Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Theory Examination, May 2022

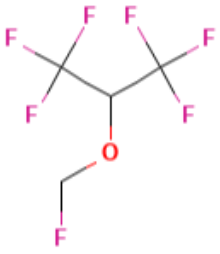
Course: Medicinal Chemistry-I **Semester: IV**
Program: B. Pharm. **Time: 03 hrs.**
Course Code: BP 402T **Max. Marks: 75**

Instructions: Attempt all the questions

SECTION A

S. No.	CO	Objective/ Multiple Choice Questions (20X1)	Marks
Q1			**20**
1	CO4	Which of the following is precursor of adrenaline synthesis? a) Phenylalanine b) Tyrosine c) Tryptophan d) None of the above	1
2	CO4	Barbituric acid is prepared by the condensation of? a) Malonic acid and urea b) Diethylmalonate and urea c) Malonic acid with methyl urea d) diethylmalonate with methyl urea	1
3	CO3	Introduction of methyl group at alpha (α) position of acetylcholine forms acetyl-α-methylcholine which has more selectivity towards? a) Nicotinic receptor b) Muscarinic receptor c) Both d) None of the above	1
4	CO1	What are prodrugs? Give an example.	1
5	CO1	Direct acting alkaloidal cholinergic drugs are except? a) Muscarine b) Pilocarpine c) Neostigmine d) Arecoline	1

6	CO4	Propranolol is prepared by condensing? a) α-naphthol and epichlorohydrin b) α-naphthol and chloropropanol c) phenol and epichlorohydrin d) chloro naphthol and propanol	1
7	CO1	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
8	CO1	Which of the following is reactive and a known carcinogenic? a) Cytochrome P-450 b) Catechol c) Arene oxide d) Glutathione	1
9	CO1	Natural products or derivatives or synthetic substances with good binding ability in Drug discovery is known as? a) Hit b) Lead c) Both d) None of the above	1
10	CO1	Atropine is racemic mixture of equal parts of ? a) + and – hyoscine b) + and – hyoscyamine c) tropine and tropic acid d) + and – scopine	1
11	CO1, CO2	Which of the following does not affect the biological action of a drug? a) Partition Coefficient b) Bond length c) Hydrogen bonding d) Ionization	1
12	CO1	Ultra short-acting Barbiturates a) Phenobarbitone b) Butobarbitone c) Pentobarbitione d) Thiopentone	1
13	CO2	Enlist Phase-I reactions.	1

14	CO1	The most significant protein involved in binding with drug is? a) Albumin b) Glycoprotein c) Lipoprotein d) Globulin	1
15	CO3	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
16	CO1	Write the structure of Phenylephrine.	1
17	CO4	Name the starting materials used for the synthesis of Procyclidine.	1
18	CO1	Draw the structure of Aspirin.	1
19	CO1	Which type of ring system found in Carbachol? a) Benzene b) Napthalene c) Imidazole d) None of the above	1
20	CO1	Number of chiral carbons present in the structure of Sevoflurane is? a) 0 b) 1 c) 2 d) 3 	1

SECTION B			
Long Answers (Answer two out of 3) 2X10			
Q2			**20**
1	CO1, CO2, CO4	Write down the Synthesis, mechanism of action and uses of the following drugs. a) Salbutatmol b) Dicyclomine	(5+5)
2	CO1, CO3	Give a detailed classification and SAR of the adrenergic agents. Mention at least two examples of each class with chemical structures.	(2.5+2.5+5)
3	CO1, CO3	Define sedative and hypnotics. Classify them and explain the SAR of barbiturates.	10
SECTION C			
Short Answers (Answer 7 out of 9) 7X5			
Q3			**35**
1	CO1	Write short note on the following: a) Partition coefficient b) Hydrogen bonding	(2.5+2.5)
2	CO2, CO4	How Ibuprofen can be synthesized from isobutyl benzene and acetyl chloride? Mention the clinical uses of Ibuprofen.	5
3	CO1, CO4	Classify general anesthetics with examples, outline the synthesis of Ketamine.	5
4	CO1, CO4	What are hydantoins? Write the chemistry of hydantoins?	5
5	CO1, CO4	Write the biosynthesis of acetylcholine.	5
6	CO4	Explain the synthesis of Propranolol.	5
7	CO1, CO4	Write down the mechanism of action and synthesis of Diazepam.	5
8	CO1, CO4	What is medical significance of α-adrenergic blockers? Write the synthesis of Tolazoline.	5
9	CO1, CO2	What are the different metabolic pathways? With the help of flow diagram, describe major events of the oxidative process of drug biotransformation.	5
		Total	**75**