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.	Following are the Phase-I reactions, Except a) Oxidative reactions b) Hydrolytic reactions c) Reductive reactions d) Sulphide reactions	1.5	CO1
Q2.	The most significant protein involved in binding with a drug is a) Albumin b) Lipoprotein c) Glycoprotein d) Globulin	1.5	CO1
Q3.	Carbachol differs from acetylcholine by…….. a) Ester group b) Amide group c) Chloro group d) Hydroxyl group	1.5	CO1
Q4.	The choline ester resistant to both true and pseudo- cholinesterase is…….. a) Bethanechol b) Carbachol c) Methacholine d) Benzoylcholine	1.5	CO1
Q5.	Introduction of methyl group at beta position of acetylcholine form methacholine which has more selectivity towards…… a) Nicotinic receptor b) Muscarinic receptor	1.5	CO1
Q6.	Pilocarpine is used for …… a) Gout b) Glaucoma c) Urinary retention d) Infection	1.5	CO1
Q7.	Dopamine is biosynthesized from……	1.5	CO1

	a) L-Alanine b) L-Tyrosine c) L-Phenylalanine d) L-DOPA		
Q8.	Choose the basic nucleus present in the sympathomimetic agents. a) Catechol nucleus b) Benzyl nucleus c) Benzodiazepine nucleus d) Tyrosine nucleus	1.5	CO1
Q9.	Draw structure of Phenytoin.	1.5	CO2
Q10.	Draw structure of Acetylcholine.	1.5	CO2
Q11.	Draw structure of Epinephrine.	1.5	CO2
Q12.	State the examples of Narcotic antagonist.	1.5	CO3
Q13.	……..is the NSAIDs drug, which anthranilic acid derivative. a) Mefenamic acid b) Ibuprofen c) Piroxicam d) Zomepirac	1.5	CO3
Q14.	Which of the following is succinimide analogs? a) Pentobarbital b) Phensuccimide c) Phenobarbital d) Phenytoin	1.5	CO3
Q15.	Which one of the following belongs to long-acting barbiturates? a) Pentobarbital b) Amobarbital c) Phenobarbital d) Secobarbital	1.5	CO3
Q16.	……is called as dissociative anesthetics. a) Sevoflurane b) Ketamine c) Thiopental Na d) Methoxyflurane	1.5	CO4
Q17.	State uses and draw structure of anyone of inhalation anaesthetic.	1.5	CO4
Q18.	Which one of the following belongs to long-acting barbiturates a) Barbiturate b) hydantoin c) Benzodiazepine d) All of above	1.5	CO4
Q19.	Phenytoin belongs to which derivative? a) Hydantoin b) Succinimide c) Oxazolidine d) Barbiturate	1.5	CO5
Q20.	Indomethacin contains ……. heterocyclic ring system. a) imidazole b) naphthol c)indole d) indene	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.	Give an account on reversible and irreversible Cholinesterase inhibitors.	**5**	CO2
Q3.	Classify Anticonvulsant drugs with mode of action.	**(3+2)**	CO4
Q4.	Classify barbiturates with examples based on duration of action. Discuss in detail Mechanism of action.	**(3+2)**	CO4
Section C **(2Qx15M=30 Marks)**			
		15	
Q1.	Define sedative and hypnotics. Classify them and explain the SAR of barbiturates.	**(4+5+6)**	CO4
Q2.	Classify cholinergic receptors, Explain the catabolism of acetyl choline and explain the SAR of direct acting para-sympathomimetic agent.	**(4+5+6)**	CO2
Section D **(2Qx10M=20 Marks)**			
		10	
Q1.	Give the biosynthesis and metabolism of nor-adrenaline. Define, classify and write the SAR of adrenergic agents.	(5+5)	CO3
Q2.	Give Chemical Classification of NSAIDS and Explain its Mechanism of Action.	(5+5)	CO5