



**RAFFLES UNIVERSITY, NEEMRANA, ALWAR, RAJASTHAN**  
**SCHOOL: (SOP) SCHOOL OF PHARMACY**

**Faculty Name: Mrs. Ashwani saini**

**Subject: Pharmacology**

**Class: D. Pharmacy 2<sup>nd</sup> Year**

**Subject Code: ER20-22T**

**Session: 2023-2024**

**Scope: This course provides basic knowledge about different classes of drugs available for the pharmacotherapy of common diseases. The indications for use, dosage regimen, routes of administration, pharmacokinetics, pharmacodynamics, and contraindications of the drugs discussed in this course are vital for successful professional practice.**

**Course Objectives:** This course will discuss the following:

1. General concepts of pharmacology including pharmacokinetics, pharmacodynamics, routes of administration, etc.
2. Pharmacological classification and indications of drugs
3. Dosage regimen, mechanisms of action, contraindications of drugs
4. Common adverse effects of drugs

**Course Outcomes: Upon successful completion of this course, the students will be able to**

1. Describe the basic concepts of pharmacokinetics and pharmacodynamics
2. Enlist the various classes and drugs of choices for any given disease condition
3. Advise the dosage regimen, route of administration and contraindications for a given drug
4. Describe the common adverse drug reactions

**Number of Lectures: 75**

**Each Lect. Time: 01 hour**

<b>Lecture</b>	<b>Topic</b>	<b>Remark/ Date</b>
<b>Unit 1</b>	<b>General Pharmacology (10 hrs)</b>	
1	Introduction and scope of Pharmacology	01 hr
2	Various routes of drug administration – advantages and disadvantages	01 hr
3	Drug absorption – definition, types, factors affecting drug absorption	01 hr

4	Bioavailability	01 hr
5	Factors affecting bioavailability	01 hr
6	Drug distribution – definition, factors affecting drug distribution	01 hr
7	Biotransformation of drugs – Definition	01 hr
8	Types of biotransformation reactions, factors influencing drug metabolisms	01 hr
9	Excretion of drugs – Definition, routes of drug excretion	01 hr
10	General mechanisms of drug action and factors modifying drug action	01 hr
<b>Unit 2</b>	<b>Drugs Acting on the Peripheral Nervous System (11 hrs)</b>	
11	Steps involved in neurohumoral transmission	01 hr
12	Definition, classification, pharmacological actions, dose, indications, and contraindications of Cholinergic drugs	01 hr
13	Anticholinergic drugs	01 hr
14	Adrenergic drugs	01 hr
15	Adrenergic drugs	01 hr
16	Anti-adrenergic drugs	01 hr
17	Neuromuscular blocking agents	01 hr
18	Drugs used in Myasthenia gravis	01 hr
19	Local anaesthetic agents	01 hr
20	Non-Steroidal Anti-Inflammatory drugs (NSAID's)	01 hr
21	Non-Steroidal Anti-Inflammatory drugs (NSAID's)	01 hr
<b>Unit 3</b>	<b>Drugs Acting on the Eye (2 hrs)</b>	
22	Definition, classification, pharmacological actions, dose, indications and contraindications of Miotics Mydriatics	01 hr
23	Drugs used in Glaucoma	01 hr
<b>Unit 4</b>	<b>Drugs Acting on the Central Nervous System (8 hrs)</b>	
24	Definition, classification, pharmacological actions, dose, indications, and contraindications of General Anesthetics	01 hr

25	Hypnotics and sedatives	01 hr
26	Anti-Convulsant drugs	01 hr
27	Anti-anxiety drugs	01 hr
28	Anti-depressant drugs	01 hr
29	Anti-psychotics	01 hr
30	Nootropic agents	01 hr
31	Revision	01 hr
<b>Unit 5</b>	<b>Drugs Acting on the Cardiovascular System (6hrs)</b>	
32	Definition, classification, pharmacological actions, dose, Indications & contraindications of Anti-hypertensive drugs	01 hr
33	Anti-anginal drugs	01 hr
34	Anti-arrhythmic drugs	01 hr
35	Drugs used in atherosclerosis	01 hr
36	Drugs used in Congestive heart failure	01 hr
37	Drug therapy for shock	01 hr
<b>CLASS TEST</b>		
<b>Unit 6</b>	<b>Drugs Acting on Blood and Blood Forming Organs (4 hrs)</b>	
38	Definition, classification, pharmacological actions, dose, indications, and contraindications of Hematinic agents	01 hr
39	Anti-coagulants	01 hr
40	Anti-platelet agents	01 hr
41	Thrombolytic drugs	01 hr
<b>Unit 7</b>	<b>Drugs Acting on Respiratory system (2 hrs)</b>	
42	Definition, classification, pharmacological actions, dose, indications, and contraindications of Bronchodilators, Expectorants	01 hr
43	Anti-tussive agents, Mucolytic agents	01 hr
<b>Unit 8</b>	<b>Drugs Acting on the Gastro Intestinal Tract (5 hrs)</b>	

44	Definition, classification, pharmacological actions, dose, indications, and contraindications of Anti-Ulcer Drugs	01 hr
45	Anti-Ulcer Drugs	01 hr
46	Anti-emetics	01 hr
47	Laxatives and purgatives	01 hr
48	Anti-diarrheal drugs	01 hr
<b>Unit 9</b>	<b>Drugs Acting on the Kidney (2hrs)</b>	
49	Definition, classification, pharmacological actions, dose, indications and contraindications of Diuretics,	01 hr
50	Anti-diuretics	01 hr
<b>Unit 10</b>	<b>Hormones and Hormone Antagonists (8)</b>	
51	Physiological and pathological role and clinical uses of Thyroid hormones, Anti-thyroid drugs	01 hr
52	Calcitonin	01 hr
53	Parathormone	01 hr
54	Vitamin D	01 hr
55	Insulin, Oral hypoglycemic agents	01 hr
56	Estrogen, Progesterone,	01 hr
57	Oxytocin,	01 hr
58	Corticosteroids	01 hr
<b>Unit 11</b>	<b>Autocoids (3 hrs)</b>	
59	Physiological role of Histamine,	01 hr
60	5 HT and Prostaglandins	01 hr
61	Classification, clinical uses, and adverse effects of antihistamines and 5 HT antagonists	01 hr
<b>Unit 12</b>	<b>Chemotherapeutic Agents (12 hrs)</b>	
62	Introduction, basic principles of chemotherapy of infections, infestations	01 hr
63	neoplastic diseases, Classification, dose, indication and	01 hr
64	contraindications of drugs belonging to following classes	01 hr
65	Penicillins	01 hr

66	Cephalosporins	01 hr
68	Aminoglycosides	01 hr
69	Fluoroquinolones	01 hr
70	Macrolides	01 hr
71	Tetracyclines	01 hr
72	Sulphonamides	01 hr
73	Anti-tubercular drugs	01 hr
<b>Unit 13</b>	<b>Biologicals (2hrs)</b>	
74	Definition, types, and indications of biological agents with examples	01 hr
75	Definition, types, and indications of biological agents with examples	01 hr