

ORDINANCE- M. PHARMA COURSES w.e.f. session 2017-18

1. Short Title and Commencement

These regulations shall be called as “The Revised Regulations for the Master of Pharmacy (M. Pharm.) Degree Program - Credit Based Semester System (CBSS). They shall come into effect from the academic year 2017-18. The regulations framed are subject to modifications from time to time by the authorities of the university.

2. Minimum qualification for admission

A Pass in the following examinations

- a) B. Pharm Degree examination of an Indian university established by law in India from an institution approved by Pharmacy Council of India and has scored not less than 55 % of the maximum marks (aggregate of 4 years of B.Pharm.)
- b) Every student, selected for admission to post graduate pharmacy program in any PCI approved institution should have obtained registration with the State Pharmacy Council or should obtain the same within one month from the date of his/her admission or should obtain the same before the commencement of the first semester examination, failing which the admission of the candidate shall be cancelled.

Note: It is mandatory to submit a migration certificate obtained from the respective university where the candidate had passed his/her qualifying degree (B.Pharm.)

3. Duration of the program

The program of study for M.Pharm. shall extend over a period of four semesters (two academic years). The curricula and syllabi for the program shall be prescribed from time to time by the University.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

Each semester shall consist of not less than 100 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from the month of December/January to May/June in every calendar year.

6. Attendance and progress

A candidate is required to put in at least 80% attendance in individual courses considering theory and practical separately. The candidate shall complete the prescribed course satisfactorily to be eligible to appear for the respective examinations. However, relaxation in attendance for appearing in examination will be as per University Rules.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, practical classes, seminars, assignments, etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week/per activity.

7.1. Credit assignment

7.1.1. Theory and Laboratory courses Courses are broadly classified as Theory and Practical. Theory courses consist of lecture (L) and Practical (P) courses consist of hours spent in the laboratory. Credits (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having four lectures per week throughout the semester carries a credit of 4. Similarly, a practical having four laboratory hours per week throughout semester carries a credit of 2. The contact hours of seminars, assignments and research work shall be treated as that of practical courses for the purpose of calculating credits. i.e., the contact hours shall be multiplied by 1/2. Similarly, the contact hours of journal club, research work presentations and discussions with the supervisor shall be considered as theory course and multiplied by 1.

7.2. Minimum credit requirements

The minimum credit points required for the award of M. Pharm. degree is 95. However based on the credit points earned by the students under the head of co-curricular activities, a student shall earn a maximum of 100 credit points. These credits are divided into Theory courses, Practical, Seminars, Assignments, Research work, Discussions with the supervisor, Journal club and Co-Curricular activities over the duration of four semesters. The credits are distributed semester-wise as shown in Table 2-9. Courses generally progress in sequence, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester wise schedule of courses given in the syllabus.

8. Academic work

A regular record of attendance both in Theory, Practical, Seminar, Assignment, Journal club, Discussion with the supervisor, Research work presentation and Dissertation shall be maintained by the department / teaching staff of respective courses.

Course of the study

The specializations in M. Pharm program is given in Table 1.

Table-1 List of M.Pharm. Specializations and their Code

S. No.	Specialization	Code
1	Industrial Pharmacy	MIP
2	Pharmaceutical Chemistry	MPC
3	Pharmacognosy	MPG
4	Pharmacology	MPL
5	Drug Regulatory Affairs	DRA

The course of study for M.Pharm specializations shall include Semester wise Theory & Practical as given in Table – 2 to 6. The number of hours to be devoted to each theory and practical course in any semester shall not be less than that shown in Table – 2 to 6.

Table-2 Course of study for M. Pharm. (Industrial Pharmacy)

Course Code	Course	Credit Hours	Credit Points	Hrs./wk	Marks
Semester I					
MPA101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100

MIP101T	Pharmaceutical Formulation Development	4	4	4	100
MIP102T	Customized drug Delivery System	4	4	4	100
MIP103T	Drug Regulations and Intellectual Property Rights	4	4	4	100
MIP104P	Industrial Pharmacy Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650
Semester II					
MIP201T	Advanced Biopharmaceutics and Pharmacokinetics	4	4	4	100
MIP202T	Scale up and Technology Transfer	4	4	4	100
MIP203T	Pharmaceutical Production Technology	4	4	4	100
MIP204T	Entrepreneurship Management	4	4	4	100
MIP205P	Industrial Pharmacy Practical II	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650

Table-3 Course of study for M. Pharm. (Pharmaceutical Chemistry)

