

Course Title: Hospital Pharmacy Techniques-I and Clinical Practice

Study Hours: 60+160

Paper : 1

Term : 3rd

Marks

Theory: 120

Practical: 30

Time: 3Hrs

Course contents

**STUDY HOURS
(THEORY+PRACTICAL)
40+100**

A. PHARMACEUTICS

A1 Pharmacy orientation:

Role of pharmacy technician in relation to

- A1.1 Hospital pharmacy
- A1.2 Organization of hospital pharmacy
- A1.3 Hospital pharmacy services
- A1.4 Retail pharmacy
- A1.5 Industrial pharmacy
- A1.6 Good storage practices
- A1.7 Inventory control & local purchase

A2. Pharmaceutical measurements:

- A2.1 Qualitative
- A2.2 Accuracy
- A2.3 Significant figures
- A2.3 Units of measurements in USP
- A2.4 Particles equivalents
- A2.5 Household measurement

A3. Introduction to:

- A3.1 Common solutes & solvents
- A3.2 Preparation of physiological salt solution
- A3.3 ORS solution
- A3.4 Distillation of water
- A3.5 pH metry
- A3.6 Viscosity measurement
- A3.7 Preparation of Buffer solution

A4. Physio-chemical principles:

- A4.1 Solutions (Introduction, types of solution, expression, solubility, methods of preparation)
- A4.2 Emulsions (Introduction, types of emulsion, methods of achieving emulsion, uses of emulsion)
- A4.3 Suspensions (Common features & difference between suspensions and emulsion, formation & principles of mixing)
- A5. Preparation of creams:
- A6. Preparation of ointments:

A7. Dispensing of powder:

A8. Extraction of drugs:

B. PHARMACEUTICAL CHEMISTRY 20+60

B1. Brief introduction to General properties, pharmaceutical application & biological

B1.1 actions of: Hydrocarbon & halogenated hydrocarbon

B1.2 Alcohol

B1.3 Phenols

B1.4 Aldehydes & ketones

B1.5 Acids

B2. Brief introduction to Synthesis, biological activity & pharmaceutical uses of:

B2.1 Chloroform

B2.2 Acetone

B2.3 Ethyl alcohol

B2.4 Formaldehyde

B2.5 Camphor

B2.6 Acetyl salicylic acid

PRACTICAL ON ALL ABOVE CONTENTS

Preparation of solution, emulsion and suspension

Preparation of cream and ointment

Dosage of tablets and capsules (practical)

Dosage of syrup, emulsion and suspension

Dosage of ointment, cream and suppositories

RECOMMENDED BOOKS:

1. Pharma Guide: The quick reference on all the medicine available in Pakistan by M. Quaisar Neeshat.
2. Pharmacology by Shamim
3. QIMP Quick Index of Medical Preparation by Century Pharmaceuticals
4. Clinical Pharmacokinetics

REFERENCE BOOKS:

1. Lipponcott's Pharmacology by Mary J. Mycek
2. Clinical Pharmacy and Therapeutics by Eric T. Herfindal

Course Title: Hospital Pharmacy Techniques-II and Clinical Practice

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Paper : 2

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Theory: 120

Practical: 30

Time: 3Hrs

Course contents

STUDY HOURS
(THEORY+PRACTICAL)

A.PHARMACEUTICS:

60+160

A1.Brief introduction to Formulation of:

A1.1 Pharmaceutical product development

A1.2 Factors affecting product formulation

A2.Brief introduction to Solid dosage forms of:

A2.1Tablets:

A2.1.1 Definition

A2.1.2 Types of tablets

A2.1.3 Ingredients of tablets

A2.1.4 Manufacturing of tablets

A2.1.5 Wet granulation

A2.1.6 Dry granulation

A2.1.7 Direct compression method

A2.2.Capsules:

A2.2.1 Types of capsules

A2.2.2 Materials used for the manufacturing of capsules

A2.2.3 Soft gelatin capsules

A2.2.4 Hard gelatin capsules

A2.2.5 Different sizes

A3.Brief introduction to Liquid dosage forms of:

A3.1.Syrup:

A3.1.1 Definition

A3.1.2 Official syrup

A3.1.3 C4.3Uses of syrup

A3.1.4 Manufacturing of syrup

A3.2Emulsion:

A3.2.1 Definition

A3.2.2 Types of emulsion

A3.2.3 Uses of emulsion

A3.2.4 Emulsifying agents

A3.2.5 Mechanism of emulsification

A3.3Suspension:

A3.3.1 Definition

- A3.3.2 Suspending agents
- A3.3.3 Mechanism of stabilization of suspensions
- A4. Brief introduction to Semisolid dosage forms of:
 - A4.1 Ointments:
 - A4.1.1 Definition
 - A4.1.2 Ointment bases
 - A4.1.3 Uses of ointment
 - A4.1.4 Preparation of ointment
 - A4.2. Cream
 - A4.2.1. Definition
 - A4.2.2 Cream Bases
 - A4.2.3 Preparation of Cream
 - A4.2.4 Uses of Cream
 - A4.3 Suppositories:
 - A4.3.1 Definition
 - A4.3.2 Types of suppositories
 - A4.3.3 Suppositories bases
 - A4.3.4 Preparation of suppositories
- A5. Brief introduction to Parental:
 - A5.1 Definition
 - A5.2 Types
 - A5.3 Formulation
 - A5.4 Manufacturing of parental & production facilities

PRACTICAL ON ALL ABOVE CONTENTS

Preparation of solution, emulsion and suspension

Preparation of cream and ointment

Dosage of tablets and capsules (practical)

Dosage of syrup, emulsion and suspension

Dosage of ointment, cream and suppositories

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