

Reg. No

Name

23P4030-S

M. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2023

SEMESTER 4 : PHARMACEUTICAL CHEMISTRY

COURSE : 16P4CPHT15EL: PHARMACEUTICAL CHEMISTRY - IV

(For Supplementary - 2016/2017/2018/2019/2020 Admissions)

Time : Three Hours

Max. Marks: 75

PART A

Answer any 10 (2 marks each)

1. In what way the partition coefficient P is superior to substituent hydrophobicity constant π in QSAR studies?
2. What are the applications of QSAR in drug design?
3. Describe Hammett equation. Explain the significance of the terms involved.
4. What is the purpose of CADD in pharmaceutical industry?
5. What is docking?
6. How are the thiol groups protected in solid phase synthesis?
7. Give examples for non-bead form supports in solid phase synthesis.
8. What is Boc group? State its advantage over the benzylcarbonyl (Z) group.
9. What is solution phase synthesis?
10. Mention the causes of neoplasm.
11. What are antimetabolites? Give different types of antimetabolites.
12. Phenobarbital is a less toxic anticonvulsant drug, why?
13. Give the synthesis of meprobamate.

(2 x 10 = 20)

PART B

Answer any 5 (5 marks each)

14. Outline the use endogeneous compounds as drugs citing examples.
15. What are 3-D QSAR techniques? Explain any two of them in detail.
16. Explain Hansch equation. What is its relevance in QSAR?
17. Give a short note on modelling tools and strategies used in drug industry.
18. Give the mechanism of structure based virtual screening.
19. Give an account on high throughput screening of libraries.
20. Outline the synthesis and mechanism of action of Nicotine.
21. Explain the structure and properties of xanthine derivatives which are used as analeptics.

(5 x 5 = 25)

PART C

Answer any 2 (15 marks each)

22. (a) Briefly list any five uses of pro drugs. (10 marks)
(b) Discuss the importance of peptidomimetics in drug design. (5 marks)

23. Write a note on antibiotics and plant products used as anticancer agents.
24. Give the structure, mechanism of action and synthesis of salbutamol, methoxamine and Phentolamine
25. Write a note on various classes of anticonvulsant drugs. Explain the synthesis and mode of action of chlorodiazepoxide.

(15 x 2 = 30)