

SAVITRIBAI PHULE PUNE UNIVERSITY

FACULTY OF PHARMACEUTICAL SCIENCES



**COURSE STRUCTURE & SYLLABI
BACHELOR OF PHARMACY (B. Pharm.) COURSE
(EFFECTIVE FROM ACADEMIC YEAR 2015-16)**

Credit and Grading Based Semester System

Course Title: Bachelor of Pharmacy

Abbreviation: B. Pharm.

Medium of Instruction And Examination: English

Type of Course: A four year degree course divided into eight Semesters.

Pattern: Semester.

Number of Years and Semester: Four Years divided into eight semesters with two semesters per year.

Nomenclature of Semesters : Semester-I & Semester-II First Year B. Pharm.
Semester-III & Semester-IV Second Year B. Pharm.
Semester-V & Semester-VI Third Year B. Pharm.
Semester-VII & Semester-VIII Final Year B. Pharm.

Award of the Degree : Degree will be awarded to those passing in all the eight semesters as per the rules and regulations.

Duration of Semester : Each Semester will be normally of 15 weeks duration for class room teaching and practicals and internal evaluation.

Definitions:

1. **University** means Savitribai Phule Pune University until and otherwise specified.
2. **The college/Institute** is any college conducting B. Pharmacy course affiliated to Savitribai Phule Pune University.
3. **State Govt.:** Govt. of Maharashtra
4. **Admission Authority:** An authority responsible for effecting admissions to B. Pharm course as prescribed by Govt. of Maharashtra
5. **DTE** – Directorate of Technical Education, Maharashtra State.
6. **AICTE** – All India Council for Technical Education, New Delhi
7. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
8. **Course:** Usually referred to, as ‘papers’ is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. **A course may be designed to comprise lectures/tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/term papers/assignments/ presentations/ self-study etc. or a combination of some of these.**
9. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the learners.
10. **Credit Point:** **It is the product of grade point and number of credits for a course.**
11. **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.**
12. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a learner over all semesters. **The CGPA is the ratio of total credit points secured by a learner in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal points.**
13. **Grade Point:** **It is a numerical weight allotted to each letter grade on a 10-point scale.**
14. **Letter Grade:** It is an index of the performance of learners in a said course. Grades

are denoted by letters O, A+, A, B+, B, C, P and F.

15. **Programme:** An educational programme leading to award of a Degree, diploma or certificate.
16. **Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a learner in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal points.
17. **Semester:** Each semester will consist of 15 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.
18. **Transcript or Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered learners after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

R.1. AIM & OBJECTIVES OF THE COURSE

AIM:

The Pharmacy graduates are required to learn and acquire adequate knowledge, necessary skills to practice the profession of pharmacy. The graduate should have adequate knowledge of synthesis & analysis of medicinal agents, their mode and mechanism of action, drug interactions, patient counselling and adequate technical information to be exchanged with the physician and other health professionals. The graduates are required to acquire in depth knowledge of formulation, quality assurance and storage of various pharmaceutical dosage forms including herbal medicines. The graduates should also understand the concept of community pharmacy and be able to participate in health care programmes of Government and private sector. They are also required to detail the physicians and market the medicinal agents for diagnosis, prevention and therapeutic purposes. The graduate pharmacist should also act as bridge between the Physician and Patients for achieving better health of community.

OBJECTIVES:

The following objectives of the course should be achieved by acquiring an in-depth knowledge & thorough understanding, necessary skills and developing the right attitude. Therefore they are categorized into following heads.

a. Knowledge and Understanding

The graduates should acquire the following during their B. Pharm. Course.

1. Adequate knowledge and scientific information regarding basic principles of Pharmaceutical & Medicinal Chemistry, Pharmaceutics including Cosmeticology, Pharmacology, Pharmacognosy including herbal medicines.
2. Adequate knowledge of practical aspects of
 - Synthesis of APIs & its intermediates and analysis of various pharmaceutical dosage forms

- Formulation developments & quality assurance of various pharmaceutical dosage forms including those of herbal origin as per standards of official books, WHO and other regulatory agencies like USFDA, MHRA etc.
- Pharmacological screening and biological standardization and *in-vivo* drug interactions.
- Preparation & analysis of suitable plants material/extracts of medicinal importance for various herbal formulations.
- Clinical studies, patient counseling leading to physical and social well being of the patients.
- Product detailing, marketing, distribution and selling of pharmaceutical products.

b. Skills:

A graduate should be able to demonstrate following skills necessary for practice of a Pharmacy

- Able to synthesize, purify, identify and analyze medicinal agents.
- Able to formulate, store, dispense, manufacture the pharmaceutical products and analyze the prescriptions.
- Able to learn and apply the quality assurance principles in regulatory and ethical aspects
- Able to extract, purify, identify and understand the therapeutic value of herbal/crude/natural products
- Able to screen various medicinal agents using animal models for pharmacological activity.

c. Attitudes:

A graduate should develop the following attitudes during the course.

- Willing to apply the current knowledge of Pharmacy in the best interest of the patients and the community.
- Maintain high standards of professional ethics in discharging professional obligations.
- Continuously upgrade professional information and be conversant with latest advances in the field of pharmacy to serve community better.

