



AP ECET – 2023
Conducted on behalf of APSCHE BY
JAWAHARLAL NEHRU TECHNOLOGICAL
UNIVERSITY KAKINADA
KAKINADA – 533003



ANNEXURE - I

ER-2020 (AS PER PHARMACY COUNCIL OF INDIA) PHARMACY SYLLABUS AND MARKS DISTRIBUTION

SECTION IV

HUMAN ANATOMY & PHYSIOLOGY

1. **Structure of Cell:** Components and its functions
2. **Tissues of the human body:** Epithelial, Connective, Muscular and Nervous tissues – their sub-types and characteristics.
3. **Haemopoietic system**
 - Composition and functions of blood
 - Process of Hemopoiesis
 - Characteristics and functions of RBCs, WBCs, and platelets
 - Mechanism of Blood Clotting
 - Importance of Blood groups
4. **Lymphatic system**
 - Lymph and lymphatic system, composition, function and its formation.
Structure and functions of spleen and lymph node
5. **Cardiovascular system**
 - Anatomy and Physiology of heart
 - Blood vessels and circulation (Pulmonary, coronary and systemic circulation)
 - Cardiac cycle and Heart sounds, Basics of ECG
Blood pressure and its regulation
6. **Respiratory system**
 - Anatomy of respiratory organs and their functions.
 - Regulation, and Mechanism of respiration.
Respiratory volumes and capacities – definitions
7. **Digestive system**
 - Anatomy and Physiology of the GIT
 - Anatomy and functions of accessory glands
 - Physiology of digestion and absorption



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8. Nervous system

- Classification of nervous system
- Anatomy and physiology of cerebrum, cerebellum, mid brain
- Function of hypothalamus, medulla oblongata and basal ganglia
- Spinal cord-structure and reflexes
- Names and functions of cranial nerves.

Anatomy and physiology of sympathetic and parasympathetic nervous system (ANS)

9. Urinary system

- Anatomy and physiology of urinary system
- Physiology of urine formation
- Renin - angiotensin system
- Clearance tests and micturition

10. Endocrine system (Hormones and their functions)

- Pituitary gland
- Adrenal gland
- Thyroid and parathyroid gland Pancreas and gonads

PHARMACOLOGY

1. General Pharmacology

- Introduction and scope of Pharmacology
 - Various routes of drug administration - advantages and disadvantages
 - Drug absorption - definition, types, factors affecting drug absorption
 - Bioavailability and the factors affecting bioavailability
 - Drug distribution - definition, factors affecting drug distribution
 - Biotransformation of drugs - Definition, types of biotransformation reactions, factors influencing drug metabolisms
 - Excretion of drugs - Definition, routes of drug excretion
- General mechanisms of drug action and factors modifying drug action

2. Drugs Acting on the Peripheral Nervous System

- Steps involved in neurohumoral transmission
- Definition, classification, pharmacological actions, dose, indications, and contraindications of
 - a) Cholinergic drugs



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- b) Anti-Cholinergic drugs
- c) Adrenergic drugs
- d) Anti-adrenergic drugs
- e) Neuromuscular blocking agents
- f) Drugs used in Myasthenia gravis
- g) Local anaesthetic agents
- h) Non-Steroidal Anti-Inflammatory drugs (NSAIDs)

3. Drugs Acting on the Central Nervous System

Definition, classification, pharmacological actions, dose, indications, and contraindications of

- General anaesthetics
- Hypnotics and sedatives
- Anti-Convulsant drugs
- Anti-anxiety drugs
- Anti-depressant drugs
- Anti-psychotics
- Nootropic agents
- Centrally acting muscle relaxants
- Opioid analgesics

4. Drugs Acting on the Cardiovascular System Definition, classification, pharmacological actions, dose, indications, and contraindications of

- Anti-hypertensive drugs
- Anti-anginal drugs
- Anti-arrhythmic drugs
- Drugs used in atherosclerosis and
- Congestive heart failure
- Drug therapy for shock

5. Drugs Acting on Blood and Blood Forming Organs Definition, classification, pharmacological actions, dose, indications, and contraindications of

- Hematinic agents
- Anti-coagulants
- Anti-platelet agents
- Thrombolytic drugs



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6. Definition, classification, pharmacological actions, dose, indications, and contraindications of

- Bronchodilators
- Expectorants
- Anti-tussive agents
- Mucolytic agents

7. Drugs Acting on the Gastro Intestinal Tract

Definition, classification, pharmacological actions, dose, indications, and contraindications of

- Anti-ulcer drugs
- Anti-emetics
- Laxatives and purgatives
- Anti-diarrheal drugs

8. Drugs Acting on the Kidney

Definition, classification, pharmacological actions, dose, indications, and contraindications of

- Diuretics
- Anti-Diuretics

9. Autocoids

- Physiological role of Histamine, 5 HT and Prostaglandins
- Classification, clinical uses, and adverse effects of antihistamines and 5 HT antagonists

10. Chemotherapeutic Agents: Introduction, basic principles of chemotherapy of infections, infestations and neoplastic diseases, Classification, dose, indication and contraindications of drugs belonging to following classes:

- Penicillins
- Cephalosporins
- Aminoglycosides
- Fluoroquinolones
- Macrolides
- Tetracyclines
- Sulphonamides
- Anti-tubercular drugs
- Anti-fungal drugs
- Anti-viral drugs
- Anti-amoebic agents



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- Anthelmintics
- Anti-malarial agents
- Anti-neoplastic agents

CLINICAL PHARMACY

1. **Clinical Pharmacy:** Definition, scope, and development - in India and other countries
Technical definitions, common terminologies used in clinical settings and their significance such as Paediatrics, Geriatric, Anti-natal Care, Post-natal Care, etc
2. **Daily activities of clinical pharmacists:** Definition, goal, and procedure of
 - Ward round participation
 - Treatment Chart Review
 - Adverse drug reaction monitoring
 - Drug information and poisons information
 - Medication history
 - Patient counselling
 - Interprofessional collaboration
3. **Pharmaceutical care:** Definition, classification of drug related problems. Principles and procedure to provide pharmaceutical care
4. **Clinical laboratory tests used in the evaluation of disease states - significance and interpretation of test results**
 - Haematological, Liver function, Renal function, thyroid function tests
 - Tests associated with cardiac disorders
 - Fluid and electrolyte balance
 - Pulmonary Function Tests
5. **Medication errors:** Definition, types, consequences, and strategies to minimize medication errors, LASA drugs and Tallman lettering as per ISMP
6. **Drug Interactions:** Definition, types, clinical significance of drug interactions



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ANNEXURE - III

MODEL QUESTIONS

1. All the glands in the body are controlled by
 - 1) Pancreas
 - 2) Pituitary gland
 - 3) Adrenal gland
 - 4) Thyroid gland
2. α , β receptors are
 - 1) Cholinergic
 - 2) Adrenergic
 - 3) Dopaminergic
 - 4) Histaminergic
3. Alkaloids are detected by using
 - 1) Molisch's test
 - 2) Millon's test
 - 3) Mayer's test
 - 4) Borntrager's test
4. Drugs used to prevent intravascular clotting are
 - 1) Plasma expander
 - 2) Anti-coagulants
 - 3) Haemostatics
 - 4) Thrombolytics