JHARKHAND Rai University
RANCHI

End Semester/Reappear (Semester IV) Examination May 2025

Programme: B. Pharm
Course: Medicinal Chemistry I **Full Marks: 75**
Course Code: BP402T **Time: 3 Hrs.**
Enrolment no. _____

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
	Section I			
1	**Objective Type Questions**			**1 x 20 = 20**
	i. Which class of anticonvulsants includes drugs like Phenobarbitone and Methabarbital? a. Barbiturates b. Hydantoins c. Benzodiazepines d. Oxazolidine diones ii. Which class of antipsychotics includes drugs like Chlorpromazine and Triflupromazine? a. Phenothiazines b. Fluro buterophenones c. Beta amino ketones d. Benzamides iii. What is the main pharmacological category of Chlordiazepoxide and Diazepam? a. Antidepressants b. Antipsychotics c. Benzodiazepines d. Antihistamines iv.Which anticonvulsant drug belongs to the Miscellaneous class? a. Gabapentin b. Mephenytoin c. Paramethadione d. Phensuximide v. What is the primary indication for Zolpidem? a. Anxiety disorders b. Depression c. Insomnia d. Bipolar disorder	CO1	Remember	
	vi.Where are muscarinic receptors commonly found? - a. Smooth muscle b. Cardiac muscle c.Etral nervous system d. All of the above vii.Activation of nicotinic receptors at the neuromuscular junction leads to: - a. Muscle contraction b. Muscle relaxation c. Increased heart rate d. Decreased heart rate viii.Which of the following is a direct-acting cholinergic agent? - a. Physostigmine b. Neostigmine c. Carbachol d. Pyridostigmine ix.Which cholinergic agent is commonly used to diagnose myasthenia gravis? - a. Tacrine hydrochloride b. Edrophonium chloride c. Malathion d. Pilocarpine x.Edrophonium chloride is often used for: a. Treating glaucoma b. Diagnosing myasthenia gravis c. Reversing the effects of organophosphate poisoning d. Managing urinary retention			
	xi.In QSAR, study of medicinal chemistry Q stands for – a. Qualitative b. Quantitative c. Both d. Quantam xii. p-nitrophenol contains – a. Intramolecular H-bond b. Intermolecular H-bond c. Both of above d. None of above xiii.Among the listed Benzodiazepines, which one is often prescribed for panic disorder? a. Oxazepam b. Zolpidem c. Alprazolam d. Lorazepam xiv.What is the mechanism of action of Haloperidol? a. Dopamine D2 receptor antagonist b. Serotonin antagonist c. GABA agonist d. Glutamate antagonist xv.Clozapine is an example of which class of antipsychotics? a. Phenothiazines b. Ring Analogues of Phenothiazines c. Fluro buterophenones d. Benzamides			
	xvi.Which compound is capable of forming a ring structure with metal atoms? a. Ligands b. Chelates c. Surfactants d. All of the above xvii.Carbamazepine belongs to which class of anticonvulsants? a. Barbiturates b. Hydantoins c. Urea and monoacylureas d. Benzodiazepines xviii.Pilocarpine is primarily used for the treatment of: - a. Alzheimer's disease b. Glaucoma c. Myasthenia gravis d. Parkinson's disease xix.Which Benzodiazepine is commonly used for its anxiolytic effects? a. Alprazolam b. Zolpidem c. Oxazepam d. Lorazepam xx.Which of the following is an example of an irreversible cholinesterase inhibitor? a. Physostigmine b. Neostigmine c. Isofluorphate d. Edrophonium chloride			

Section II				
2. Short Answer type questions.				
a	Explain in brief on the stereochemistry of drugs and its effects on biological activity.	CO1	Understand	**7 x 5 = 35**
b	Explain the synthesis pathway of Salbutamol with its therapeutic effects.	CO2	Remember	
c	How Parasympathomimetic drugs can be classified. Explain.	CO3	Remember	
d	Explain the synthesis pathway of Chlorpromazine hydrochloride.	CO4	Remember	
e	Explain the synthesis pathway of Halothen.	CO5	Remember	
f	Provide an example of Dissociative anesthetics, its synthesis pathway and uses.	CO5	Remember	
	or			
	Explain therapeutic effects of Methadone hydrochloride and mefenamic acid.	CO5	Understand	
g	Explain the synthesis pathway of Carbachol with its therapeutic effects.	CO3	Remember	
	or			
	Discuss briefly about the mechanism of action of parathion.	CO3	Understand	
Section III				
Long Answer Type questions				**2 x 10 = 20**
3	Outline the structure-activity relationship of Anticonvulsants agents. Describe the synthesis of Ethosuximide.	CO4	Evaluate	
	or			
	Compare sedatives and hypnotics. Explain the SAR of barbiturates. Write the synthesis of barbital.	CO4	Evaluate	
4	Comment on how does categorizing indirect acting cholinergic drugs and their mechanism with example. Provide the synthesis pathway of Neostigmine.	CO3	Evaluate	
	or			
	Elaborate about the distribution, Nature, transducer mechanism of cholino receptors, with the name of one agonist and one antagonist of them	CO3	Evaluate	

Course Outcomes (CO):

CO1: Helps in correlating between pharmacology of a disease and its mitigation or cure.

CO2: To understand the drug metabolic pathways, adverse effect and therapeutic value of drugs.

CO3: To know the structural activity relationship of different class of drugs.

CO4: Well acquainted with the synthesis of some important class of drugs.

CO4: To understand the chemistry of drugs with respect to their pharmacological activity.