

M. Sc DEGREE END SEMESTER EXAMINATION - APRIL 2021**SEMESTER 4 : PHARMACEUTICAL CHEMISTRY****COURSE : 16P4CPHT15EL ; PHARMACEUTICAL CHEMISTRY - IV***(For Regular - 2019 Admission and Supplementary - 2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

PART A**Answer any 10 (2 marks each)**

1. What are Nonclassical bioisosteres? Give examples.
2. In what way the partition coefficient P is superior to substituent hydrophobicity constant π in QSAR studies?
3. Explain with a suitable example, how the chemical modifications altering the log P values can be effectively utilised to remove central nervous system side effects.
4. What are the various stages of computer aided drug design?
5. Give the steps involved in lead generation.
6. Explain the significance of high throughput screening in combinatorial synthesis.
7. What is the principle behind parallel synthesis?
8. How alkylating agents act as an antineoplastic agent?
9. Explain the mechanism of action of busulphan.
10. Give two examples of cholinergic blockers
11. Give the functions of sympathetic nervous system
12. What is the major reason for Alzheimer's disease?
13. Mention the therapeutic use of dopamine releasing agents. Give an example.

(2 x 10 = 20)**PART B****Answer any 5 (5 marks each)**

14. What are prodrugs? How are they classified? Give examples.
15. Discuss the factors affecting the bioavailability of drugs.
16. Explain Hansch equation. What is its relevance in QSAR?
17. What are the statistical methods commonly used in QSAR?
18. Write briefly on PEG-grafted polystyrene as solid support in solid phase synthesis.
19. Give an account on combinatorial organic synthesis.
20. Give an account of adrenergic receptors
21. Outline the synthesis and mechanism of action of Nikethamide.

(5 x 5 = 25)**PART C****Answer any 2 (15 marks each)**

22. What is the mechanism of docking?
23. Write a note on antibiotics and plant products used as anticancer agents.
24. Give the structure, mechanism of action and synthesis of metoprolol, cabachol and atropine
25. Write a note on various classes of anticonvulsant drugs. Explain the synthesis and mode of action of chlorodiazepoxide.

(15 x 2 = 30)