- Willing to participate in continuing education programmes of PCI/AICTE/ Savitribai Phule Pune University to upgrade the knowledge and professional skills.
- To help and participate in the implementation of National Health Programmes.

R.2. ELIGIBILITY CRITERIA

A. In order to secure admission to Semester –I of the Four year Degree Course in Pharmacy, the candidate should fulfil the following eligibility criteria;

Candidate should be an Indian National and should have passed the HSC (Std.XII) examination of Maharashtra State Board of Secondary and Higher Secondary Education or its equivalent examination with subjects English, Physics, Chemistry and Mathematics/Biology /Biotechnology/Technical Vocational subject

AND

Secured minimum 45 % marks (minimum 40 % marks in case of candidates of Backward class categories and Persons with Disability belonging only to Maharashtra State) in the subjects Physics, Chemistry and Mathematics/ Biology/Biotechnology/Technical Vocational subject added together (Maximum of marks obtained in Mathematics/ Biology/Biotechnology/Technical Vocational subject shall be considered for the purpose of addition)

AND

Obtained a non zero score in subjects Physics, Chemistry and Mathematics/ Biology added together at MT-CET 2015.

AND

Any other eligibility criteria decided by competent authority time to time.

B. Eligibility Criteria for Admission at the entry level of Semester-III. (i.e. the first semester of Second Year B. Pharm.) Diploma holders who have passed the Diploma course in Pharmacy with minimum of 45% marks and medium of instruction as English from AICTE approved Polytechnics.

NOTE: In case of eligibility criterion decided by the Govt. of Maharashtra differs from above, University authorities shall decide the eligibility criterion from time to time. In case of foreign national learners eligibility criteria for admission to F. Y. B. Pharm should be decided by University authorities.

R.3. SCHEME OF EXAMINATION:

R.3.1. Examination conducting authority: Savitribai Phule Pune University, Pune.

R.3.2. Regular and Supplementary Examinations and time: (Tentative schedule) The University will decide exact schedule on the basis of prevailing situation.

Semester	Odd Semester Examination	Even Semester Examination
I, III, V & VII	(November/December)	(April/May)
II, IV, VI & VIII		

Duration of Examination, Marks etc See Examination scheme at Annexure I

R.3.3. Criteria for admitting the learner for examinations irrespective of regular or supplementary examinations:

- Learner must have been admitted to the respective Semester as per the criteria for continuation into the respective Semesters given in R-4 and has kept the term for the Semester for which he is examined.
- The learner must submit prescribed application form along with fees.
- Learner must appear for the examination at the place and time as decided by the admitting Institute/ the University as the case may be.
- Learner who has failed in a particular Semester or has ATKT will be allowed to appear for the same examination on filing new application being forwarded and after paying requisite fee.

Clarifications:

- Learner having ATKT will appear for examinations in only those subject heads in which the learner has failed except stated below.
- The learner who has passed in all the subjects but failed due to not getting overall CGPA 5 will be allowed to appear in any number of subject heads (theory) desired by the learner.
- For all the remaining cases, the learner has to appear for examination in all those subject heads in which the learner failed.

R.3.4. Sessional Examinations

- Each Semester will consist of a minimum of 15 weeks instructions.
*i.e. $15 \times 6 = 90$ instructional days (minimum instructional days)
- 75% attendance for both theory and practical classes separately shall be mandatory to appear for sessional examination and end semester examination.
- Conducting authority shall be Institutes where learner is admitted.
- In- semester assessment will be of 40 marks which includes 20 marks for theory and practical sessional and 20 marks for continuous assessment for theory and practical. In-semester assessment of 20 marks should be continuous, procedures and marks for theory and practical examination are as follows –
 - i. For theory and practical Examination – In-semester assessment for 20 marks should be continuous and at least two tests should be conducted for full course of 3 credits for theory and 2 credits for practical and the teacher must select a variety of procedures for examination such as :
 - a) Written test and / or midterm test (not more than one or two for each course)
 - b) Term paper
 - c) Journal / Lecture / Library notes
 - d) Seminar presentation
 - e) Short Quizzes
 - f) Assignments
 - g) Extension work

h) An open book test (with the concern teacher deciding what books are to be allowed for this purpose)

or

i) Mini research project by individual learner or group of learners

The concern teacher in consultation with the head of Department shall decide the nature of question for the unit test.

Number of Sessional Examination:

- There will be a minimum of one sessional examination of 20 marks conducted in each semester after minimum eight weeks of teaching from the date of commencement of that semester in each of the theory subjects during the semester.
- One Sessional Examination will be conducted as per the examination scheme (See Annexure no. I) for each semester. The learner who will secure less than 40% mark in the Sessional Examination or unable to appear for the scheduled Sessional Examination may be permitted for the Sessional Examination in the same semester only if approved by institutional examination committee and paying fees as prescribed by the institution. The institutional examination committee shall consist of Principal (Chairman), & four teachers nominated by the Principal.
- Practical sessional examination of 20 marks will be based on internal assessment of practical (Experimental work), viva, synopsis and laboratory record. The distribution of marks for practical examination will be as follows –

Scheme for Practical Sessional Examination

Sr. No.	Head	Marks distribution
1	Experimental work	10
2	Synopsis & Viva	06
3	Lab Record	04
	Total Marks	20
	Duration	03 Hrs.

