

PHARMACEUTICS II

Theory (75 hours)

1. Dispensing Pharmacy:

- (i) Prescriptions -Reading and understanding of prescription; Latin terms commonly used (Detailed study is not necessary), Modern methods of prescribing, adoption of metric system. Calculations involved in dispensing.
- (ii) Incompatibilities in Prescriptions -Study of various types of incompatibilities-physical, chemical and therapeutic.
- (iii) Posology-Dose and Dosage of drugs, Factors influencing dose, Calculations of doses on the basis of age, sex and surface area. Veterinary doses.

2. Dispensed Medications:

(Note: A detailed study of the following dispensed medication is necessary. Methods of preparation with theoretical and practical aspects, use of appropriate containers and closures. Special labelling requirements and storage conditions should be highlighted).

- (i) Powders-Types of powders-Advantages and disadvantages of powders, Granules, Cachets and Tablet triturates. Preparation of different types of powders encountered in prescriptions. Weighing methods, possible errors in weighing, minimum weighable amounts and weighing of material below the minimum weighable amount, geometric dilution and proper usage and care of dispensing balance.
- (ii) Liquid Oral Dosage Forms:
 - (a) Monophasic-Theoretical aspects including commonly used vehicles, essential adjuvant like stabilizers, colourants and flavours, with examples.

Review of the following monophasic liquids with details of formulation and practical methods.

Liquids for internal administration	Liquids for external administration or used on mucus membranes.
Mixtures and concentrates	Gargles
Syrups	Mouth washes
	Throat-paints
	Douches
Elixirs	Ear Drops
	Nasal drops & Sprays Liniments
	Lotions.

(b) Biphasic Liquid Dosage Forms:

- (i) Suspension (elementary study)-Suspensions containing diffusible solids and liquids and their preparations. Study of the adjuvant used like thickening agents, wetting agents, their necessity and quantity to be incorporated. Suspensions of precipitate forming liquids like, tinctures, their preparations and stability. Suspensions produced by chemical reaction. An introduction to flocculated, non-flocculated suspension system.
- (ii) Emulsions-Types of emulsions, identification of emulsion system, formulation of emulsions, selection of emulsifying agents. Instabilities in emulsions. Preservation of emulsions.
- (iii) Semi-Solid Dosage Forms:
 - (a) Ointments-Types of ointments, classification and selection of dermatological vehicles. Preparation and stability of ointments by the following processes: (i) Trituration (ii) Fusion (iii) Chemical reaction (iv) Emulsification.
 - (b) Pastes- Difference between ointments and pastes, bases of pastes. Preparation of pastes and their preservation.
 - (c) Jellies -An introduction to the different types of jellies and their preparation.
 - (d) An elementary study of poultice.
 - (e) Suppositories and pessaries-Their relative merits and demerits, types of suppositories, suppository bases, classification, properties, preparation and packing of suppositories. Use of suppositories for drug absorption.
- (iv) Dental and Cosmetic Preparations: Introduction to Dentifrices, Facial cosmetics, Deodorants, Antiperspirants, Shampoos, Hair dressing and Hair removers.
- (v) Sterile Dosage Forms:
 - (a) Parenteral dosage forms-Definitions, General requirements for parenteral dosage forms. Types of parenteral formulations, vehicles, adjuvants, processing, personnel, facilities and Quality control. Preparation of Intravenous fluids and admixtures-Total parenteral nutrition, Dialysis fluids.
 - (b) Sterility testing, particulate matter monitoring -Faulty seal packaging.

- (c) Ophthalmic Products-Study of essential characteristics of different ophthalmic preparations. Formulation additives, special precautions in handling and storage of ophthalmic products.

PRACTICAL (100 hours)

Dispensing of at least 100 products covering a wide range of preparations such as mixtures, emulsions, lotions, liniments, E.N.T, preparations, ointments, suppositories, powders, incompatible prescriptions etc.

Books recommended :(Latest editions)

1. Indian Pharmacopoeia.
2. British Pharmacopoeia.
3. National Formularies (N.F.I, B.N.F)
4. Remington's Pharmaceutical Sciences.
5. Martindale Extra Pharmacopoeia.