Name: **Enrolment No:**	

UPES

End Semester Examination, December- 2024

Course: Medicinal Chemistry **Semester: VII**

Program: B.Tech (Biotechnology) **Duration: 3 Hours**

Course Code: HSBT4004 **Max. Marks: 100**

Instructions: Read all the questions carefully.

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q1.	Define Bioisoster with an example.	1.5	CO1
Q2.	Carbachol differs from acetylcholine by…….. a) Ester b) Amide c) Chloro group d) Hydroxyl group	1.5	CO1
Q3.	Generally, drugs are absorbed in which form? a) In ionized form b) In unionized form c)In both of above form d)In none of above form	1.5	CO1
Q4.	……is the NSAIDs drug, which anthranilic acid derivative. a) Mefenamic acid b) Ibuprofen c) Piroxicam d) Zomepirac	1.5	CO1
Q5.	Choose the basic nucleus present in the sympathomimetic agents. a) Catechol nucleus b) Benzyl nucleus c) Naphthol d) Indole	1.5	CO1
Q6.	Draw the structure of Norepinephrine.	1.5	CO1
Q7.	Ultra-short-acting Barbiturates. a) Phenobarbitone b) Butobarbitone c) Pentobarbitone d) Thiopentone	1.5	CO1
Q8.	Enlist Phase-I reactions.	1.5	CO1
Q9.	The most significant protein involved in binding with drug is…… a) Albumin	1.5	CO2

	b) Glycoprotein c) Lipoprotein d) Globulin		
Q10.	Replacement of oxygen at C-2 position of barbituric acid by a sulfur atom …… a) Has no change in the activity b) Increases the activity c) Decreases the activity d) Show anxiolytic activity	1.5	CO2
Q11.	Write the structure of Phenytoin.	1.5	CO3
Q12.	Write the structure of carbachol.	1.5	CO3
Q13.	Draw the structure of Aspirin.	1.5	CO3
Q14.	Pilocarpine is used for …… a) Gout b) Glaucoma c) Urinary retention d) Infection	1.5	CO3
Q15.	State the examples of Narcotic antagonist.	1.5	CO4
Q16.	Which of the following is precursor of adrenaline synthesis…..? a) Phenylalanine b) Tyrosine c) Tryptophan d) None of the above	1.5	CO4
Q17.	The choline ester resistant to both true and pseudo- cholinesterase is…….. a) Bethanechol b) Carbachol c) Methacholine d) Benzoylcholine	1.5	CO4
Q18.	Introduction of methyl group at alpha (α) position of acetylcholine forms acetyl-α-methyl choline which has more selectivity towards…… a) Nicotinic receptor b) Muscarinic receptor c) Both d) None of the above	1.5	CO4
Q19.	Dopamine is biosynthesized from…… a) L-Alanine b) L-Tyrosine c) L-Phenylalanine d) L-DOPA	1.5	CO5
Q20.	Choose the basic nucleus present in the Diazepam. a) Catechol nucleus b) Benzyl nucleus c) Benzodiazepine nucleus d) Tyrosine nucleus	1.5	CO5
Section B			

(4Qx5M=20 Marks)			
		5	
Q1.	What are the different metabolic pathways? Explain the Phase I and Phase II reactions.	**(2+3)**	CO1
Q2.	Discuss SAR and Classification of Morphine Analogs.	**5**	CO3
Q3.	Classify barbiturates with examples based on duration of action. Discuss in detail Mechanism of action.	**(2+3)**	CO4
Q4.	Discuss in detail SAR of Benzodiazepines.	**5**	CO4
Section C (2Qx15M=30 Marks)			
		15	
Q1.	Classify cholinergic receptors, Explain the catabolism of acetyl choline and explain the SAR of direct acting para-sympathomimetic agent.	**(3+4+4+4)**	CO2
Q2.	Give Chemical Classification of NSAIDS and Explain its Mechanism of Action.	**(3+4+4+4)**	CO4
Section D (2Qx10M=20 Marks)			
		10	
Q1.	Give the biosynthesis and metabolism of nor-adrenaline. Define, classify and write the SAR of adrenergic agents.	(6+4)	CO3
Q2.	Define sedative and hypnotics. Classify them and explain the SAR of barbiturates.	(3+3+4)	CO5