- Daily assessment of practicals will be based on day to day attendance, learners' skills (performance), viva, laboratory record, etc.
- Theory sessional examination of 20 marks will be conducted after completion of at least two thirds syllabus of the semester.
- The distribution of marks for theory sessional examination will be as given below-

Sr. No.	Head	Marks distribution
Q. 1	2 marks X 3 questions (out of five)	= 6 marks
Q. 2	4 marks X 2 questions (out of three)	= 8 marks
Q. 3	6 marks X 1 questions (out of two)	= <u>6 marks</u>
	Total	= 20 marks

Time Schedule:

The time schedule for theory sessional examination will be 1 hour.

- The Retest/ Improvement test/ or supplementary test for the Sessional Examinations will be allowed for the failed learners in the University examination, if he/she is appearing for the University exam of that subject head.
- The Retest/ Improvement test/ or supplementary test shall be carried by the respective institution and the marks obtained by the learner shall be forwarded to the University.
- The institute conducting the course must submit the Sessional Examination marks of the respective semester to the Controller of Examinations in soft copy and print before the commencement of theory or practical examination whichever is later.

R.3.5. Scaling Down the Marks Obtained by the Learner at the Internal Examination as Compared to the Marks Obtained by the Learner in the Semester End Theory and Practical Examination in the Course Concerned

- Concept of scaling shall be applicable only for the marks obtained by the learners at all the individual courses.
- Marks obtained by the learner at the Internal Assessment and Semester End Examinations should be converted to the percentage marks course wise.
- Concept of scaling shall be applicable only in cases where the marks obtained by the learner in the Internal Assessment and Semester End Assessment Examinations differ by more than 20% in the course concerned i.e. percentage marks of the learner at a course in the Internal Assessment is 20% more than the percentage of marks

scored by the learner concerned in the Semester End Examination in the course concerned.

- Learner at the course concerned in the Internal Assessment should be scaled down to 20% plus the percentage score of the learner at the Semester End Examination.
- The concept of scaling shall be applicable only in course/s where the learner has passed the course. In case if a learner fails in one or more courses at an attempt then the concept of scaling shall be applied to the courses that the learner has passed at the attempt concerned and for the remaining courses where the learner has failed, the concept of scaling will be applicable as and when the learner passes the course or earns the credit for the course.
- The scaled marks can thus be used to calculate the Credits, Grades, Credit points earned by the learner can then be used to calculate the SGPA and CGPA.
- Concept of scaling shall not be applicable where the percentage of the marks scored by the learner at the Semester End Examination is more than the percentage marks scored by the learner in the Internal Assessment at the course concerned. One of the reasons for the learner scoring low marks at the Internal Assessment could be nonappearance for one of the components of the Internal Assessment.

Sample Case of a Learner at F.Y.B.Pharm. Semester I of B.Pharm. Programme

Marks Obtained	Max. Marks	1.1.1 T	1.1.1 P	1.1.2 T	1.1.2 P	1.1.3 T	1.1.3 P	1.1.4 T	1.1.4 P	1.1.5 T	1.1.5 P	1.1.6 T
Internal Assessment	40	28	39	38	37	40	36	37	35	31	34	32
Semester End Examination	60	33	27	24	51	25	32	45	36	26	58	55

Marks Obtained	Max. Marks	1.1.1 T	1.1.1 P	1.1.2 T	1.1.2 P	1.1.3 T	1.1.3 P	1.1.4 T	1.1.4 P	1.1.5 T	1.1.5 P	1.1.6 T
Internal Assessment	40	70%	97.5%	95%	92.5%	100%	90%	92.5%	87.5%	77.5%	85%	80%
Semester End Examination	60%	54.78%	44.82%	39.84%	84.66%	41.5%	53.12%	74.7%	59.76%	43.16%	96.28%	91.3%

Marks Obtained	Max. Marks	1.1.1 T	1.1.1 P	1.1.2 T	1.1.2 P	1.1.3 T	1.1.3 P	1.1.4 T	1.1.4 P	1.1.5 T	1.1.5 P	1.1.6 T
Revised Internal Assessment Score	40	28*	25.92	23.93	37*	24.60	29.24	37*	31.90	25.26	34*	32*
Semester End Examination	60	33	27	24	51	25	32	45	36	26	58	55

***In these cases the percentage difference in the marks of Internal Assessment and Semester End Examination is less than 20% hence the original marks are retained.**

R.4.:

Continuation into the subsequent semesters after the entry level semesters. The admitting authority will be the individual institutes where the learner has been admitted into the course, and the continuation will be as per the criteria decided by the University for each semester.

The following criteria are applicable to all the learners for continuation.

R.4.1. A learner, to be eligible for the Degree will be required to pass examinations, as under:-

First year B. Pharm.	Semester-I & Semester-II
Second year B. Pharm.	Semester-III & Semester-IV
Third year B. Pharm.	Semester-V & Semester-VI
Fourth year B. Pharm.	Semester-VII & Semester-VIII

R.4.2.

No learner will be admitted to any examination unless he/she keeps term at a College affiliated to the University and produces from the Principal of the College, testimonials of satisfactory attendance at the theory, Practical and term work classes as prescribed.

