PHARMACOLOGY - I

PLACEMENT: III SEMESTER

THEORY: 1 Credit (20 hours)

DESCRIPTION: This course is designed to enable students to acquire understanding of Pharmacodynamics,Pharmacokinetics, principles of therapeutics and nursing implications.

COMPETENCIES: On completion of the course, the students will be able to

1. Describe Pharmacodynamics and pharmacokinetics.
2. Review the principles of drug calculation and administration.
3. Explain the commonly used antiseptics and disinfectants.
4. Describe the pharmacology of drugs acting on the GI system.
5. Describe the pharmacology of drugs acting on the respiratory system.
6. Describe drugs used in the treatment of cardiovascular and blood disorders.
7. Explain the drugs used in the treatment of endocrine system disorders.
8. Describe the drugs acting on skin and drugs used to treat communicable diseases.

COURSE OUTLINE

T – Theory

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
I	3 (T)	Describe Pharmacodynamics, Pharmacokinetics, Classification, principles of administration of drugs	**Introduction to Pharmacology** • Definitions & Branches • Nature & Sources of drugs • Dosage Forms and Routes of drug administration • Terminology used • Classification, Abbreviations, Prescription, Drug Calculation, Weights and Measures • *Pharmacodynamics:* Actions, Drug Antagonism, Synergism, Tolerance, Receptors, Therapeutic, adverse, toxic effects, pharmacovigilance • *Pharmacokinetics:* Absorption, Bioavailability, Distribution, Metabolism, Interaction, Excretion • Review: Principles of drug administration and treatment individualization o Factors affecting dose, route etc. • Indian Pharmacopoeia: Legal Issues, Drug Laws, Schedule Drugs • Rational Use of Drugs • Principles of Therapeutics	• Lecture cum Discussion • Guided reading and written assignment on schedule K drugs	• Short answer • Objective type • Assessment of assignments
II	1 (T)	Describe antiseptics, and disinfectant & nurse's responsibilities	**Pharmacology of commonly used antiseptics and disinfectants** • Antiseptics and Disinfectants • Composition, action, dosage, route, indications, contraindications, Drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
III	2 (T)	Describe drugs acting on gastro-intestinal system & nurse's responsibilities	**Drugs acting on G.I. system** • Pharmacology of commonly used drugs o Emetics and Antiemetics o Laxatives and Purgatives o Antacids and antipeptic ulcer drugs o Anti-diarrhoeals – Fluid and electrolyte therapy, Furazolidone, dicyclomine • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
IV	2 (T)	Describe drugs acting on respiratory system & nurse's responsibilities	**Drugs acting on respiratory system** • Pharmacology of commonly used ○ Antiasthmatics – Bronchodilators (Salbutamol inhalers) ○ Decongestants ○ Expectorants, Antitussives and Mucolytics ○ Broncho-constrictors and Antihistamines • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
V	4 (T)	Describe drugs used on cardio-vascular system & nurse's responsibilities	**Drugs used in treatment of Cardiovascular system and blood disorders** • Haematinics, & treatment of anemia and antiadrenergics • Cholinergic and anticholinergic • Adrenergic Drugs for CHF & vasodilators • Antianginals • Antiarrhythmics • Antihypertensives • Coagulants & Anticoagulants • Antiplatelets & thrombolytics • Hypolipidemics • Plasma expanders & treatment of shock • Drugs used to treat blood disorders • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
VI	2 (T)	Describe the drugs used in treatment of endocrine system disorders	**Drugs used in treatment of endocrine system disorders** • Insulin & oral hypoglycemics • Thyroid and anti-thyroid drugs • Steroids ○ Corticosteroids ○ Anabolic steroids • Calcitonin, parathormone, vitamin D3, calcium metabolism ○ Calcium salts	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
VII	1 (T)	Describe drugs used in skin diseases & nurse's responsibilities	**Drugs used in treatment of integumentary system** • Antihistaminics and antipruritics • Topical applications for skin- Benzylbenzoate, Gamma BHC, Clotrimazole, Miconazole, Silver Sulphadiazine (burns) • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
VIII	5 (T)	Explain drug therapy/ chemotherapy of specific infections & infestations & nurse's responsibilities	**Drugs used in treatment of communicable diseases (common infections, infestations)** • General Principles for use of Antimicrobials • Pharmacology of commonly used drugs: o Penicillin, Cephalosporin's, Aminoglycosides, Macrolide & broad spectrum antibiotics, Sulfonamides, quinolones, Misc. antimicrobials • Anaerobic infections • Antitubercular drugs, • Antileprosy drugs • Antimalarials • Antiretroviral drugs • Antiviral agents • Antihelminthics, Antiscabies agents • Antifungal agents • Composition, action, dosage, route, indications, contraindications, Drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Bibliography: (Pharmacology)

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4. Ramesh Karmegan: First aid to Pharmacology for undergraduates, Paras Medical publishers, Hyderabad, India, 1 Edition 2003.

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