Each credit will have an internal (continuous) assessment of 30% of marks and a teacher must select a variety of procedures for examination such as:
  - a) Written Test and/or Mid Term Test (not more than one for each course)
  - b) Term Paper;
  - c) Viva-voce,
  - d) Projects / Surveys / Field visits,
  - e) Tutorials,
  - f) Group Discussion
  - g) Journal/Lecture/Library notes;
  - h) Seminar presentation;
  - i) Short Quizzes;
  - j) Assignments;
  - k) Extension Work;
  - l) Research Project by individual students or group of students; or
  - m) An Open Book Test (with the concerned teacher deciding what books are to be allowed for this purpose.)etc (on approval of the head of the centre)
- 4.5 If a student misses an internal assessment examination, he/she will have a second chance with the permission of the teacher concerned. Such a second chance shall not be the right of the student; it will be the discretion of the teacher concerned to give or not to give second chance to a student to appear for internal assessment.
- 4.6 Students who have failed semester-end exam may reappear for the semester-end exam in the subsequent period. The student will be finally declared as failed if he/she does not pass in all credits within a total period of four years in case of two year courses and five years in case of three year courses. After that, such students will have to seek fresh admission as per the admission rules prevailing at that time.
- 4.7 Internal marks will not change. A student cannot repeat internal assessment. In case he/she wants to reappear for the internal assessment he/she can do so only by registering for the said courses during the semesters in which the courses are being conducted.

- 4.8 There shall be revaluation of the answer scripts of semester-end examination of theory papers only but not of internal assessment papers as per Ordinance no 134 A and B.
- 4.9 While marks will be given for all examinations, they will be converted into grades. The semester end and final grade sheets and transcripts will have only grades and grade points average.
- 4.10 Except for the technology faculty, in subjects or departments where project work is part of the credits, the project will consist of not more than ten percent of the total credits for the degree course.

## 5. ATKT Rules:

- 5.1 Minimum number of credits required to take admission to Second Year: 20 [50% of total credit in first year]
- 5.2 A student cannot register for the third semester, if he/she fails to complete 50% credits of the total credits expected to be ordinarily completed within two semesters. In this case, a student can seek admission to first or second semester in order to complete the requisite number of credits and to be able to seek admission in the third semester.

## 6. Completion of Degree Course:

- 6.1 A student, who earns 80 credits, shall be considered to have completed the requirements of the M. Sc. degree program and CGPA will be calculated for such student.
- 6.2 The following percentage to grade and grade point is given in Table-3 and respected example of CGPA calculated is given in Table-4.

**Table - 3**

### Percentage to Grades and Grade Points

Sr. No.	Grade Letter	Grade Point	Marks
1	O (Outstanding)	10	$90 \leq \text{Marks} \leq 100$
2	A+ (Excellent)	9	$75 \leq \text{Marks} \leq 89$
3	A (Very Good)	8	$60 \leq \text{Marks} \leq 74$
4	B+ (Good)	7	$55 \leq \text{Marks} \leq 59$
5	B (Above Average)	6	$50 \leq \text{Marks} \leq 54$
6	C (Average)	5	$45 \leq \text{Marks} \leq 49$
7	D (Pass)	4	$40 \leq \text{Marks} \leq 44$
8	F (Fail)	0	Marks < 40
9	Ab (Absent)	0	

**Table-4**  
**Structure of CGPA and Mark Scheme of Choice Based Credit System for**  
**Postgraduate Science Programme (An Example)**

Semester	Course Name	Subject Name	Credit	Maximum Internal Marks	Maximum External Marks	Grade Letter (F-O)	Grade point (0 - 10)	Credit Point = (Credit x Grade point)
I	CCTP – 1		4	30	70	A	8	32
	CCTP – 2		4	30	70	O	10	40
	CCTP – 3		4	30	70	A+	9	36
	CBOP – 1 (Theory)		2	15	35	B+	7	14
	CBOP – 1 (Practical)		2	15	35	A+	9	18
	CCPP – 1		4	30	70	O	10	40
			20	150	350			180
				<b>SGPA</b>	<b>Total Credit point / Total credit for the semester</b>			9.00
II	CCTP – 4		4	30	70	O	10	40
	CCTP – 5		4	30	70	O	10	40
	CCTP – 6		4	30	70	A+	9	36
	CBOP – 2 (Theory)		2	15	35	A	8	16
	CBOP – 3 (Practical)		2	15	35	A+	9	18
	CCPP – 2		4	30	70	O	10	40
			20	150	350			190
				<b>SGPA</b>	<b>Total Credit point / Total credit for the semester</b>			9.50
III	CCTP – 7		4	30	70	A	8	32
	CCTP – 8		4	30	70	O	10	40
	CCTP – 9		4	30	70	A+	9	36
	CBOP – 3 (Theory)		2	15	35	B+	7	14
	CBOP – 3 (Practical)		2	15	35	A+	9	18
	CCPP – 3		4	30	70	O	10	40
			20	150	350			180
				<b>SGPA</b>	<b>Total Credit point / Total credit for the semester</b>			9.00

