


# **Savitribai Phule Pune University**


## **RULES AND REGULATIONS**

**for**

### **UG Choice Based Credit System Programme Under Faculty of Science**

**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**

  
**Principal**  
**Modern College of Arts, Science**  
**& Commerce, Ganeskhind, Pune-16.**



## 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 Under Graduate Programmes (UG) 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 UG 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 132 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 Science 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 2019-20 from First Year and it will continue for subsequent years.

1. All UG programmes, under Faculty of Science shall be offered with credit system.
2. All the B.Sc. programmes running under the Faculty of Science will be of three years duration.
3. The total no. of credits required for the completion of the programme is 132 credits.
4. One credit is equivalent to 15 hours.
5. A student is required to earn 132 credits in a minimum period of six semesters.
6. There are eight mandatory credits to be earned by the students for the award of degree.
7. Final CGPA will be calculated on the basis of 132 credits.
8. There is 15 weeks of teacher-student interaction during the semester.
9. The 15 week is divided into 12 weeks teaching and 3 weeks for continuous assessment including preparation time to students during the semester.



10. The workload will be calculated on the basis of 12 weeks teaching only.

### 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 UG course structure:

1. For First year: Student has to select 4 different subject among the subjects offered by the College /Institute.
2. For Second year: Student has to select 3 different subject among 4 subject chosen in first year
3. For Third year: Student has to select only 1 subject among the 3 subject opted in second year
4. CGPA will be calculated on the basis of core 132 credits only
5. 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.
6. There is 15 weeks of teacher-student interaction during the semester.
7. The 15 week is divided into 12 weeks teaching and 3 weeks for continuous assessment including preparation time to students during the semester.
8. The workload will be calculated on the basis of 12 weeks teaching only.
9. 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 fifteen minute duration per week
  - ii) 1 Credit = 1 Tutorial period of one hour fifteen minute duration per week
  - iii) 1 Credit = 1 Practical period of two hour ten minute duration per week
10. Each theory Lecture time for FY, SY, TY is of 50 min. (3 Lectures per week for 2 credit course)
11. Each practical session time for FY is of 3 hour 15 minutes = 195 min
12. Each practical session time for SY & TY is of 4 hour 20 minutes = 260 min
13. Exam pattern: University assessment 70 % and continuous internal assessment 30 %.
14. For Internal examination minimum two tests per paper of which one has to be written test of 10 marks.
15. Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion.





## 2. UG Programme Structure:

**2.1** Each B.Sc. programme is of 3 years duration. The minimum total no. of credits requirement for each programme is 132. In the structure, the credits are distributed over 6 semesters. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for B.Sc. programme is given below in Table 1.

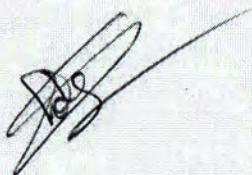



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**Table 1**  
**Savitribai Phule Pune University**  
**Faculty of Science and Technology**  
**Structure of Choice Based Credit System for Undergraduate Science Programme**

Semester	Discipline Specific Core Courses (CC)		Ability Enhancement Compulsory Courses (AECC)		Discipline specific Elective Courses (DSEC)		Skill Enhancement Courses (SEC)		Total Credit
	Course	Theory 1 + Theory 2 + Practical Credit	Course	Theory + Practical Credit	Course	Theory 1 + Theory 2 + Practical Credit	Course	Theory + Practical Credit	
I	CC - I	2 + 2 + 1.5 = 5.5	-	-	-	-	-	-	22
	CC - II	2 + 2 + 1.5 = 5.5							
	CC - III	2 + 2 + 1.5 = 5.5							
	CC - IV	2 + 2 + 1.5 = 5.5							
II	CC - V	2 + 2 + 1.5 = 5.5	-	-	-	-	-	-	22
	CC - VI	2 + 2 + 1.5 = 5.5							
	CC - VII	2 + 2 + 1.5 = 5.5							
	CC - VIII	2 + 2 + 1.5 = 5.5							
III	CC - IX	2 + 2 + 2 = 6	AECC - I (Environment)	2 + 0 = 2	-	-	-	-	22
	CC - X	2 + 2 + 2 = 6	AECC - II (Language communication)	2 + 0 = 2					
	CC - XI	2 + 2 + 2 = 6							




