Reg. No ..... Name **26P439**

M.Sc. DEGREE END SEMESTER EXAMINATION- MARCH 2026

SEMESTER 4 : PHARMACEUTICAL CHEMISTRY

COURSE : **24P4CPHT15EL : MEDICINAL CHEMISTRY**

(For Regular - 2024 Admission)

Time : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	What is the principle behind parallel synthesis?	(U, CO 1)
2.	How does atenolol differ from other beta blockers?	(A, CO 2)
3.	Define Lipinski's rule	(U, CO 1)
4.	Phenobarbital is a less toxic anticonvulsant drug, why?	(A, CO 2)
5.	Define SOSA approach in drug design	(A, CO 1)
6.	Give the structural details and mechanism of action of nitrogen mustards.	(U, CO 2)
7.	What are the limitations of CADD?	(U, CO 1)
8.	What is solution phase synthesis?	(U, CO 1)
9.	What are mitotic inhibitors? Give two examples.	(A, CO 2)
10.	What is Craig plot? What is its significance?	(U, CO 1)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Outline the synthesis of chlorodiazepoxide.	(U, CO 2, CO 3)
12.	Discuss different molecular modelling strategies in drug discovery	(U, CO 1)
13.	Write a short note on nitrogen mustards as anticancer agents.	(U, CO 2)
14.	Give the mechanism of action and synthesis of carbachol	(U, CO 2)
15.	Give an account on combinatorial organic synthesis.	(U, CO 1)
16.	Write a note on acetylcholine esterase inhibitors. Outline the synthesis of Tacrine.	(U, CO 2, CO 3)
17.	Discuss the mechanism of action and synthesis of 5-fluroruracil.	(U, CO 2, CO 3)
18.	Discuss the factors affecting the bioavailability of drugs.	(An, CO 1)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Write a note on various classes of anti-Parkinson's drugs. Explain the synthesis and mode of action of levodopa and benztropine.	(A, CO 2, CO 3)
20.	(a) Explain the mechanism of action and uses and Clonidine, oxymetazoline, salbutamol. (b) Write the synthetic scheme for salbutamol and Metoprolol.	(A, CO 2)
21.	Explain the different QSAR methods that are used to predict the bioactivity of drug molecules.	(An, CO 1)

22. (a) Explain how endogenous compounds can be used as drugs.
(b) Discuss how resonance and inductive factors affect the bioactivity of a drug. (E, CO 1)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Explain the principles of drug design and development, QSAR, CADD and combinatorial chemistry.	U	1, 3, 5, 7, 8, 10, 12, 15, 18, 21, 22	22
CO 2	Illustrate the structure and mechanism of actions of antineoplastic drugs, drugs acting on ANS and drug acting on CNS.	U	2, 4, 6, 9, 11, 13, 14, 16, 17, 19, 20	24
CO 3	Explain the synthetic studies of different classes of drugs.	U	11, 16, 17, 19	11

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;