Course Code	Course	Credit Hours	Credit Points	Hrs./wk	Marks
Semester I					
MPA101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100
MPC101T	Advanced Organic Chemistry -I	4	4	4	100
MPC102T	Advanced Medicinal chemistry	4	4	4	100
MPC103T	Chemistry of Natural Products	4	4	4	100
MPC104P	Pharmaceutical Chemistry Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650
Semester II					
MPC201T	Advanced Spectral Analysis	4	4	4	100
MPC202T	Advanced Organic Chemistry -II	4	4	4	100
MPC203T	Computer Aided Drug Design	4	4	4	100

MPC204T	Pharmaceutical Process Chemistry	4	4	4	100
MPC205P	Pharmaceutical Chemistry Practical II	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650

Table-4 Course of study for M. Pharm. (Pharmacognosy)

Course Code	Course	Credit Hours	Credit Points	Hrs./wk	Marks
Semester I					
MPA101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100
MPG101T	Advanced Pharmacognosy-I	4	4	4	100
MPG102T	Phytochemistry	4	4	4	100
MPG103T	Industrial Herbal drug technology	4	4	4	100
MPG104P	Pharmacognosy Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650
Semester II					
MPG201T	Medicinal Plant biotechnology	4	4	4	100
MPG102T	Advanced Pharmacognosy-II	4	4	4	100
MPG203T	Indian system of medicine	4	4	4	100
MPG204T	Herbal cosmetics	4	4	4	100
MPG205P	Pharmacognosy Practical II	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650

Table-5 Course of study for (Pharmacology)

Course Code	Course	Credit Hours	Credit Points	Hrs./wk	Marks
Semester I					
MPA101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100
MPL101T	Advanced Pharmacology-I	4	4	4	100
MPL102T	Pharmacological and Toxicological Screening Methods-I	4	4	4	100
MPL103T	Cellular and Molecular Pharmacology	4	4	4	100
MPL104P	Pharmacology Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100

		Total	35	26	35	650
Semester II						
MPL201T	Advanced Pharmacology II	4	4	4	4	100
MPL102T	Pharmacological and Toxicological Screening Methods- II	4	4	4	4	100
MPL203T	Principles of Drug Discovery	4	4	4	4	100
MPL204T	Experimental Pharmacology practical- II	4	4	4	4	100
MPL205P	Pharmacology Practical II	12	6	12	12	150
-	Seminar/Assignment	7	4	7	7	100
		Total	35	26	35	650

Table-6 Course of study for M. Pharm. (Drug Regulatory Affairs)

Course Code	Course	Credit Hours	Credit Points	Hrs./wk	Marks	
Semester I						
DRA101T	Good Pharmaceutical Practices	4	4	4	100	
MRA102T	Pharmaceutical Regulations in India	4	4	4	100	
DRA103T	International Pharmaceutical Regulations I	4	4	4	100	
DRA104T	Clinical Research Regulations	4	4	4	100	
DRA105P	Pharmaceutical Regulatory Affairs Practical I	12	6	12	150	
-	Seminar/Assignment	7	4	7	100	
		Total	35	26	35	650
Semester II						
DRA201T	Documentation and Regulatory Writing	4	4	4	100	
DRA202T	Biologicals Regulations	4	4	4	100	
DRA203T	International Pharmaceutical Regulations II	4	4	4	100	
DRA204T	Medical Device Regulations	4	4	4	100	
DRA205P	Pharmaceutical Regulatory Affairs Practical II	12	6	12	150	
-	Seminar/Assignment	7	4	7	100	
		Total	35	26	35	650

**Table-7 Course of study for M. Pharm. III Semester
(Common for All Specializations)**

Course Code	Course	Credit	Credit
MRM101T	Research Methodology and Biostatistics	4	4
-	Journal club	1	1
-	Discussion / Presentation (Proposal Presentation)	2	2
-	Research work	28	14
	Total	35	21

**Table-8 Course of study for M. Pharm. IV Semester
(Common for All Specializations)**

Course Code	Course	Credit	Credit
-	Journal club	1	1
-	Research Work	31	16
-	Discussion / Final Presentation	3	3
-	Total	35	20

Table-9 Semester wise credits distribution

Semester	Credit Points
I	26
II	26
III	21
IV	20
Co-curricular Activities	Minimum=02
(Attending Conference, Scientific Presentations and Other Scholarly Activities)	Maximum=07*
Total Credit Points	Minimum=95
	Maximum=100*