R.4.3. Promotion from odd semester to even semester in the same academic year

- A Learner who fails in Semester - I examination of First Year B. Pharm. will be allowed to keep term for his/her Semester –II Examination, of First Year B. Pharm.
- A Learner who fails in Semester – III examination of Second Year B. Pharm. will be allowed to keep term for his/ her Semester – IV Examination of Second Year B. Pharm.
- A Learner who fails in Semester – V examination of Third Year B. Pharm. will be allowed to keep term for his/her Semester – VI Examination of Third Year B. Pharm.
- A Learner who fails in Semester – VII examination of Fourth Year B. Pharm. will be allowed to keep term for his Semester – VIII Examination of Fourth Year B. Pharm.

R.4.4. Promotion to subsequent academic year-

- A learner who fails in more than 7 heads (Theory & practical) of total number of subjects taken together at Semester I and Semester II /Semester III & Semester IV course examination will not be permitted to keep terms in the higher class viz. Semester III / Semester V of B. Pharm. Course examination respectively.
- A learner who fails in more than 8 heads (Theory & practical) of total number of subjects taken together at Semester V and Semester VI course examination will not be permitted to keep terms in the higher class viz. Semester VII of B. Pharm. Course examination.

R.4.5. Clarification of R.4.3. and R.4.4.

1. No learner will be admitted to the Semester III course unless he/she passes his/her Semester I and Semester II examination of B. Pharm.

OR

Fails in not more than 7 heads (Theory and Practical) at the Semester I and Semester II examination of B.Pharm.

2. No learner will be admitted to the Semester V course unless he/she passes his/her Semester I & Semester II., Semester III & Semester IV Examinations of B.Pharm.

OR

passes his/her Semester I and Semester II examination of B. Pharm. and fails in not more than 7 of total number of heads (Theory and Practical) at the Semester III & Semester IV Examinations of B. Pharm.

3. No learner will be admitted to the Semester VII course of B. Pharm. unless he/she Passes his/her Semester I & Semester II., Semester III & Semester IV., Semester V & Semester VI Examinations of B. Pharm. examinations,

OR

passes his/her Semester I & Semester II., Semester III & Semester IV Examinations of B. Pharm. and fails in not more than 8 of total number of heads (Theory and Practical) at the Semester V & Semester VI Examinations of B. Pharm.

R.4.6. Allowed to Keep Terms (ATKT) rules.

Number of subjects: ATKT will be awarded to those who have failed in 1/3 subject head (33%) as described in table **given** below

At the end of academic Year		Total subject heads at the end of academic year.	33 % of total subjects (To nearest full digit)
First	Theory	06+06=12	4
	Practical	05+05=10	3
Second	Theory	06+06=12	4
	Practical	05+05=10	3
Third	Theory	07+07=14	5
	Practical	05+05=10	3

R.5. Marks, Criteria for passing and other conditions.

R.5.1. Passing criteria for each subject head:

Maximum marks for each subject head and the minimum marks for passing in each of the subject head –See Examination scheme given in *Annexure I*.

No separate passing is required for sessional examination and if the learner remains absent for the test, the learner will be just treated as not appeared for the test securing zero marks. What so ever mark obtained by the learner will be added to the marks obtained by the learner in University examination as shown in scheme of examination given in *Annexure I*.

In no circumstances previous marks will be considered. If a learner's application form for reappearing in the examination in a subject head is accepted, and the learner appears in the examination (Sessional examination & Semester examination) fresh marks will be considered.

R.5.2. Passing of the semester.

Learner will be considered as passed the semester only when the learner passes in the entire subject heads and obtains overall a minimum CGPA of 5 as prescribed for the semester see Annexure I.

R 5.3. Letter Grades and Grade Points:

1. The marks are converted to grades based on pre-determined class intervals. As per recommendations of UGC. A 10-point grading system with the following letter grades as given below:

Table 1: Grades and Grade Points

Marks Obtained	Letter Grade	Grade Point
90 above	O (Outstanding)	10
80 to 89	A+(Excellent)	9
70 to 79	A(Very Good)	8
60 to 69	B+(Good)	7
50 to 59	B(Above Average)	6
46 to 49	C(Average)	5
40 to 45	P (Pass)	4
0 to 39	F(Fail)	0
N. A	Ab (Absent)	0

2. A learner obtaining Grade F shall be considered failed and will be required to reappear in the examination.
3. For non credit courses ‘Satisfactory’ or ‘Unsatisfactory’ shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.

R 5.4. Computation of SGPA and CGPA:

As per recommendation of UGC the following procedure is adopted to compute the Semester Grade Point

Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a learner in all the courses taken by a learner and the sum of the number of credits of all the courses undergone by a learner, i.e.

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

where C_i is the number of credits of the i th course and G_i is the grade point scored by the learner in the i th course.

- ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a learner over all the semesters of a programme, i.e.