  
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IV	CC - XII	2 + 2 + 2 = 6	AECC - III (Environment)	2 + 0 = 2					
	CC - XIII	2 + 2 + 2 = 6	AECC - IV (Language communication)	2 + 0 = 2	-	-	-	-	
	CC - XIV	2 + 2 + 2 = 6							22
V					DSEC - I	2 + 2 + 2 = 6	SEC - I	2 + 0 = 2	
	-	-	-	-	DSEC - II	2 + 2 + 2 = 6	SEC - II	2 + 0 = 2	
					DSEC - III	2 + 2 + 2 = 6	-	-	22
VI					DSEC - IV	2 + 2 + 2 = 6	SEC - III	2 + 0 = 2	
	-	-	-	-	DSEC - V	2 + 2 + 2 = 6	SEC - IV	2 + 0 = 2	
					DSEC - VI	2 + 2 + 2 = 6	-	-	22
Total Credit									132



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## 2.2 Mandatory Credit courses for award of B.Sc. Degree:

In addition to the compulsory credits of 132, the student has to earn additional 8 credits from following groups by taking/participating/conducting respective activities.

**Courses in Group I are compulsory.**

The student can earn **maximum 04 credits from an individual group from Group 2 to Group -9.**

**These extra credits will not be considered for GPA calculation, however these are mandatory for the completion and award of B. Sc. Degree.**

**Group 1:** Physical Education (at F. Y. B. Sc. Sem. I) -01 credit  
Physical Education (at F. Y. B. Sc. Sem. II) - 01 credit

(Note: Group I is compulsory for all the students as stated above.)

**Group 2:** Sport representation at College level - 01 credit  
Sport representation at University/Statelevel - 02 credits

**Group 3:** National Social Service Scheme (participation in Camp): 01 credits  
N.C.C.(with participation in annual camp) -01 credit  
N. C. C. (with B certificate/C certificate award)- 02 credits  
N.S.S./N.C.C. Republic day parade participation - 04 credits

**Group 4:** Avishkar participation; Extension activity participation, Cultural activity participation -01 credit  
Avishkar selection at University level - 02 credits  
Avishkar winner at state level - 04 credits

**Group 5:** Research paper presentation at State/National level - 01credits  
Research paper presentation at International level - 02 credits

**Group 6:** Participation in Summer school/programme; Short term course (not less than 1-week duration) - 03 credit.

**Group 7:** Scientific Survey, Societal survey, - 02 credits.

**Group 8:** Field Visits; Study Tours; Industrial Visits; Participation in curricular/ cocurricular competitions- 01 Credit.

**Group 9:** Online certificate Courses /MOOC Courses/ Career Advancement Course up to 04 credits (Minimum 10 Hrs. / credit)



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## 2.3 Outlines of Choice Based Credit System [Detailed description of the courses]:

- a) **Core Course**(14 for honours courses; 4 discipline specific papers each for regular courses and 2 papers each for English and Hindi/MIL in B.A./B.Com): The papers under this category are going to be taught uniformly across all universities with 30% deviation proposed in the draft. The purpose of fixing core papers is to ensure that all the institutions follow a minimum common curriculum so that each institution/university adheres to common minimum standard. Also the course designed for papers under this category aim to cover the basics that a student is expected to imbibe in that particular discipline. A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
- b) **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.
- Discipline Specific Elective (DSE) Course**(4 for honours courses and 2 each for regular courses): Elective courses offered under the main discipline/subject of study is referred to as Discipline Specific Elective. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).
  - Dissertation/Project\*:** An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.
  - Generic Elective (GE) Course**(4 for honours courses and 2 each for B.A./B.Com. regular courses): An elective course chosen from an unrelated discipline/subject, with an intention to seek exposure beyond discipline/s of choice is called a Generic Elective. The purpose of this category of papers is to offer the students the option to explore disciplines of interest beyond the choices they make in Core and Discipline Specific Elective papers. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

- c) **Ability Enhancement Courses (AEC):** The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement; i. Environmental Science and ii. English/MIL(Marathi/Hindi) Communication. These are mandatory for all disciplines. SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.



