

MSc DEGREE END SEMESTER EXAMINATION- MARCH 2025**SEMESTER 4 : PHARMACEUTICAL CHEMISTRY****COURSE : 21P4CPHT15EL : MEDICINAL CHEMISTRY***(For Regular - 2023 Admission and Supplementary 2022/2021 Admissions)*

Duration : Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

1. Which are the main strategies that have been adopted for the treatment of Alzheimer's disease? (U, CO 2)
 2. Explain the biosynthesis of dopamine. (U, CO 3)
 3. What are cholinergic blockers? Give two examples. (R, CO 2)
 4. What are Nonclassical bioisosteres? Give examples. (U, CO 1)
 5. What is Fmoc group? How it differs from Boc and Z group? (U, CO 1)
 6. What are the major steps involved in QSAR studies? (U, CO 1)
 7. Describe Hammett equation. Explain the significance of the terms involved. (R, CO 1)
 8. What is molecular modelling? (U, CO 1)
 9. What are photolabile anchors? Give its significance. (A, CO 1)
 10. Give the structure and significance of thiotepa. (U, CO 2)
- (1 x 8 = 8)**

PART B**Answer any 6 questions****Weights: 2**

11. Discuss different molecular modelling strategies in drug discovery? (U, CO 1)
 12. What are cholinergic stimulants? Describe their mode of action. (U, CO 2)
 13. What do you mean by Taft's steric factor? Explain the parameters. (R, CO 1)
 14. Write briefly on PEG-grafted polystyrene as solid support in solid phase synthesis. (U, CO 1)
 15. Give the mechanism for the synthesis of enfurane. What is its application? (A, CO 2, CO 3)
 16. Explain Hansch equation. What is its relevance in QSAR? (U, CO 1)
 17. Write briefly on Linkers and Anchors in solid phase peptide synthesis. (U, CO 1)
 18. Aspirin is reasonably absorbed from stomach. Justify (An, CO 1)
- (2 x 6 = 12)**

PART C**Answer any 2 questions****Weights: 5**

19. Write a note on various classes of anticonvulsant drugs. Explain the synthesis and mode of action of chlorodiazepoxide. (U, CO 2)
20. Briefly discuss the recent developments in cancer chemotherapy. (A, CO 2)
21. What are cholinergic blockers? Explain the mechanism of action of atropine and hyoscine. (A, CO 2)
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	4, 5, 6, 7, 8, 9, 11, 13, 14, 16, 17, 18, 22	23
CO 2	Illustrate the structure and mechanism of actions of antineoplastic drugs, drugs acting on ANS and drug acting on CNS.	U	1, 3, 10, 12, 15, 19, 20, 21	22
CO 3	Explain the synthetic studies of different classes of drugs.	A	2, 15	3

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