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

where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

- iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

R.5.5. Illustration of Computation of SGPA and CGPA and Format for Transcripts

- i. Computation of SGPA and CGPA

Illustration for SGPA

	Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
1.1.1 T	Pharmaceutics- I	3	A	8	3 X 8 = 24
1.1.1 P	Pharmaceutics- I	2	A	8	2 X 8 = 16
1.1.2 T	Modern Dispensing Practices	3	B+	7	3 X 7 = 21
1.1.2 P	Modern Dispensing Practices	2	A	8	2 X 8 = 16
1.1.3 T	Pharmaceutical Inorganic Chemistry	3	O	10	3 X 10 = 30
1.1.3 P	Pharmaceutical Inorganic Chemistry	2	O	10	2 X 10 = 20
1.1.4 T	Pharmaceutical Organic Chemistry-I	3	A	8	3 X 8 = 24
1.1.4 P	Pharmaceutical Organic Chemistry-I	2	A	8	2 X 8 = 16
1.1.5 T	Human Anatomy & Physiology-I	3	B+	7	3 X 7 = 21
1.1.5 P	Human Anatomy & Physiology-I	2	B+	7	2 X 7 = 14
1.1.6 T	Communication and soft skill development	3	B	6	3 X 6 = 18
		28			220

Thus, $SGPA = 220/28 = 7.85$

Illustration for CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit : 28 SGPA:7.86	Credit : 28 SGPA:7.04	Credit : 28 SGPA: 6.42	Credit : 28 SGPA:7.21

Semester 5	Semester 6	Semester 7	Semester 8
Credit : 31 SGPA:8.42	Credit : 31 SGPA:7.24	Credit : 31 SGPA: 6.74	Credit : 31 SGPA:8.44

Thus,

$$28 \times 7.89 + 28 \times 7.04 + 28 \times 6.42 + 28 \times 7.21 + 31 \times 8.42 + 31 \times 7.24 + 31 \times 6.74 + 31 \times 8.44$$

$$\text{CGPA} = \frac{\text{Sum of all terms above}}{236} = 7.46$$

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- ii. **Transcript (Format):** Based on the above recommendations on Letter grades, grade points and SGPA and CGPA, the Higher Educational Institutes may issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.

Table indicating Final Grade

CGPA	Final Grade
9.10 – 10.00	O (Outstanding)
8.10 – 9.00	A+(Excellent)
7.10 – 8.00	A(Very Good)
6.51 – 7.00	B+(Good)
6.10 – 6.50	B(Above Average)
5.51 – 6.00	C(Average)
5.00 – 5.50	P (Pass)
0 – 4.99	F(Fail)
N. A	Ab (Absent)

R.5.6. Award of the degree and Grade.

Degree will be awarded to the learners who have passed all the eight semesters. Final grade will be awarded on the basis of combined CGPA at the Semester-I to Semester VIII.

A learner will be allowed to improve his/her class at B. Pharm. by reappearing for the subjects (maximum 3 theory subjects of that examination) from V to VIII Semesters of B. Pharm. Course as per prevalent policy of University.

R.5.7. With holding of results.

A learner's result will be withheld under the following situations and of the respective Semester.

1. Withholding of result for not fulfilling passing criteria for advancement to subsequent classes-

Result of Semester IV will be with held if the learner has not passed Semester-I and Semester II.

Result of Semester VI will be with held if the learner has not passed Semester-III and Semester – IV.

Result of Semester VIII will be with held if the learner has not passed Semester- V & Semester-VI.

2. Withholding of result for failure to comply University rules-

The result of learner shall be withheld if the learner is found guilty in malpractices during examinations and any other failure to comply University rules and regulation as confirmed by appropriate body of University.

R.5.8. Exemption to appear for the examination:

If a learner has got ATKT, the learner will be exempted from appearing the examination for those subject heads in which the learner has passed.

Any learner who has passed in any subject head is exempted for appearing the examination in that subject head.

Notwithstanding above if a learner has passed in all the subjects but failed due to not getting CGPA or SGPA of '5', may appear for the examination in any three theory subject heads so as to get over all CGPA or SGPA of '5'. In such cases, best

of performance will be considered. For example if the learner gets over all CGPA or SGPA of '5' but fails in one of the subject heads in which the learner had passed earlier, the learner will be treated as passed in that subject head as per previous examination and result will be declared as per the rules applicable to the passed learners. The marks of the subject head in which the learner has not appeared for the examination will be carried forward.

R.5.9. Professional/Industrial Training

Every learner shall be required to work for at least four weeks in a Pharmaceutical Industry it includes Production unit, Q. C department, Q. A department, analytical laboratory, chemical manufacturing unit, pharmaceutical R & D, hospital (Clinical Pharmacy), clinical research organization and wholesale drug store etc after the Semester- IV of the course of study, and shall submit satisfactory report of such work form industry to the head of the institute. The learner should also submit one copy to the University for the Award of Degree along with convocation form. The learner may undergo practical training in parts, each constituting not less than two weeks.

R.5.10.

The pattern for University theory examination question paper shall be as given below:

Scheme for theory Examination: - Each Theory paper should be divided in 2 sections which should be attempted in separate answer sheet.

Sr. No.	Head	Marks distribution
Section – I		
Q.1.	Long answers question	10 marks (10 mark x 1 Qs, out of 2 Qs.)
Q.2	Small answers questions – 3 marks (word limit 75 to 100 words)	12 marks (3 mark x 4 Qs, out of 7 Qs.)
Q.3	Short answers questions – 5 marks (word limit 125 to 150 words)	8 marks (4 mark x 2 Qs, out of 4 Qs.)
Section – II		
Q.4	Long answers question	10 marks (10 mark x 1 Qs, out of 2 Qs.)
Q.5	Small answers questions – 3 marks (word limit 75 to 100 words)	12 marks (3 mark x 4 Qs, out of 7 Qs)
Q.6	Short answers questions – 5 marks (word limit 125 to 150 words)	8 marks (4 mark x 2 Qs, out of 4 Qs.)
Total maximum marks of section I and		60 marks
Duration of examination		3 Hrs.

