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Course Contents

THEORY

General Pharmacology

1. *Definitions:* Pharmacology, drug, pharmacy, sources of drugs with examples.
2. Pharmacokinetics with clinical implications.
3. *Routes of administration:* Oral, inhalation, intradermal, subcutaneous, intramuscular, intravenous, intrathecal, peritoneal and newer drug regimes (Advantages and disadvantages with the examples of drugs administered).
4. *Pharmacodynamics:* Mechanism of action, factors modifying drug actions with emphasis on factors like age, sex, dose, frequency and route of administration, presence of other drugs, pharmacogenetics and pathological conditions.
5. *Therapeutics:* Principles of drug therapy, adverse drug reactions and drug interactions.

ANS Drugs

Clinically used examples, their important pharmacological action (which form the basis of their uses), clinical uses along with dental uses if any and specific adverse effects of:

1. Sympathomimetics
2. Sympatholytics—alpha blockers, beta blockers
3. Cholinomimetics
4. Anticholinergics.

Detailed pharmacology of:

1. Clinically used opioid and nonopioid analgesics
2. Clinically used local anesthetics.

CNS Drugs

Enumerations of clinically used agents, their brief pharmacology, clinical uses along with dental uses if any and specific adverse effects of:

1. Ethyl alcohol—actions, uses and drug interactions
2. General anesthetics
3. Preanesthetic medication
4. Antipsychotic, antidepressants, anxiolytic
5. Sedative, hypnotic
6. Antiepileptics.

CVS Drugs

Enumeration/classification of clinically used agents, their important pharmacological actions (that form the basis of their uses), clinical uses along with dental uses if any and specific adverse effects of:

1. Cardiac glycosides
2. Antianginal drugs
3. Antihypertensives
4. Diuretics
5. *Pharmacological of shock:* Anaphylactic, cardiogenic, hypovolemic and septic.

Drugs Acting on Blood

Detailed pharmacology of:
1. Coagulants, anticoagulants, fibrinolytics, antiplatelet drugs and styptics
2. *Hematinics:* Iron preparation, Vitamin B_{12}, folic acid and vitamin C
3. Vitamin D and calcium preparations.

Endocrines

Enumeration/classification of clinically used agents and their preparations, mechanism of action, clinical uses along with dental use if any and specific adverse effects of:
1. Drugs used in diabetes mellitus
2. Corticosteroids.

Chemotherapy

Enumeration/classification of clinically used agents and their preparations, mechanism of action, clinical uses along with dental use if any and specific adverse effects of:
1. Sulfonamides
2. Beta-lactam antibiotics
3. Macrolides and aminoglycosides
4. Broad spectrum antibiotics
5. Antifungal and antiviral (acyclovir) agents
6. Metronidazole and flouroquinolones
7. *Antineoplastic drugs:* Alkylating agents, antimetabolites, radioactive isotopes, vinka alkaloids, anticancer antibiotics
8. Drug therapy of tuberculosis, leprosy and malaria.

Other Drugs

Enumeration/classification of clinically used agents and their preparations, mechanism of action, clinical uses along with dental use if any and specific adverse effects of:
1. Antihistamines and antiemetics
2. Drugs used in bronchial asthma and cough
3. Drugs used in peptic ulcer
4. Chelating agents—BAL, EDTA, and penicillamine
5. Antihelminthics.

Dental Pharmacology

1. Fluoride pharmacology
2. Antiseptics, astringents and sialogogues
3. Obtundents, mummifying agents and disclosing agents
4. Prevention and drug therapy of emergencies in dental practice
   a. Seizures
   b. Anaphylaxis
   c. Severe bleeding
   d. Shock
   e. Tetany
   f. Status asthamaticus
   g. Acute addisonian crisis
   h. Diabetic ketoacidosis.

PRACTICALS

1. *Introduction:* Equipments used in dispensing pharmacy, prescription—parts and model prescription
2. Demonstration of common dosage forms used in clinical practice
3. *Mixtures:* One example (Expectorant/Salicylate) of simple and diffusible (Bismuth kaolin/chalk) mixtures
4. *Emulsion:* Types and example (Liniment turpentine/Shark liver oil) of emulsion
5. *Powders:* Tooth powders
6. *Mandl's paint/Gum paint percentage dilution:* Concept and calculations with suitable example
7. *Mouthwashes:* Alkaline, antiseptic, astringent
8. Toothpastes
9. Prescription writing for 15 general conditions commonly encountered in clinical practice (Bronchial asthma, hypertension, congestive heart failure, angina pectoris, peptic ulcer, bacillary dysentery, pseudomembranous colitis, diabetes mellitus, diabetic coma, osteoarthritis, anaphylaxis, status asthmaticus, status epilepticus, iron deficiency and pernicious anemia)
10. Dental prescription for about 15 dental conditions commonly encountered in clinical practice (Acute necrotizing ulcerative gingivitis, acute herpetic gingivitis/stomatitis, acute gingival abscess, pericoronal abscess (impacted teeth), dental caries, aphthous ulcers, hypersensitive dentin, dentoalveolar abscess, xerostomia, acute toothache, postoperative pain, postextraction pain with swelling, oral candidiasis, scurvy, etc.)

UNIVERSITY EXAMINATION PATTERN

Eligibility for Writing the University Examination

The candidate should have atleast 35% aggregate in the two of the three internals (Theory and practical separately) conducted by the college and should also have minimum 75% attendance (Theory and practical separately) in the classes conducted.

Criteria for Passing the University Examination

The candidate should pass the theory and practical examinations separately. His/her aggregate should be minimum 50% in university examination.

Theory Examination

It is of 150 marks in total, which consist of:

University Examination	100 Marks
University Viva-voce	25 Marks
Theory Internals	25 Marks

Practical Examination

It is of 100 marks in total, which consists of:

University Practical	75 Marks
Practical Internals	25 Marks

A. Theory examination

There shall be one paper carrying 100 marks. The pattern of questions would be of three types.

2 Long Essay Questions	2 × 10 Marks	20 Marks
6 Short Essay Questions	6 × 5 Marks	30 Marks
4 Compare and Contrast Questions	4 × 5 Marks	20 Marks
10 Short Answer Questions	10 × 3 Marks	30 Marks
	Total	**100 marks**

Distribution of Topics

Long Essays	One long essay question from dental pharmacology One long essay question from phramacokinetics, pharmacodynamics, antibiotics, NSAIDs, local anesthetics, anticoagulants, beta blockers, glucocorticoids, calcium channel blockers, ACE inhibitors, opioid analgesics, sympathomimetics, anticholinergics, cardiac glycosides
Short Essays	To classify the drug and write its mechanism of action or adverse effect or clinical use or specific antidote indicated in its poisoning, if any.
Short Answers	

B. Practical Examination

Spotters	1 × 10 Marks	10 Marks
Prescriptions (One medical and one dental prescription)	7 + 8 Marks	15 Marks
Preparations (One medical and one dental preparation)	25 + 25 Marks	50 Marks
	Total	**75 marks**