

Lesson Plan

Course Name: Pharmacology-I

Course Code: BPH-224

Lesson No.	Learning Outcomes	Course Contents
Lesson-1 to Lesson-2	<ul style="list-style-type: none"> • Description of different terminology of Pharmacology • Different branches of Pharmacology • Identification of the sources of drug • Selection of preferred routes for the drug administration • Compose the role of genetics in drug action 	<p>General Introduction to Pharmacology</p> <ul style="list-style-type: none"> • Sources of drugs • Routes of administration • Pharmacogenetics
Lesson-3 to Lesson-5	<ul style="list-style-type: none"> • Illustrates the factors responsible for ADME. • Modulate the factors for better outcome. • Categorize different types of metabolism and ways of excretion 	<p>Introduction to Pharmacokinetics</p> <ul style="list-style-type: none"> • Drug absorption • Drug distribution, • Drug metabolism • Drug excretion (ADME), • Factors modifying drug absorption
Class Test/Quiz-1		
Lesson-6 to Lesson-10	<ul style="list-style-type: none"> • Interpret the ligand-receptor interaction • Identify the key regulatory molecules. • Discuss the relationship between drug dose & clinical response 	<p>Introduction to Pharmacodynamics</p> <ul style="list-style-type: none"> • Basic principles, Mechanism of drug absorption • Receptor (receptor for physiological regulatory molecules, structural and functional families, receptor as enzyme etc.) • Agonist, antagonist • Potentiation, synergism, drug-receptor interaction, factors modifying drug action, drug tolerance, dependence etc. • Basic concept of drug action • Nature of receptor

		<ul style="list-style-type: none"> • Drug antagonism • The relation between drug dose & clinical response • Signaling mechanism and drug action • Ligand-gated channels, G-proteins and second messengers.
Class Test/Quiz-2		
Lesson-11 to Lesson-15	<ul style="list-style-type: none"> • Learn about the physiology of stomach and gastric acid secretion. • Understand the factors related to gastric acid regulation. • Differentiate between the mechanism of different type of peptic ulcer drugs. 	Drugs for peptic ulcer <ul style="list-style-type: none"> • Stomach Physiology • Regulation of acid secretion by parietal cells • Factors Regulating Acid Secretion from Parietal Cells • Gastric Acid Induced Diseases • Classification of anti-ulcerants • Antacids • PPI • H2 receptor blocker • PG analogues • Mucosal Protective Agents • Anti- Helicobacter Pylori Agents
Mid-Term Examination		
Lesson-16 to Lesson-19	<ul style="list-style-type: none"> • Compare & contrast between different types of autacoids. • Outlines their release patterns. • Design drugs to inhibit inflammation 	Autacoids <ul style="list-style-type: none"> • Classification of Autacoids • Histamine • Serotonin • Lipid Derived Autacoids • Peptide Autacoids
Assignment		
Lesson-20 to Lesson-23	<ul style="list-style-type: none"> • Differentiate the narcotic & non-narcotic medications • Identify the drug dependence symptoms 	Analgesic, antipyretic and anti-inflammatory drugs <ul style="list-style-type: none"> • Introduction • NSAIDs • Classification of NSAIDs • Mechanism of action of NSAIDs • Narcotic analgesics • Opioid analgesics and its classification

		<ul style="list-style-type: none"> • Mechanism of action • Side effect • Therapeutic uses • Opioid receptor • Morphine withdrawal syndrome • Opioid antagonists
Class Test/Quiz-3		
Lesson-24	<ul style="list-style-type: none"> • Interpret the role of Sedative & hypnotic drugs • Designate the agents having Sedative & hypnotic effects 	Sedative & hypnotic drugs: <ul style="list-style-type: none"> • Benzodiazepine • Barbiturates
Lesson-25 to Lesson-27	<ul style="list-style-type: none"> • Outline the necessity of anaesthetics in a surgical procedure. • Illustrate the mechanism of action. • Compare & contrast the drugs for a given situation 	Local and General Anaesthetics <ul style="list-style-type: none"> • History • Mechanism of action • Properties • Pharmacological action of local & General anesthetics.
Class Test/Quiz-4		
Lesson-28 to Lesson-30	<ul style="list-style-type: none"> • Interpret the mechanism of CNS stimulation • Identify the key regulatory factors of nervous system stimulation • Discuss the relationship between drug dose & clinical response of various CNS stimulant drugs 	CNS Stimulant Drugs <ul style="list-style-type: none"> • Strychnine • Xanthine • Methylxanthine • Amphetamine • Nicotine
Final Examination		