



SILVER OAK UNIVERSITY

Silver college of Pharmacy (067)

Programme Name: B.Pharm (18)

Subject Name: Pharmaceutics-I

Subject Code: 1180673103

Semester: I

Prerequisite:

This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

Objective: Upon completion of this course the student should be able to:

1. Know the history of profession of pharmacy
2. Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations
3. Understand the professional way of handling the prescription
4. Preparation of various conventional dosage forms

Teaching Scheme:

Teaching Scheme				
L	T	P	Contact Hours	Credit
3	1	4	8	6

Content:

Unit No.	Contents	Teaching Hours	Weightage %
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. Dosage forms: Introduction to dosage forms, classification and definition Prescription: Definition, Parts of prescription, handling of Prescription and Errors in prescription. Posology: Definition, Factors affecting posology. Pediatric dose calculations based on age, body weight and body surface area.	10 Hrs	22%

2	<p>Pharmaceutical calculations: Weights and measures – Imperial & Metric system, Calculations involving percentage solutions, alligation, proof spirit and isotonic solutions based on freezing point and molecular weight.</p> <p>Powders: Definition, classification, advantages and disadvantages, Simple & compound powders – official preparations, dusting powders, effervescent, efflorescent and hygroscopic powders, eutectic mixtures. Geometric dilutions.</p> <p>Liquid dosage forms: Advantages and disadvantages of liquid dosage forms. Excipients used in formulation of liquid dosage forms. Solubility enhancement techniques</p>	10 Hrs	22%
3	<p>Monophasic liquids: Definitions and preparations of Gargles, Mouthwashes, Throat Paint, Eardrops, Nasal drops, Enemas, Syrups, Elixirs, Liniments and Lotions.</p> <p>Biphasic liquids:</p> <p>Suspensions: Definition, advantages and disadvantages, classifications, Preparation of suspensions; Flocculated and Deflocculated suspension & stability problems and methods to overcome.</p> <p>Emulsions: Definition, classification, emulsifying agent, test for the identification of type of Emulsion, Methods of preparation & stability problems and methods to overcome.</p>	10 Hrs	22%
4	<p>Suppositories: Definition, types, advantages and disadvantages, types of bases, methods of preparations. Displacement value & its calculations, evaluation of suppositories.</p> <p>Pharmaceutical incompatibilities: Definition, classification, physical, chemical and therapeutic incompatibilities with examples.</p>	08 Hrs	18%
5	<p>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</p>	07Hrs	16%
	Total	45 Hrs	

Course Outcome: After Completion of Syllabus students will able to

Sr. No.	CO statement	Unit No
CO-1	Know the history of profession of pharmacy and official compendia Understand the basics of different dosage forms, Understand the professional way of handling the prescription and dispensing of medications, Fundamental knowledge of calculation of Dose by different formula	1
CO-2	Describe formulation and evaluation aspect of monophasic liquid formulations, dispensing aspects of dosage forms like powders	2
CO-3	Understand the dispensing aspects of dosage forms like emulsion and Suspension	3
CO-4	To learn the basics of different pharmaceutical incompatibilities and Describe use of ingredients in formulation, preparation method and evaluation method of suppositories	4
CO-5	Upon completion of this unit the student will have fundamental knowledge in preparing conventional Semisolid dosage forms and Selection of suitable packaging material (container-closure) for the preparation.	5

Teaching & Learning Methodology: -

The various methods or tools follows by the faculties to teach the above subject are:

1. Student centered learning
2. Experimental learning

Experiments:

Students will perform following Experiments OR

1. Syrups

- a) Syrup IP'66
- b) Compound syrup of Ferrous Phosphate BPC'6

2. Elixirs

- a) Piperazine citrate elixir
- b) Paracetamol pediatric

3. Linctuses

- a) Terpin Hydrate Linctus IP'66
- b) Iodine Throat Paint (Mandles Paint)

4. Solutions

- a) Strong solution of ammonium acetate
- b) Cresol with soap solution
- c) Lugol's solution

5. Suspensions

- a) Calamine lotion
- b) Magnesium Hydroxide mixture
- c) Aluminium Hydroxide gel

6. Emulsions

- a) Turpentine Liniment
- b) Liquid paraffin emulsion

7. Powders and Granules

- a) ORS powder (WHO)
- b) Effervescent granules
- c) Dusting powder
- d) Divided powder

8. Suppositories

- a) Glycero gelatin suppository
- b) Cocoa butter suppository
- c) Zinc Oxide suppository

9. Semisolids

- a) Sulphur ointment
- b) Non staining-iodine ointment with methyl salicylate
- c) Carbopal gel

10. Gargles and Mouthwashes

- a) Iodine gargle
- b) Chlorhexidine mouthwash

Books Recommended:

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

Co. No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO-1	3	1	2	3	1	3	1	2	3	3	3	3	2
CO-2	3	1	1	3	1	1	2	2	2	3	3	2	2
CO-3	3	1	1	2	-	3	2	1	2	2	2	3	2
CO-4	3	-	2	2	-	2	-	2	1	2	2	2	3
CO-5	3	-	2	3	-	2	-	-	2	2	2	3	2