- i. **Ability Enhancement Compulsory Courses (AECC):** Environmental Science, English Communication/Hindi Communication/MIL Communication.
- ii. **Skill Enhancement Courses (SEC)**(minimum 2 for honours courses and 4 for regular courses): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work. The main purpose of these courses is to provide students life-skills in hands-on mode so as to increase their employability. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need.

d) **Practical/tutorials** (One each with every core and discipline/generic specific elective paper): The list of practical provided is suggestive in nature and each university has the freedom to add/subtract/edit practical from the list depending on their faculty and infrastructure available. Addition will however be of similar nature.

e) **Introducing Research Component in Under-Graduate Courses**

**Project work/Dissertation** is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

### 3. Eligibility for Admission:

#### 3.1 First Year B.Sc.:

- A. Higher Secondary School Certificate (10+2) or its equivalent Examination with English and three science subjects such as Physics, Chemistry, Mathematics, Biology, Geography, Geology, etc. OR
- B. Three Years Diploma in Pharmacy Course of Board of Technical Education conducted by Government of Maharashtra or its equivalent. OR
- C. Higher Secondary School Certificate (10+2) Examination with English and vocational subject of + 2 level (MCVC) - Medical Lab. Technician (Subject Code = P1/P2/P3)

Admissions will be given as per the selection procedure / policies adopted by the respective college keeping in accordance with conditions laid down by the 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%) in continuous assessment as well as term end exam 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%) in continuous assessment as well as term end exam to earn full credits of that course.



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- Each course having 2 or 1.5 credits shall be evaluated out of 50 marks and student should secure at least 20 marks (40%) in continuous assessment as well as term end exam to earn full credits of that course.
- Each course having 1 credits shall be evaluated out of 25 marks as student shall secure 10 marks (40%) in continuous assessment as well as term end exam 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.



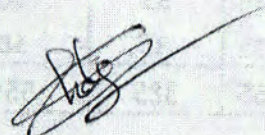
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**Table 2**  
**Structure of Examination Mark Scheme of Choice Based Credit System for Undergraduate Science Programme**

Sem	Course opted	Course Name	Credit	Internal Max Marks	External Max Marks	Total Max Marks
I	CC-1	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-1 Practical	1.5	15	35	50
	CC-2	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-2 Practical	1.5	15	35	50
	CC-3	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-3 Practical	1.5	15	35	50
	CC-4	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-4 Practical	1.5	15	35	50
			22	180	420	600
II	CC-5	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-5 Practical	1.5	15	35	50
	CC-6	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-6 Practical	1.5	15	35	50
	CC-7	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-7 Practical	1.5	15	35	50
	CC-8	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
		CC-8 Practical	1.5	15	35	50
			22	180	420	600
First Year Total			44	360	840	1200




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III	CC-9	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-9 Practical	Practical	2	15	35	50
	CC-10	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-10 Practical	Practical	2	15	35	50
	CC-11	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-11 Practical	Practical	2	15	35	50
	AECC -1A	Environmental Science -1	2	15	35	50
	AECC -2A	English MIL(Marathi/Hindi) Communication -1	2	15	35	50
			<b>22</b>	<b>165</b>	<b>385</b>	<b>550</b>
IV	CC-12	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-12 Practical	Practical	2	15	35	50
	CC-13	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-13 Practical	Practical	2	15	35	50
	CC-14	Paper 1:	2	15	35	50
		Paper 2:	2	15	35	50
	CC-14 Practical	Practical	2	15	35	50
	AECC -1B	Environmental Science -2	2	15	35	50
	AECC -2B	English MIL(Marathi/Hindi) Communication -2	2	15	35	50
			<b>22</b>	<b>165</b>	<b>385</b>	<b>550</b>
<b>Second Year Total</b>			<b>44</b>	<b>330</b>	<b>770</b>	<b>1100</b>