IV	CCTP – 10	4	30	70	C	5	20
	CCTP – 11	4	30	70	D	4	16
	CBOP – 4 (Theory)	2	15	35	A+	9	18
	CBOP – 4 (Practical)	2	15	35	B+	7	14
	CBOP – 5 (Theory)	2	15	35	A+	9	18
	CBOP – 5 (Practical)	2	15	35	O	10	20
	CCPP – 4	4	30	70	O	10	40
		20	150	350			146
			<b>SGPA</b>	<b>Total Credit point / Total credit for the semester</b>			7.30
			<b>CGPA</b>	<b>Total Credit point / Total credit for the course</b>			= 8.70
			<b>Final Grade</b>				A+ (Excellent)
			<b>% of Marks</b>				82 %

## 7. PERFORMANCE INDICES:

The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA.

**7.1 Semester Grade Point Average (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.

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

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

For Example: suppose in a given semester a student has registered for five courses having credits C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub>, C<sub>5</sub> and his / her grade points in those courses are G<sub>1</sub>, G<sub>2</sub>, G<sub>3</sub>, G<sub>4</sub>, G<sub>5</sub> respectively.

Then students

$$SGPA = \frac{C_1 G_1 + C_2 G_2 + C_3 G_3 + C_4 G_4 + C_5 G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

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

7.2 Course Grade Point Average (CGPA)- The CGPA is the weighted average of the grade points obtained in all the courses (Theory/term work/practical/oral/presentation) of first semester to sixth semester for the students admitted in the First year and third to sixth semester for the students directly admitted at Second year. It is calculated in the same manner as the SGPA.

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

## 8. RESULT:

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

The class shall be awarded to a student on the CGPA calculated as mentioned in Rule no. 6.1. The award of the class shall be as per Table 5 and corresponding percentage calculation for the CGPA is given in Table 6 along with all details and examples.

**Table 5**  
**CGPA distribution and corresponding class of the degree awarded**

Sr. No	CGPA	Class of the Degree awarded
1	9.50 or More than 9.50	Outstanding (O)
2	8.25 or more but less than 9.50	Excellent (A+)
3	6.75 or more but less than 8.25	Very Good (A)
4	5.75 or more but less than 6.75	Good (B+)
5	5.25 or more but less than 5.75	Above Average (B)
6	4.75 or more but less than 5.25	Average (C)
7	4.00 or more but less than 4.75	Pass (D)

**Table 6**  
**Percentage calculation of a corresponding CGPA**

For the calculation of Percentage from CGPA following equation can be used.

$$\% \text{ of Marks} = \left\{ \begin{array}{l} \text{if O grade then } 20 \times \text{CGPA} - 100 \\ \text{if A+ grade then } 12 \times \text{CGPA} - 25 \\ \text{if A grade then } 10 \times \text{CGPA} - 7.5 \\ \text{if B+ grade then } 5 \times \text{CGPA} + 26.25 \\ \text{if B grade then } 10 \times \text{CGPA} - 2.5 \\ \text{if C grade then } 10 \times \text{CGPA} - 2.50 \\ \text{if D grade then } 6.6 \times \text{CGPA} + 13.6 \end{array} \right\}$$

The factors considered in the above equations are evaluated from the grade point and marks distribution given in Table 3. The examples of the calculation of percentage are given in the Table 7.

**Table 7**

**Some examples of CGPA to percentage calculations**

<b>Obtained CGPA</b>	<b>Equation</b>	<b>Percentage (%)</b>	<b>Grade</b>
10	$20 \times 10 - 100 = 100$	100	O
9.75	$20 \times 9.75 - 100 = 95$	95	O
9.5	$20 \times 9.5 - 100 = 90$	90	O
9.0	$12 \times 9 - 24 = 84$	84	A+
8.25	$12 \times 8.25 - 24 = 75$	75	A+
8.0	$10 \times 8.0 - 7.5 = 72.5$	72.5	A
7.0	$10 \times 7.0 - 7.5 = 62.5$	62.5	A
6.75	$10 \times 6.75 - 7.5 = 60.0$	60.0	A
6.25	$5 \times 6.25 + 26.25 = 57.5$	57.5	B+
5.75	$5 \times 5.75 + 26.25 = 55$	55	B+
5.5	$10 \times 5.5 - 2.5 = 52.5$	52.5	B
5.25	$10 \times 5.25 - 2.5 = 50$	50	B
4.75	$10 \times 4.75 - 2.50 = 45$	45	C
4.0	$6.6 \times 4.0 + 13.6 = 40$	40	D

While declaring the result, the existing relevant ordinances are applicable. There is also a provision for verification and revaluation. In case of verification, the existing rules will be applicable. The revaluation result will be adopted if there is a change of at least 10% marks and in the grade of the course.

For grade improvement a student will have to take minimum 30% of the requisite number of credits for the concerned degree. These courses will be theory courses from the parent department. Grade improvement programme will be implemented at the end of the academic year. A student can opt for the grade improvement programme only after the declaration of the result for his/her final semester exam, i.e., at the end of the next academic year after passing the final examination and within two years of completion of the degree and only once.

