

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2021

Course: Medicinal Chemistry I
Program: MSc-Chemistry
Course Code: HSCC7013P

Semester: II
Time: 03 hrs.
Max. Marks: 100

SECTION A

Attempt all the questions

S. No.		Marks	CO
Q1	Advantages of Prodrugs are a. _____ b. _____ c. _____ d. _____ e. _____	5	CO2
Q 2	Name any five factors that affect drug metabolism. a. _____ b. _____ c. _____ d. _____ e. _____	5	CO1
Q 3	Most common side effects of calcium channel blockers (CCBs) are a. _____ b. _____ c. _____ d. _____ e. _____	5	CO1
Q 4	Name five examples of inhalational type of general anesthetics. a. _____ b. _____ c. _____ d. _____ e. _____	5	CO2
Q 5	Classification of anti-arrhythmic drugs are a. _____ b. _____ c. _____ d. _____ e. _____	5	CO3
Q 6	Mechanism of actions of sodium channel blockers are a. _____ b. _____ c. _____ d. _____ e. _____	5	CO2

SECTION B

Attempt all the questions

Q 7	Write about (total 100 words) (2 X 5) a. Barbiturates b. Benzodiazepines Write examples (2 each), along with applications.	10	CO3
Q 8	Give classification of NSAIDS with examples. Draw structures of paracetamol, aspirin, diclofenac and ibuprofen.	10	CO3

Q 9	Describe the SAR of cholinomimetics with examples.	10	CO2
Q 10	a) Write down the chemical classification of ACE inhibitors. Draw chemical structures for each example. (5 marks) b) How can you synthesize Furosemide from 2,4-dichlorotoluene? (5 marks)	10	CO4
Q 11	Describe how the following factors affect drug design a. Stereochemistry (5 marks) b. Solubility (5 marks)	10	CO1
SECTION-C			
Attempt any one question			
Q 12	a) What are cholinergic neurotransmitters? Give examples. (3 marks) b) Describe synthesis of acetylcholine in body? (6 marks) c) Describe acetylcholine receptors with examples. (6 marks) d) Describe forces of interaction that play a role in binding of acetylcholine to receptors. (5 marks)	20	CO2
Q 13	a) Explain the SAR of 1,4-dihydropyridines (5 marks) b) Describe chemical synthesis of following drug molecules. (10 marks) i) Prazosin ii) Diltiazem c) Discuss the mechanism of action of nitrates as anti-anginal agents. (5 marks)	20	CO3