

Reg. No

Name

22P327

M. Sc. DEGREE END SEMESTER EXAMINATION : OCTOBER 2022

SEMESTER 3 : PHARMACEUTICAL CHEMISTRY

COURSE : 21P3CPHT09 : DRUG DESIGN AND PHARMACOLOGY

(For Regular - 2021 Admission)

Duration : Three Hours

Max. Weights: 30

PART A

Answer any 8 questions

Weight: 1

1. Give the synthesis of levorphanol. (A, CO 3, CO 4)
 2. Draw the structure of digitoxin. (E, CO 3)
 3. Draw the structure of digoxin (An)
 4. Give the different aminoquinoline classes of antimalarial drugs. Provide one example from each class. (R, CO 3)
 5. What do you mean by excretion of drugs? (U, CO 1)
 6. What are the medical uses of verapamil as antiarrhythmic agent? (U, CO 3)
 7. What are the difficulties encountered in the treatment of viral infections? (E, CO 3)
 8. Explain the concept of Biotransformation. (E)
 9. Explain LD50 and ED50. (U, CO 2)
 10. Differentiate teratogenicity and carcinogenicity. (E)
- (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. Describe the mode and action of the different antiarrhythmic agents used in the treatment of hypertension. (E, CO 3)
 13. Explain the salient features of the tetracyclines. Write a brief account on the SAR and MOA of tetracyclines. (U, CO 3)
 14. Give an account of desensitization and sensitisation. (R, CO 1)
 15. Write a note on direct acting anticoagulants. Explain their mode of action. (An, CO 3)
 16. Write briefly on Phase-I Bio-transformation of drugs. (U, CO 2)
 17. Give an account on acute, subacute and chronic toxicity (U, CO 2)
 18. Outline the syntheses of (a) acyclovir and (b) 5-fluorocytosine (E, CO 3)
- (2 x 6 = 12)**

PART C
Answer any 2 questions

Weights: 5

19. Write a note on (i) sulphonamides and (ii) antiviral agents taking two examples and detailing their synthesis. (E)
20. Discuss the application of different classes of bacterial protein synthesis inhibitors and bacterial nucleic acid synthesis inhibitors as chemotherapeutic agents. (An, CO 3)
21. a) Explain the different mechanisms of passage of drugs across biological membranes. (U, CO 1)
b) Discuss the different routes of drug administration
22. Discuss the syntheses of (a) flufenamic acid, (b) allopurinol, (c) naproxen and (d) tenoxicam. (A, CO 3, CO 4)
- (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	5, 14, 21	8
CO 2	Describe the concepts of toxicology and biotransformations.	A	9, 16, 17	5
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	1, 2, 4, 6, 7, 11, 12, 13, 15, 18, 20, 22	25
CO 4	Describe the synthetic studies of different classes of drugs.	U	1, 22	6

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