

19CH211 GENERAL PHARMACY

Hours Per Week :

L	T	P	C
3	-	2	4

Total Hours :

L	T	P	WA/RA	SSH/HS	CS	SA	S	BS
45	-	30	25	50	-	-	5	5

COURSE DESCRIPTION AND OBJECTIVES:

The main objective of this course is to deal with a fundamental knowledge on the art and science of formulations available, formulation requirements for formulating different types of dosage forms. This course deals with the fundamental knowledge on different mono phasic and biphasic liquid preparations available, formulation aspects of biphasic liquid preparations. This course imparts different extraction processes used for the preparation of surgical aids, galenicals and incompatibilities.

COURSE OUTCOMES :

Upon completion of the course, the student will able to achieve the following outcomes:

COs	Course Outcomes	POs
1	Formulation and the preparation of different mouthgels, ear drops and nasal spray.	2
3	Identify the different additives for oral and external use.	2
2	Apply the different formulation techniques required for dosage form.	2
3	Formulate and prepare different semi solids dosage form like ointments, creams.	3
4	Design and calculation of extraction equipment for spirits and tincture preparation.	3

SKILLS:

- ✓ Carry out the different formulation using colouring agents, preservatives, sweetening agents.
- ✓ Use the latest formulation technologies, processes and methods to develop new additives.
- ✓ Evaluate the preparation methods of various mono phasic and biphasic liquids.
- ✓ Analyze formulation development towards ointments, creams, spirits, tinctures etc.

UNIT – I **L-9**
INTRODUCTION TO DOSAGE FORMS: Classification – types with examples; Definitions and essential characteristics of different dosage forms – formulation and its purpose.

FORMULATION ADDITIVES: Solvents; Vehicles for Liquids; Antioxidants; Preservatives; Colouring agents; Sweetening and flavouring agents in Liquid dosage forms.

UNIT – II **L-9**
MONOPHASIC LIQUIDS: Liquid oral dosage forms; Definitions; General formulation; Methods of preparation; Uses of official and other products in common usage of the following solutions - aromatic waters, spirits, syrups, elixirs, dry syrups, mixtures.

MONOPHASIC LIQUIDS FOR EXTERNAL AND OTHER USES : Definitions; General formulation; Methods of preparation; Uses of official and other products in common usage of the following lotions - liniments, throat paints, gargles, mouthwashes, glycerins, collodions, ear drops, nasal drops and sprays, douches, preparations.

UNIT – III **L-9**
BIPHASIC LIQUID DOSAGE FORMS: Suspensions; Definitions; Types; Ideal requirements; Formulation additives; Typical examples for oral and external use; Methods of preparation.

EMULSIONS: Definition; Types; Ideal requirements; Formulation additives; Typical examples for oral and external use; Methods of preparation.

UNIT – IV **L-9**
SEMI SOLID DOSAGE FORMS: Definition; Anatomy and physiology of skin; Penetration mechanisms; Semi solids classification; Formulation additives for commonly used semisolid dosage forms like – ointments, creams, pastes, jellies.

SUPPOSITORIES AND PESSARIES: Ideal requirements; Different bases; Preparation methods; Typical examples; Calculations involving displacement value.

UNIT – V **L-9**
SURGICAL AIDS: Surgical dressings; Absorbable gelatin sponge; Sutures; Ligatures and medicated bandages.

GALENICALS: Definition; Extraction types and processes like – infusion, decoction, maceration and percolation, methods for preparation of spirits, tinctures, extracts.

INCOMPATIBILITY: Introduction; Classification; Methods to overcome incompatibilities.

LABORATORY EXPERIMENTS

LIST OF EXPERIMENTS **TOTAL HOURS: 30**

1. Preparation of Syrups [Eg: Simple syrup I.P., Orange syrup, Ferrous phosphate syrup I.P. etc.).
2. Preparation of Elixir [Piperazine citrate elixir BP, Cascara elixir BP etc] and throat paint [1].
3. Preparation of Mouth washes [Any 1], Gargle [1].
4. Preparation of Lotion [Calamine lotion, Aloe vera lotion].
5. Preparation of Aromatic waters [rose water, chloroform water].
6. Preparation of Mixtures [magnesium hydroxide mixture etc].
7. Preparation of Liniments [turpentine liniment, camphor liniment].
8. Preparation of Solutions [cresol with soap solution, Iodine solution(strong, weak, aqueous)].
9. Preparation of flocculated and deflocculated suspensions [magnesium trisilicate or magnesium carbonate suspension].
10. Formulation of o/w and w/o emulsions [castor oil or liquid paraffin emulsions].
11. Formulation of Multiple emulsions [o/w/o or w/o/w].
12. Formulation of Ointments [atropine sulphate ointment, sulphur ointment].
13. Preparation of Creams [cold cream, vanishing cream].
14. Preparation of Gels [Diclofenac sodium gel].
15. Calculation of selected base displacement value and preparation of suppositories [boric acid suppositories].

Note: Practice labeling for all the preparations.

TEXT BOOKS:

1. Introduction to Pharmaceutical Dosage forms by H.C. Ansel, 9th edition.
2. Dispensing for pharmaceutical students by Cooper & Gunn's 12th edition.

REFERENCE BOOKS:

1. Pharmaceutical Science, Remington's 21st edition.
2. Text book of professional pharmacy, N.K.Jain & S.N.Sharma, 5th edition.