Note:

1. There shall be no word limit set for long answer questions.
2. Paper setters should cover entire syllabus while setting the question paper.
3. The detailed guidelines with respect to these instructions shall be given to all paper setters by the University.

Scheme for University Practical Examination

Sr. No.	Head	Marks distribution
1	Synopsis	10
2	Major experiment	25
3	Minor experiment	15
4	Viva	10
Total Marks		60
Duration		04 Hrs.

R-6: ENVIRONMENTAL SCIENCES

An additional course in environmental sciences shall be conducted as per following guidelines.

1. A course in Environmental Awareness with duration of six months (30 lectures of one hour duration & field work of 10 hours duration.) shall be introduced at the semester III of second year of degree course B.Pharm as a compulsory course.
2. An additional course fee of Rs. 1000 per learner shall be charged to meet the expenditure on the conduct of the course.
3. A course Coordinator shall be appointed to organize teaching and evaluation by the Principal.
4. Qualifications of a Teacher.
University approved teacher (minimum Asst. Prof.) or expert in Environmental Sciences possessing substantial knowledge to teach a course on environmental studies shall be eligible to teach the course. Principal of the College shall be authorized to determine the eligibility of the teacher on environmental studies. This course is to be introduced from the second year B. Pharm.
5. The college on behalf of the University shall conduct the examination of this subject immediately before or after Semester examinations of S.Y./T.Y./Final Year B.Pharm.
6. The learner should clear this subject before passing the Final Year B. Pharm examination.
7. A learner has to pass in this course in order to obtain degree certificate. If the learner passes in all subjects of degree course but fails in this paper, he will not be eligible to obtain degree certificate.
8. Examination: the College shall organize the evaluation as per pattern suggested below.

The Principal shall submit the result sheet to the Controller of Examination, Savitribai Phule Pune University, Pune on or before the end of the final year University Examinations of B. Pharm. course. The results of University examination of the learner who fail to get Minimum 'C' Grade in this course shall be kept in

reserve till the concerned learner complete the course and secure to require Minimum C Grade.

The question paper shall include the questions as under

- A. Multiple choice questions :50 Marks
- B. Essay type questions :25 Marks
- C. Field works :25 Marks

Total: 100 Marks Passing Marks: 40 Marks.

Following Grades shall be awarded to the learners based on their marks obtained.

Grade-O: above 75 **Grade-A:** 61 to 75 **Grade-B:** 51 to 60 **Grade-C:** 40 to 50

R-7: Rules for Carry Forward

This revised curriculum (including regulations, structure and syllabi) will be in force from academic year 2015-16 and onwards for First Year B. Pharm, for academic year 2016-17 onwards for Second Year B. Pharm., for academic year 2017-18 and onwards for Third Year B. Pharm., and for academic year 2018-19 and onwards for Final Year B. Pharm.

1. The learners who were admitted to First Year B. Pharm. of 2013 pattern during the academic year 2014-15 or before & would fail or have failed in the First Year B. Pharm. of 2013 pattern examination will have to take admission to Semester-III of Second Year B. Pharm. of 2015 pattern in academic year 2016-17 or onwards, provided that
 - a. Their result of F. Y. B. Pharm of 2013 pattern is either pass or fails with A. T. K. T.
2. The learners who will be admitted to Second Year B. Pharm. of 2013 pattern during academic year 2015-16 and who will fail in the Second Year B. Pharm. 2013 pattern

examination will have to take admission to Semester- V of T. Y. B. Pharm. of 2015 pattern in academic year 2017-18 or onwards, provided that

- a. They have passed in all subjects of F. Y. B. Pharm. of 2013 syllabus.
- b. Their result for S. Y. B. Pharm. of 2013 pattern is either Pass or Fail with A. T. K. T.

Such learners will have to pass in all the subjects of S. Y. B. Pharm. 2013 pattern before taking admission to Semester- VII of Final Year B. Pharm. 2015 pattern.

3. The learners who will be admitted to Third Year B. Pharm. of 2013 pattern during the academic year 2016-17 and who would fail in T. Y. B. Pharm. 2013 pattern examination will have to take admission to Semester- VII of Final year B. Pharm. of 2015 pattern, provided that

- a. They have passed in all subjects of S. Y. B. Pharm. of 2013 pattern
- b. Their result for T. Y. B. Pharm. 2013 pattern is Pass or Fail with A. T. K. T.

Annexure I

Scheme of Examination for eight semesters of B. Pharm. Course Name and number of heads of passing, number of paper, duration of examination, maximum marks, minimum marks for passing, Sessional Examination, duration, maximum marks.

