

MSc DEGREE END SEMESTER EXAMINATION - OCTOBER 2024**SEMESTER 3 : PHARMACEUTICAL CHEMISTRY****COURSE : 21P3CPHT09 : DRUG DESIGN AND PHARMACOLOGY***(For Regular 2023 Admission and Supplementary 2022/2021 Admissions)*

Duration : Three Hours

Max. Weights: 30

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

1. Distinguish between habituation and addiction. (U, CO 2)
2. Briefly explain different kinds of TB infections. (U)
3. What do you mean by active transport of a drug? (U, CO 1)
4. What is the action of Cyt.P450 in drug metabolism? (U, CO 2)
5. Find the number of rat poison pills (each pill has 1.5g of poison) needed to reach the the LD₅₀ for a 120 pound man.(LD₅₀=320mg/Kg) (A, CO 2)
6. Give the synthesis of captopril. (U, CO 4)
7. What are diuretics? Give examples. (R, CO 3)
8. Give the structure and pharmacological action of Sulindac and Funapide (U, CO 3)
9. Explain the mode of action of 5 – Fluorocytosine. (An, CO 3)
10. Discuss the pharmacological action of losartan. (U, CO 3)
(1 x 8 = 8)

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

11. Discuss in detail the SAR of Morphine and its derivatives as narcotic analgesics. (U, CO 3)
12. Explain teratogenicity and carcinogenicity. (U, CO 2)
13. Give an account of desensitization and senzitisation. (R, CO 1)
14. Outline the synthesis of following drugs
a) Sulphadiazine b) 5 – flucytosine (E, CO 3)
15. Give the mechanism of action and synthesis of fluvastatin (E)
16. What are cephalosporins? Write the SAR of cephalosporins. (U, CO 3)
17. Give an account on acute, subacute and chronic toxicity (U, CO 2)
18. Write a note on direct acting anticoagulants. Explain their mode of action. (An, CO 3)

(2 x 6 = 12)**PART C****Answer any 2 questions****Weights: 5**

19. a) Explain the different mechanisms of passage of drugs across biological membranes. (U, CO 1)
b) Discuss the different routes of drug administration
20. Discuss the syntheses of (a) flufenamic acid, (b) allopurinol, (c) naproxen and (d) tenoxicam. (A, CO 3, CO 4)
21. Discuss the application of diffrent classes of bacterial protein syntheis inhibitors and bacterial nucleic acid synthesis inhibitors as chemotherapeutic agents. (An, CO 3)
22. (i) Give the synthesis of Griseofulvin and 5-Flucytosine.(ii) Detail the chemistry, mechanism of action and therapeutic uses of Anti Amoebic agents (E)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Explain the fundamental principles of pharmacology.	U	3, 13, 19	8
CO 2	Describe the concepts of toxicology and biotransformations.	A	1, 4, 5, 12, 17	7
CO 3	Illustrate the structure, mechanism of action and SAR studies of anti-infective agents, chemotherapeutic agents, drugs acting on CVS, Analgesics, Antipyretic & Anti-inflammatory drugs.	A	7, 8, 9, 10, 11, 14, 16, 18, 20, 21	22
CO 4	Describe the synthetic studies of different classes of drugs.	U	6, 20	6

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