*Credit Points for Co-curricular Activities

Table-10 Guidelines for Awarding Credit Points for Co-curricular Activities

Name of the Activity	Maximum Credit Points Eligible / Activity
Participation in National Level Seminar/Conference/Workshop/Symposium/Training Programs (related to the specialization of the student)	01
Participation in international Level Seminar/Conference/Workshop/Symposium/Training Programs (related to the specialization of the student)	02
Academic Award/Research Award from State	01

Level/National Agencies	
Academic Award/Research Award from International Agencies	02
Research / Review Publication in National Journals (Indexed in Scopus / Web of Science)	01
Research / Review Publication in International Journals (Indexed in Scopus / Web of Science)	02

Note: International Conference: Held Outside India
International Journal: The Editorial Board Outside India

* The credit points assigned for extracurricular and or co-curricular activities shall be given by the Principals of the University and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the University from time to time.

10. Program Committee

1. The M. Pharm. programme shall have a Programme Committee constituted by the Head of the Department in consultation with all Senior Most faculty in the concerned department.

2. The composition of the Programme Committee shall be as follows:

Head of the Department shall be the Chairperson; TWO Teacher from each M.Pharm specialization by seniority and rotation and four student representatives (two from each academic year), nominated by the Head of the Department.

3. Duties of the Programme Committee:

- i. Periodically reviewing the progress of the classes.
- ii. Discussing the problems concerning curriculum, syllabus and the conduct of classes.
- iii. Discussing with the course teachers on the nature and scope of assessment for the course and the same shall be announced to the students at the beginning of respective semesters.
- iv. Communicating its recommendation to the Head of the Department on academic matters.

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v. The Programme Committee shall meet at least twice in a semester preferably at the end of each sessional exam and before the end semester exam.

11. Examinations/Assessments

The schemes for internal assessment and end semester examinations are given in Table – XVII.

11.1. End semester examinations

The End Semester Examinations for each theory and practical course through semesters I to IV shall be conducted by the University.

11.2. Internal assessment: Continuous mode

The marks allocated for Continuous mode of Internal Assessment shall be awarded as per the scheme given below.

Table-11: Scheme for awarding internal assessment: Continuous mode

Theory	
Criteria	Maximum Marks
Attendance (Refer Table – 12)	8

Student – Teacher interaction	2
Total	10
Practical	
Attendance (Refer Table – 12)	10
Based on Practical Records, Regular viva voce, etc.	10
Total	20

Table-12: Guidelines for the allotment of marks for attendance

Percentage of Attendance	Theory	Practical
95 – 100	8	10
90 – 94	6	7.5
85 – 89	4	5
80 – 84	2	2.5
Less than 80	0	0

11.2.1. Sessional Exams

Two sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the Department. The scheme of question paper for theory and practical sessional examinations is given below. The best marks of two sessional exams shall be computed for internal assessment. Sessional exam shall be conducted for 30 marks for theory and shall be computed for 15 marks. Similarly Sessional exam for practical shall be conducted for 60 marks and shall be computed for 30 marks.

Question paper pattern for theory Sessional examinations

For subjects having University examination

I. Multiple Choice Questions (MCQs)/Fill ups/Short answer questions

(Answer all the questions) = $10 \times 1 = 10$

I. Long Answers (Answer 1 out of 2) = $1 \times 10 = 10$

II. Short Answers (Answer 2 out of 3) = $2 \times 5 = 10$

Total = 30 marks

For subjects having Non University Examination

I. Long Answers (Answer 1 out of 2) = $1 \times 10 = 10$

II. Short Answers (Answer 4 out of 6) = $4 \times 5 = 20$

Total = 30 marks

Question paper pattern for practical sessional examinations	
I. Synopsis	15
II. Experiments	35
III. Viva voce	10
Total	60 marks

12. Promotion and award of grades

A student shall be declared PASS and eligible for getting grade in a course of M. Pharm. programme if he/she secures at least 50% marks in that particular course including internal assessment. In case of 3rd and 4th semester, the pass percentage will be 50% marks of the overall marks in evaluation of synopsis/thesis including presentation.

13. Carry forward of marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in the sessional exam component of the internal assessment, if his/her internal assessment is less than 40%. The re-conduct of the sessional exam shall be completed before the commencement of next end semester theory examinations.

15. Re-examination of end semester examinations

Reexamination of end semester examination shall be conducted as per the schedule given in table 13. The exact dates of examinations shall be notified from time to time.