V	DSE - 1A	Paper 1:	2	15	35	50
	DSE - 1B	Paper 2:	2	15	35	50
	DSE - 2A	Paper 3:	2	15	35	50
	DSE - 2B	Paper 4:	2	15	35	50
	DSE - 3A	Paper 5:	2	15	35	50
	DSE - 3B	Paper 6:	2	15	35	50
	DSE-1	Practical Lab 1	2	15	35	50
	DSE -2	Practical Lab 2	2	15	35	50
	DSE-3	Practical Lab 3	2	15	35	50
	SEC-1	Skill Based Course 1:	2	15	35	50
	SEC-2	Skill Based Course 2:	2	15	35	50
			<b>22</b>	<b>165</b>	<b>385</b>	<b>550</b>



VI	DSE - 4A	Paper 1:	2	15	35	50
	DSE - 4B	Paper 2:	2	15	35	50
	DSE - 5A	Paper 3:	2	15	35	50
	DSE - 5B	Paper 4:	2	15	35	50
	DSE - 6A	Paper 5:	2	15	35	50
	DSE - 6B	Paper 6:	2	15	35	50
	DSE-4	Practical Lab 1	2	15	35	50
	DSE-5	Practical Lab 2	2	15	35	50
	DSE-6	Project	2	15	35	50
	SEC-2	Skill Based Course 2	2	15	35	50
	SEC-2	Skill Based Course 2	2	15	35	50
				22	165	385
Third Year Total			44	330	770	1100
Total			132			3400



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#### 4. Evaluation Pattern:

- 4.1 The course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- 4.2 Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in a course of 4 credit, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE) and 12 marks (40%) in continuous assessment.
- 4.3 The course carrying 50 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism. Continuous assessment shall be of 15 marks while University Evaluation shall be of 35 marks.
- 4.4 To pass in a course of 2 or 1.5 credit, a student has to secure minimum 20 marks provided that he/she should secure minimum 14 marks in University Evaluation (UE) and 6 marks (40%) in continuous assessment..
- 4.5 For Internal examination minimum two tests per paper of which one has to be a written test 10 Marks
- 4.6 Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion, etc (on approval of the head of the centre)
- 4.7 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.

#### 5. ATKT Rules:

- 5.1 Minimum number of credits required to take admission to Second Year of B. Sc.: 31 [70%]
- 5.2 Minimum number of credits required to take admission to Third Year of B.Sc.: 44 credits [100%] to be completed from F.Y. B.Sc. and at least 22 credits from S.Y. B.Sc.

#### 6. Completion of Degree Course:

- 6.1 A student who earns 140 credits, shall be considered to have completed the requirements of the B. Sc. degree program and CGPA will be calculated for such student. On the basis of only 132 credits. The following percentage to grade and grade point is given in Table-3 and respective example of CGPA calculation 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	$80 \leq \text{Marks} \leq 89$
3	A (Very Good)	8	$70 \leq \text{Marks} \leq 79$
4	B+ (Good)	7	$55 \leq \text{Marks} \leq 69$
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 Undergraduate Science Programme to be**  
**implemented from Academic year 2019-20**

