

INSTITUTE	FACULTY OF PHARMACY
PROGRAM	MASTER OF PHARMACY (PHARMACEUTICS)
SEMESTER	1
COURSE TITLE	PHARMACEUTICS PRACTICAL-1
COURSE CODE	13MC0105
COURSE CREDITS	6

Objective:

- 1 This course is designed to acquire practical skills in the area of advances in drug delivery systems.

Course Outcomes: After completion of this course, student will be able to:

- 1 Develop the ability to handle and operate various pharmaceutical instruments and equipment used in the formulation and analysis of drugs.
- 2 Gain practical experience in the preparation and characterization of various dosage forms such as tablets, capsules, solutions, suspensions, emulsions, and creams.
- 3 Develop skills in the analysis and quality control of drugs using various analytical techniques such as chromatography, spectroscopy, and thermal analysis.
- 4 Develop critical thinking and problem-solving skills by analyzing and interpreting experimental data and suggesting ways to optimize pharmaceutical formulations.

Pre-requisite of course: B.Pharm. Degree holder from an Indian university established by law in India from an institution approved by the Pharmacy Council of India and has scored not less than 55 percent of the maximum marks (aggregate of 4 years of B.Pharm.).

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	12	0	0	20	100	30
Contents : Unit	Topics						Contact Hours
Total Hours							

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Practical-1 Analysis of pharmacopeial compounds and their formulations by UV Vis spectrophotometer.	1

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
2	Practical-2 Simultaneous estimation of multi-component containing formulations by UV spectrophotometry.	1
3	Practical-3 Experiments based on HPLC.	1
4	Practical-4 Experiments based on Gas Chromatography	1
5	Practical-5 Estimation of riboflavin/quinine sulfate by fluorimetry.	1
6	Practical-6 Estimation of sodium/potassium by flame photometry.	1
7	Practical-7 To perform an In-vitro dissolution profile of CR/ SR marketed formulation.	1
8	Practical-8 Formulation and evaluation of sustained release matrix tablets.	1
9	Practical-9 Formulation and evaluation of osmotically controlled DDS.	1
10	Practical-10 Preparation and evaluation of Floating DDS- hydro dynamically balanced DDS.	1
11	Practical-11 Formulation and evaluation of Muco-adhesive tablets.	1
12	Practical-12 Formulation and evaluation of trans dermal patches.	1
13	Practical-13 To carry out preformulation studies of tablets.	1
14	Practical-14 To study the effect of compressional force on tablets disintegration time.	1
15	Practical-15 To study the micromeritic properties of powders and granulation.	1
16	Practical-16 To study the effect of particle size on the dissolution of a tablet.	1
17	Practical-17 To study the effect of binders on the dissolution of a tablet.	1
18	Practical-18 To plot the Heckal, Higuchi, and Peppas plot and determine similarity factors.	1
Total Hours		18

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
20.00	25.00	25.00	15.00	10.00	5.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and the need of students. The teacher in addition to the conventional teaching method by the blackboard may also use any tools such as demonstration, role play, quiz, brainstorming, MOOCs etc.
- 2 The internal evaluation will be done based on continuous evaluation of students in the laboratory and classroom.
- 3 Students will use supplementary resources such as online videos, NPTEL videos, MOOCs/ e-courses, virtual laboratories.