



Program	Bachelor of Pharmacy (BPharm)	Semester - 2
Type of Course	-	
Prerequisite		
Course Objective	-	
Effective From A.Y.	2023-24	

Teaching Scheme (Contact Hours)				Examination Scheme				
Lecture	Tutorial	Lab	Credit	Theory Marks		Practical Marks		Total Marks
				External Marks (T)	Internal Marks (T)	External Marks (P)	Internal Marks (P)	
3	1	4	6	75	25	35	15	150

SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content		T - Teaching Hours W - Weightage	
Sr.	Topics	T	W
1	UNIT I 1. Historical background and development of profession of pharmacy: History of profession of Pharmacy in India in relation to pharmacy education, industry and organization, Pharmacy as a career, Pharmacopoeias: Introduction to IP, BP, USP and Extra Pharmacopoeia. 2. Dosage forms: Introduction to dosage forms, classification and definitions. 3. Prescription: Definition, Parts of prescription, Handling of Prescription and Errors in prescription. 4. Posology: Definition, Factors affecting posology, Pediatric dose calculations based on age, body weight and body surface area.	10	23
2	UNIT II 5. Pharmaceutical calculations: Weights and measures – Imperial and Metric system, Calculations involving percentage solutions, alligation, proof spirit and isotonic solutions based on freezing point and molecular weight. 6. Powders: Definition, classification, advantages and disadvantages, Simple and Compound powders – official preparations, Dusting powders, Effervescent, Efflorescent and Hygroscopic powders, Eutectic mixtures, Geometric dilutions. 7. Liquid dosage forms: Advantages and disadvantages of liquid dosage forms. Excipients used in formulation of liquid dosage forms, Solubility enhancement techniques.	10	23
3	UNIT III 8. Monophasic liquids: Definitions and preparations of Gargles, Mouthwashes, Throat Paint, Eardrops, Nasal drops, Enemas, Syrups, Elixirs, Liniments and Lotions. 9. Biphasic liquids: Suspensions: Definition, advantages and disadvantages, classifications, Preparation of suspensions, Flocculated and Deflocculated suspension and Stability problems and methods to overcome. Emulsions: Definition, classification, Emulsifying agent, Test for the identification of type of emulsion, Methods of preparation and stability problems and methods to overcome.	10	23
4	UNIT IV 10. Suppositories: Definition, types, advantages and disadvantages, Types of bases, Methods of preparations, Displacement value and its calculations, Evaluation of suppositories. 11. Pharmaceutical incompatibilities: Definition, classification, Physical, Chemical and Therapeutic incompatibilities with examples.	8	16
5	UNIT V 12. Semisolid dosage forms: Definitions, classification, Mechanisms and factors influencing dermal penetration of drugs, Preparation of ointments, pastes, creams and gels, Excipients used in semi solid dosage forms, Evaluation of semi solid dosages forms.	7	15
Total		45	100



Suggested Distribution Of Theory Marks Using Bloom's Taxonomy

Level	Remembrance	Understanding	Application	Analyze	Evaluate
Weightage	40	30	10	10	10

NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes

At the end of this course, students will be able to:

C01	Basic knowledge of dispensing pharmacy: its history, various dosage forms, prescription handling, posology, pharmaceutical calculations and incompatibilities.
C02	Knowledge and application of pharmaceutical calculations and pharmaceutical incompatibilities in dispensing of conventional dosage forms.
C03	Knowledge on liquid dosage forms: merits & demerits, methods of preparation, aspects of stability and excipients.
C04	Knowledge of powders, suppositories and semisolid dosage forms: merits and demerits, various types, methods of preparation, excipients and evaluation.
C05	Ability to prepare and dispense prescriptions of various liquid formulations, semisolid dosage forms, powder and suppositories.

Reference Books

1.	Pharmaceutical Dosage Form and Drug Delivery System By H.C. Ansel Lippincott Williams and Walkins, New Delhi
2.	Dispensing for Pharmaceutical Students By Carter S.J., Cooper and Gunn's CBS publishers, New Delhi
3.	Pharmaceutics, The Science & Dosage Form Design By M.E. Aulton Churchill Livingstone, Edinburgh.
4.	Indian pharmacopoeia
5.	British pharmacopoeia
6.	Theory and Practice of Industrial Pharmacy By Lachmann Lea & Febiger Publisher, The University of Michigan
7.	The Science and Practice of Pharmacy (TextBook) By Alfonso R. Gennaro Remington Lippincott Williams, New Delhi
8.	Tutorial Pharmacy (TextBook) By Carter S.J., Cooper and Gunn's CBS Publications, New Delhi
9.	Text Book of Pharmaceutics (TextBook) By E.A. Rawlins, Bentley's English Language Book Society, Elsevier Health Sciences, USA
10.	Pharmaceutical Pelletization Technology (TextBook) By Isaac Ghebre Sellassie Marcel Dekker, INC, New York.
11.	Handbook of Pharmaceutical Granulation Technology (TextBook) By Dilip M. Parikh Marcel Dekker, INC, New York
12.	Pharmaceutical Emulsions and Suspensions (TextBook) By Francoise Nieloud and Gilberte Marti-Mestres Marcel Dekker, INC, New York



List of Practical

1.	To study the method of working in laboratory, its equipments and requirements.
2.	To prepare and dispense a) Simple syrup I.P. b) Ferrous sulphate syrup.
3.	To prepare and dispense a) Piperazine citrate elixir b) Paracetamol pediatric elixir I.P.
4.	a) Introduction to latin terms, weights and measures. b) To prepare and dispense compound Iodine throat paint (Mandle's paint).
5.	To prepare and dispense a) Terpin hydrate elixir I.P. b) Codeine phosphate linctus.
6.	To prepare and dispense a) Aqueous iodine solution I.P.(Lugol's solution) b) Strong ammonium acetate solution I.P.
7.	To prepare and dispense a) Cresol with soap solution I.P. b) Calamine lotion I.P.
8.	To prepare and dispense a) Liquid paraffin emulsion B.P. b) Turpentine oil emulsion.
9.	To prepare and dispense a) Turpentine liniment b) Camphor liniment I.P. c) Castor oil enema.
10.	To prepare and dispense a) Zinc, talc and starch dusting powder B.P.C. b) Aspirin powder.
11.	To prepare and dispense a) Sodium phosphate effervescent granules U.S.P. b) Camphor menthol eutectic powder.
12.	To prepare and dispense a) Non staining iodine ointment I.P./B.P.C. b) Cold cream.
13.	To prepare and dispense a) Zinc gelatin paste B.P. (Unna's paste) b) Phenol gargle B.P.C.
14.	To prepare and dispense a) Boric acid suppository b) Glycero-gelatin suppository B.P.

List of Tutorial

1.	TUTORIAL 1
2.	TUTORIAL 2
3.	TUTORIAL 3
4.	TUTORIAL 4
5.	TUTORIAL 5
6.	TUTORIAL 6
7.	TUTORIAL 7
8.	TUTORIAL 8
9.	TUTORIAL 9
10.	TUTORIAL 10
11.	TUTORIAL 11
12.	TUTORIAL 12
13.	TUTORIAL 13
14.	TUTORIAL 14
15.	TUTORIAL 15