Se m	Course opted	Course Name	Cre dit	Interna l Max Marks	Extern al Max Marks	Total Max Marks	Grade Letter (F-O)	Grade point (0 - 10)	Credit Point = (Credit x Grade point)
I	CC-1	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50	A+	9	18.00
	CC-1 Practical	Practical	1.5	15	35	50	A	8	12.00
	CC-2	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-2 Practical	Practical	1.5	15	35	50	C	5	7.50
	CC-3	Paper 1:	2	15	35	50	D	4	8.00
		Paper 2:	2	15	35	50	A	8	16.00
	CC-3 Practical	Practical	1.5	15	35	50	D	4	6.00
	CC-4	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50	A+	9	18.00
	CC-4 Practical	Practical	1.5	15	35	50	A	8	12.00
			<b>22</b>	<b>180</b>	<b>420</b>	<b>600</b>			<b>163.50</b>
<b>SGPA</b>						<b>Total Credit point / Total credit for the semester</b>			<b>7.43</b>
II	CC-5	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50			
	Practical	Practical	1.5	15	35	50	A	8	12.00
	CC-6	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-6 Practical	Practical	1.5	15	35	50	C	5	7.50
	CC-7	Paper 1:	2	15	35	50	D	4	8.00
		Paper 2:	2	15	35	50	C	5	10.00
	CC-7 Practical	Practical	1.5	15	35	50	B	6	9.00
	CC-8	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50	A+	9	18.00
	CC-8 Practical	Practical	1.5	15	35	50	A	8	12.00
			<b>22</b>	<b>180</b>	<b>420</b>	<b>600</b>	<b>O</b>		<b>160.50</b>
<b>SGPA</b>						<b>Total Credit point / Total credit for the semester</b>			<b>7.30</b>
First Year Total			44	360	840	1200			
<b>SGPA</b>						<b>the year</b>			<b>7.33</b>



III	CC-9	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50	A+	9	18.00
	CC-9 Practical	Practical	2	15	35	50	A	8	16.00
	CC-10	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-10 Practical	Practical	2	15	35	50	C	5	10.00
	CC-11	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-11 Practical	Practical	2	15	35	50	C	5	10.00
	AECC -1A	Environm ental Science - 1 English MIL(Mara thi/Hindi) Commun ication -1	2	15	35	50	B	6	12.00
AECC -2A		2	15	35	50	A	8	16.00	
			22	165	385	550			154.00
SGPA						Total Credit point / Total credit for the semester			7.00

IV	CC-12	Paper 1:	2	15	35	50	O	10	20.00
		Paper 2:	2	15	35	50	A+	9	18.00
	CC-12 Practical	Practical	2	15	35	50	A	8	16.00
	CC-13	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-13 Practical	Practical	2	15	35	50	C	5	10.00
	CC-14	Paper 1:	2	15	35	50	B+	7	14.00
		Paper 2:	2	15	35	50	B	6	12.00
	CC-14 Practical	Practical	2	15	35	50	C	5	10.00
	AECC -1B	Environm ental Science - 2 English/ MIL(Mara thi/Hindi) Commun ication -2	2	15	35	50	D	4	8.00
AECC -2B		2	15	35	50	C	5	10.00	
			22	165	385	550			144.00
SGPA						Total Credit point / Total credit for the semester			6.55
Second Year Total			44	330	770	1100			298.00



SGPA					Total Credit point / Total credit for the year			6.77	
V	DSE - 1A	Paper 1:	2	15	35	50	D	4	8.00
	DSE - 1B	Paper 2:	2	15	35	50	C	5	10.00
	DSE - 2A	Paper 3:	2	15	35	50	D	4	8.00
	DSE - 2B	Paper 4:	2	15	35	50	C	5	10.00
	DSE - 3A	Paper 5:	2	15	35	50	D	4	8.00
	DSE - 3B	Paper 6:	2	15	35	50	C	5	10.00
	DSE-1	Practical Lab 1	2	15	35	50	O	10	20.00
	DSE - 2	Practical Lab 2	2	15	35	50	A+	9	18.00
	DSE - 3	Practical Lab 3	2	15	35	50	A	8	16.00
	SEC-1	Skill Based Course 1:	2	15	35	50	D	4	8.00
SEC-2	Skill Based Course 2:	2	15	35	50	C	5	10.00	
			22	165	385	550			126.00
SGPA					Total Credit point / Total credit for the semester			5.73	
VI	DSE - 4A	Paper 1:	2	15	35	50	D	4	8.00
	DSE - 4B	Paper 2:	2	15	35	50	C	5	10.00
	DSE - 5A	Paper 3:	2	15	35	50	D	4	8.00
	DSE - 5B	Paper 4:	2	15	35	50	C	5	10.00
	DSE - 6A	Paper 5:	2	15	35	50	D	4	8.00
	DSE - 6B	Paper 6:	2	15	35	50	C	5	10.00
	DSE-4	Practical Lab 1	2	15	35	50	O	10	20.00
	DSE-5	Practical Lab 2	2	15	35	50	A+	9	18.00
	DSE-6	Project	2	15	35	50	A	8	16.00
	SEC-2	Skill Based Course 2	2	15	35	50	D	4	8.00
SEC-2	Skill Based Course 2	2	15	35	50	C	5	10.00	
			22	165	385	550			126.00
SGPA					Total Credit point / Total credit for the semester			5.73	
Third Year Total			44	330	770	1100			252.00
SGPA					Total Credit point / Total credit for the year			5.73	
Total			132			3400			873.50
CGPA					Total Credit point / Total credit for the course			6.62	