Semester-I**Class- First Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Sessional Maximum marks	Continuous Assessment marks		
1.1.1 T	Pharmaceutics- I	3	3	3	60	24	1.5	20	20	100	40
1.1.1 P	Pharmaceutics- I	3	2	4	60	24	3	20	20	100	40
1.1.2 T	Modern Dispensing Practices	3	3	3	60	24	1.5	20	20	100	40
1.1.2 P	Modern Dispensing Practices	3	2	4	60	24	3	20	20	100	40
1.1.3 T	Pharmaceutical Inorganic Chemistry	3	3	3	60	24	1.5	20	20	100	40
1.1.3 P	Pharmaceutical Inorganic Chemistry	3	2	4	60	24	3	20	20	100	40
1.1.4 T	Pharmaceutical Organic Chemistry-I	3	3	3	60	24	1.5	20	20	100	40
1.1.4 P	Pharmaceutical Organic Chemistry-I	3	2	4	60	24	3	20	20	100	40
1.1.5 T	Human Anatomy & Physiology-I	3	3	3	60	24	1.5	20	20	100	40
1.1.5 P	Human Anatomy & Physiology-I	3	2	4	60	24	3	20	20	100	40
1.1.6 T	Communication and soft skill development	3	3	3	60	24	1.5	20	20	100	40

Total Credits = 28

Semester-II**Class- First Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
1.2.1 T	Pharmaceutics- II	3	3	3	60	24	1.5	20	20	100	40
1.2.1 T	Dosage form design	3	3	3	60	24	1.5	20	20	100	40
1.2.2 P	Dosage form design	3	2	4	60	24	3	20	20	100	40
1.2.3 T	Pharmaceutical Organic Chemistry-II	3	3	3	60	24	1.5	20	20	100	40
1.2.3 P	Pharmaceutical Organic Chemistry-II	3	2	4	60	24	3	20	20	100	40
1.2.4 T	Human Anatomy & Physiology-II	3	3	3	60	24	1.5	20	20	100	40
1.2.4 P	Human Anatomy & Physiology-II	3	2	4	60	24	3	20	20	100	40
1.2.5 T	Pharmacognosy	3	3	3	60	24	1.5	20	20	100	40
1.2.5 P	Pharmacognosy	3	2	4	60	24	3	20	20	100	40
1.2.6 T	Pharmaceutical Analysis I	3	3	3	60	24	1.5	20	20	100	40
1.2.6 P	Pharmaceutical Analysis I	3	2	4	60	24	3	20	20	100	40

Total Credits = 28

Semester-III**Class- Second Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
2.3.1 T	Physical Pharmaceutics- I	3	3	3	60	24	1.5	20	20	100	40
2.3.1 P	Physical Pharmaceutics- I	3	2	4	60	24	3	20	20	100	40
2.3.2 T	Pharmaceutical Microbiology	3	3	3	60	24	1.5	20	20	100	40
2.3.2 P	Pharmaceutical Microbiology	3	2	4	60	24	3	20	20	100	40
2.3.3 T	Pharmaceutical Biochemistry	3	3	3	60	24	1.5	20	20	100	40
2.3.3 P	Pharmaceutical Biochemistry	3	2	4	60	24	3	20	20	100	40
2.3.4 T	Pharmaceutical Organic Chemistry-III	3	3	3	60	24	1.5	20	20	100	40
2.3.4 P	Pharmaceutical Organic Chemistry-III	3	2	4	60	24	3	20	20	100	40
2.3.5 T	Pharmacology-I	3	3	3	60	24	1.5	20	20	100	40
2.3.6 T	Pharmacognosy & Phytochemistry - I	3	3	3	60	24	1.5	20	20	100	40
2.3.6 P	Pharmacognosy & Phytochemistry - I	3	2	4	60	24	3	20	20	100	40

Total Credits = 28

Semester-IV**Class- Second Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
2.4.1 T	Physical Pharmaceutics-II	3	3	3	60	24	1.5	20	20	100	40
2.4.1 P	Physical Pharmaceutics-II	3	2	4	60	24	3	20	20	100	40
2.4.2 T	Pathophysiology & Clinical Biochemistry	3	3	3	60	24	1.5	20	20	100	40
2.4.2 P	Pathophysiology & Clinical Biochemistry	3	2	4	60	24	3	20	20	100	40
2.4.3 T	Pharmaceutical Organic Chemistry-IV	3	3	3	60	24	1.5	20	20	100	40
2.4.3 P	Pharmaceutical Organic Chemistry-IV	3	2	4	60	24	3	20	20	100	40
2.4.4 T	Pharmaceutical Analysis-II	3	3	3	60	24	1.5	20	20	100	40
2.4.4 P	Pharmaceutical Analysis-II	3	2	4	60	24	3	20	20	100	40
2.4.5 T	Pharmacognosy & Phytochemistry - II	3	3	3	60	24	1.5	20	20	100	40
2.4.5 P	Pharmacognosy & Phytochemistry - II	3	2	4	60	24	3	20	20	100	40
2.4.6 T	Pharmaceutical Engineering	3	3	3	60	24	1.5	20	20	100	40

