

**M. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2024****SEMESTER 4 - PHARMACEUTICAL CHEMISTRY****COURSE : 21P4CPHT13EL - BIOCHEMISTRY AND BACTERIOLOGY***(For Regular - 2022 Admission and Supplementary - 2021 Admission)*

Duration : Three Hours

Max. Weights: 30

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

1. What do you mean by competitive inhibition? (A)
  2. What are the important constituents of cell membrane? (U, CO 1)
  3. What do you mean by Thermal Death Time and Thermal Death Point? (A, CO 4)
  4. What is the importance of enzyme immobilization? (Cr)
  5. What are codons and anticodons. (R, CO 1)
  6. What is the significance of Ramachandran plot? (An)
  7. Write the reaction catalyzed by citrate synthetase in citric acid cycle? (R, CO 2)
  8. Explain the role of ion exchange chromatography as a tool for aminoacid analysis. (A, CO 1)
  9. What is Henderson Hesselbach equation? (U, CO 3)
  10. Predict the products for the hydrolysis of ATP and ADP. (E, CO 1)
- (1 x 8 = 8)**

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

11. Explain procedure of DNA replication and the involvement of DNA polymerase. (U, CO 1)
  12. What are the steps for preparing pharmaceutical buffer solutions? (A, CO 3)
  13. Discuss ornithine cycle. (An)
  14. Explain the different methods used in the primary structure determination of proteins. (U, CO 1)
  15. Discuss the relevance of glycoprotein in pharmaceutical chemistry. (U, CO 1)
  16. Write a note on tetrahydrofolic acid conjugates? (U, CO 1)
  17. Outline the biosynthesis of prostaglandins. (U, CO 2)
  18. Explain different steps involved in the solid phase peptide synthesis. (A, CO 1)
- (2 x 6 = 12)**

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

19. Explain Hexose Monophosphate (HMP) Shunt. (R, CO 2)
  20. Explain the action and mechanism of
    - a) Lysozymes (U, CO 1)
    - b) Carboxypeptidase
  21. Explain in detail about a) Classification of Microbes and b) Isolation and characterisation of microbes. (U, CO 4)
  22. Discuss the structure and functions of pancreatic hormones. (R, CO 1)
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Describe the structure and functions of biomolecules, amino acids, proteins, enzymes, nucleic acids and hormones.	U	2, 5, 8, 10, 11, 14, 15, 16, 18, 20, 22	24
CO 2	Explain the chemical processes involved in the biological oxidation and metabolism.	U	7, 17, 19	8
CO 3	Illustrate the application of buffer systems in pharmaceutical chemistry.	A	9, 12	3
CO 4	Describe the principles of microbiology and immunology	U	3, 21	6

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