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## 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 C1, C2, C3, C4, C5 and his / her grade points in those courses are G1, G2, G3, G4, G5 respectively.

Then students

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

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.

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**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	8.50 or more but less than 9.50	Excellent (A+)
3	7.50 or more but less than 8.50	Very Good (A)
4	6.25 or more but less than 7.50	Good (B+)
5	5.25 or more but less than 6.25	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.

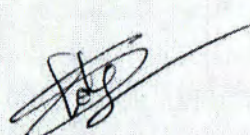
$$\% \text{ of Marks} = \begin{cases} \text{if O grade then } 20 \times \text{CGPA} - 100 \\ \text{if A+ grade then } 10 \times \text{CGPA} - 5 \\ \text{if A grade then } 10 \times \text{CGPA} - 5 \\ \text{if B+ grade then } 12 \times \text{CGPA} - 20 \\ \text{if B grade then } 5 \times \text{CGPA} + 23.75 \\ \text{if C grade then } 10 \times \text{CGPA} - 2.50 \\ \text{if D grade then } 6.6 \times \text{CGPA} + 13.6 \end{cases}$$

The factor 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**

Obtained CGPA	Equation	Percentage (%)	Grade
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	$10 \times 9.5 = 85$	85	A+
8.0	$10 \times 8.0 - 5 = 75$	75	A
7.0	$12 \times 7.0 - 20 = 64$	64	B+
6.67	$12 \times 6.67 - 20 = 60.04$	60.04	B+
6.25	$12 \times 6.25 - 20 = 55$	55	B+
5.25	$5 \times 5.25 + 23.75 = 50$	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

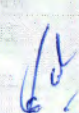
While declaring the result, the existing relevant ordinances are applicable. There is also a provision for verification and revaluation. In case of verification, the existing rules will be applicable. The revaluation result will be adopted if there is a change of at least 10% marks and in the grade of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



  
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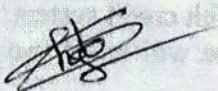
## **RULES AND REGULATIONS**

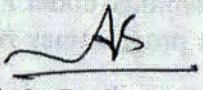
**for**

### **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



  
Principal

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## 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
Total Credit of Semester 1					20

#### 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
Total Credit of Semester 2					20



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

	Core Compulsory Theory Paper (CTP)	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 (CTP)	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
5	-		Practical Credit 2	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.




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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:

- o Eligibility to take admission for M.Sc. program is the student has to complete Bachelor degree in specific subject.
- o 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.
- o 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.



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**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)



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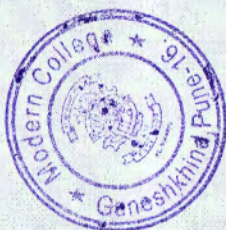
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## 4. Evaluation Pattern:

### 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.



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- 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	$\text{Marks} < 40$
9	Ab (Absent)	0	




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**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>	Total Credit point / Total credit for the semester			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>	Total Credit point / Total credit for the semester			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>	Total Credit point / Total credit for the semester			9.00




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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>		Total Credit point / Total credit for the semester			7.30
			<b>CGPA</b>		Total Credit point / Total credit for the course			= 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.




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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.

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

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.




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**Table 7**

**Some examples of CGPA to percentage calculations**

Obtained CGPA	Equation	Percentage (%)	Grade
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.



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