Total Credits = 28

Semester-V**Class- Third Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
3.5.1 T	Industrial Pharmacy-I	3	3	3	60	24	1.5	20	20	100	40
3.5.1 P	Industrial Pharmacy-I	3	2	4	60	24	3	20	20	100	40
3.5.2 T	Pharmaceutical Analysis-III	3	3	3	60	24	1.5	20	20	100	40
3.5.2 P	Pharmaceutical Analysis-III	3	2	4	60	24	3	20	20	100	40
3.5.3 T	Medicinal Chemistry-I	3	3	3	60	24	1.5	20	20	100	40
3.5.3 P	Medicinal Chemistry-I	3	2	4	60	24	3	20	20	100	40
3.5.4 T	Pharmacology-II	3	3	3	60	24	1.5	20	20	100	40
3.5.4 P	Pharmacology-II	3	2	4	60	24	3	20	20	100	40
3.5.5 T	Analytical Pharmacognosy & Extraction Technology	3	3	3	60	24	1.5	20	20	100	40
3.5.5 P	Analytical Pharmacognosy & Extraction Technology	3	2	4	60	24	3	20	20	100	40
3.5.6 T	Pharmaceutical Business Management & Disaster Management	3	3	3	60	24	1.5	20	20	100	40
3.5.7 T	Active Pharmaceutical Ingredients Technology	3	3	3	60	24	1.5	20	20	100	40

Total Credits = 31

Semester-VI**Class- Third Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
3.6.1 T	Industrial Pharmacy-II	3	3	3	60	24	1.5	20	20	100	40
3.6.1 P	Industrial Pharmacy-II	3	2	4	60	24	3	20	20	100	40
3.6.2 T	Pharmaceutical Analysis-IV	3	3	3	60	24	1.5	20	20	100	40
3.6.2 P	Pharmaceutical Analysis-IV	3	2	4	60	24	3	20	20	100	40
3.6.3 T	Medicinal Chemistry-II	3	3	3	60	24	1.5	20	20	100	40
3.6.3 P	Medicinal Chemistry-II	3	2	4	60	24	3	20	20	100	40
3.6.4 T	Pharmacology-III	3	3	3	60	24	1.5	20	20	100	40
3.6.4 P	Pharmacology-III	3	2	4	60	24	3	20	20	100	40
3.6.5 T	Natural Product Chemistry	3	3	3	60	24	1.5	20	20	100	40
3.6.5 P	Natural Product Chemistry	3	2	4	60	24	3	20	20	100	40
3.6.6 T	Bioorganic Chemistry & Drug Design	3	3	3	60	24	1.5	20	20	100	40
3.6.7 T	Pharmaceutical Biotechnology	3	3	3	60	24	1.5	20	20	100	40

Total Credits = 31

Semester-VII**Class- Final Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
4.7.1 T	Sterile Products	3	3	3	60	24	1.5	20	20	100	40
4.7.1 P	Sterile Products	3	2	4	60	24	3	20	20	100	40
4.7.2 T	Pharmaceutical Analysis-V	3	3	3	60	24	1.5	20	20	100	40
4.7.2 P	Pharmaceutical Analysis-V	3	2	4	60	24	3	20	20	100	40
4.7.3 T	Medicinal Chemistry-III	3	3	3	60	24	1.5	20	20	100	40
4.7.3 P	Medicinal Chemistry-III	3	2	4	60	24	3	20	20	100	40
4.7.4 T	Pharmacology-IV	3	3	3	60	24	1.5	20	20	100	40
4.7.4 P	Pharmacology-IV	3	2	4	60	24	3	20	20	100	40
4.7.5 T	Natural Drug Technology	3	3	3	60	24	1.5	20	20	100	40
4.7.5 P	Natural Drug Technology	3	2	4	60	24	3	20	20	100	40
4.7.6 T	Bio-pharmaceutics & Pharmacokinetics	3	3	3	60	24	1.5	20	20	100	40
4.7.7 T	Pharmaceutical Jurisprudence	3	3	3	60	24	1.5	20	20	100	40

Total Credits = 31

Semester-VIII**Class- Final Yr. B. Pharmacy**

Subject Code	Subject	Scheme of Teaching Hrs/Weeks	Scheme of Credit	End Semester Examination			Internal Examination			Total Maximum Marks for subject	Minimum marks for passing subject
				Duration (Hours)	Maximum marks	Min for passing	Duration (Hours)	Maximum marks	Continuous Assessment marks		
4.8.1 T	Advanced Drug Delivery System	3	3	3	60	24	1.5	20	20	100	40
4.8.1 P	Advanced Drug Delivery System	3	2	4	60	24	3	20	20	100	40
4.8.2 T	Cosmetic science	3	3	3	60	24	1.5	20	20	100	40
4.8.2 P	Cosmetic science	3	2	4	60	24	3	20	20	100	40
4.8.3 T	Pharmaceutical Analysis-VI	3	3	3	60	24	1.5	20	20	100	40
4.8.3 P	Pharmaceutical Analysis-VI	3	2	4	60	24	3	20	20	100	40
4.8.4 T	Medicinal Chemistry-IV	3	3	3	60	24	1.5	20	20	100	40
4.8.4 P	Medicinal Chemistry-IV	3	2	4	60	24	3	20	20	100	40
4.8.5 T	Pharmacology-V(Including Biostatistics)	3	3	3	60	24	1.5	20	20	100	40
4.8.5 P	Pharmacology-V(Including Biostatistics)	3	2	4	60	24	3	20	20	100	40
4.8.6 T	Natural Products: Commerce, Industry & Regulations	3	3	3	60	24	1.5	20	20	100	40
4.8.7 T	Quality Assurance Tech.	3	3	3	60	24	1	20	20	100	40

Total Credits = 31