Table 13: Tentative schedule of end semester examinations Semester For Regular Candidates For Failed Candidates

Semester	For regular candidates	For failed candidates
I and III	November/December	May/June
II and IV	May/June	November/December

Question paper pattern for end semester theory examinations**For 75 marks paper**

I. Multiple Choice Questions (MCQs)/Fill Ups/Short Answer Type (Answer all the questions) =	20 x 1 = 20
I. Long Answers (Answer 2 out of 3) =	2 x 10 = 20
II. Short Answers (Answer 7 out of 9) =	7 x 5 = 35

Total =	75 marks

Question paper pattern for end semester practical examinations

I. Synopsis =	25
II. Experiments/s =	50
III. Viva voce =	25

Total =	100 marks

16. Allowed to keep terms (ATKT):

No student shall be admitted to any examination unless he/she fulfills the norms given in 6. ATKT rules are applicable as follows: A student shall be eligible to carry forward all the courses of I and II semesters till the III semester examinations. However, he/she shall not be eligible to

attend the courses of IV semester until all the courses of I, II and III semesters are successfully completed.

A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to IV semesters within the stipulated time period as per the norms.

Note: Grade AB should be considered as failed and treated as one head for deciding ATKT. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

17. Grading of performances

17.1. Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table –14.

Table – 14: Letter grades and grade points equivalent to Percentage of marks and performances

Percentage of marks obtained	Letter Grade	Grade point	Performance
90.00-100	O	10	Outstanding
80.00-89.99	A	9	Excellent
70.00-79.99	B	8	Good
60.00-69.99	C	7	Fair
50.00-59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A learner who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

18. The Semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called ‘Semester Grade Point Average’ (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes five courses (Theory/Practical) in a semester with credits C1, C2, C3 and C4 and the student’s grade points in these courses are G1, G2, G3 and G4, respectively, and then students’ SGPA is equal to:

$$\text{SGPA} = \frac{C1G1 + C2G2 + C3G3 + C4G4}{C1 + C2 + C3 + C4}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester. For example if a learner has a F or ABS grade in course 4, the SGPA shall then be computed as:

$$\text{SGPA} = \frac{C1G1 + C2G2 + C3G3 + C4 * \text{ZERO}}{C1 + C2 + C3 + C4}$$

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the IV semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all IV semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade 34 on subsequent examination(s) the CGPA shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{\text{C1S1} + \text{C2S2} + \text{C3S3} + \text{C4S4}}{\text{C1} + \text{C2} + \text{C3} + \text{C4}}$$

where C1, C2, C3,.... is the total number of credits for semester I,II,III,.... and S1,S2, S3,.... is the SGPA of semester I,II,III,....

20. Declaration of class

The class shall be awarded on the basis of CGPA as follows:

First Class with Distinction = CGPA of 7.50 and above

First Class = CGPA of 6.00 to 7.49

Second Class = CGPA of 5.00 to 5.99

21. Project work

All the students shall undertake a project under the supervision of a teacher in Semester III and IV and submit a synopsis at the end of 3rd semester and Thesis at the end of 4th Semester. Four copies of the synopsis (Typed copy not less than 15 pages/Thesis (typed & bound copy not less than 75 pages) shall be submitted. The internal and external examiner appointed by the University shall evaluate the Thesis at the time of the Practical examinations of other semester(s) maximum in Two slots. The synopsis /Thesis shall be evaluated as per the criteria given below.

<i>Evaluation of Thesis/Synopsis:</i>	<i>4th Semester</i>	<i>3rd Semester</i>
Objective(s) of the work done	50 Marks	50 Marks
Methodology adopted	50 Marks	50 Marks
Results and Discussions	50 Marks	50 Marks
Conclusions and Outcomes	50 Marks	--
Total	200 Marks	150 Marks

<i>Evaluation of Presentation:</i>	<i>4th Semester</i>	<i>3rd Semester</i>
Presentation of work	100 Marks	100 Marks
Communication skills	50 Marks	50 Marks
Question and answer skills	50 Marks	50 Marks
Total	200 Marks	200 Marks
Grand Total	400 Marks	350 Marks

22. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the M.Pharm program shall not be eligible for award of ranks. Moreover, the candidates should have completed the M. Pharm program in minimum prescribed number of years, (two years) for the award of Ranks.

23. Award of degree

Candidates who fulfill the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

24. Duration for completion of the program of study

The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they have to get fresh Registration.

25. Revaluation/ Re-totaling of answer papers

There is provision for revaluation of the answer papers in theory examination as per University Rules.

26. Re-admission after break of study

Candidate who seeks re-admission to the program after break of study has to get the approval from the university by paying a condonation fee.

27. Improvement

There is no provision of improvement in final/end semester examination.