

B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024**SEMESTER 3 : CHEMISTRY (FOR ZOOLOGY AND BOTANY)****COURSE : 19U3PCHE3.2 : BIO-INORGANIC AND HETEROCYCLIC CHEMISTRY***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

PART A**Answer All (1 mark each)**

1. ----- guides synthesis of protein
2. What is the oxygen carrier in lobsters and crab?
3. What is a codon?
4. The gamma isomer of BHC is
5. Name a non-heme iron protein and state its function.
6. What do you mean by a prosthetic group? Give an example?
7. The optimum temperature for maximum enzyme action is.....
8. Give an example each for Natural Auxin and Synthetic Auxin.

(1 x 8 = 8)**PART B****Answer any 6 (2 marks each)**

9. Describe the role of cytochrome P – 450 in biological systems.
10. Simple heme units cannot act as oxygen carriers. Why?
11. What is Metham and Nabam?
12. Describe the structure of hemerythrins.
13. Explain the aromaticity of pyrene.
14. What are carboxypeptidases? Give functions?
15. What are Herbicides? Give any two examples.
16. What are coenzymes? Give an example.

(2 x 6 = 12)**PART C****Answer any 4 (5 marks each)**

17. Explain genetic coding?
18. Draw the oxygen binding curves for hemoglobin and myoglobin and explain them.
19. What are Phosphatic Fertilizers? Discuss the method of preparation of any two phosphatic fertilizers.
20. What is Pyrimidine? Write its molecular formulae. Draw the resonance structures of Pyrimidine.
21. Comment on the chemical constitution of nucleic acid
22. Give the mechanism of binding of O₂ by hemocyanin.

(5 x 4 = 20)**PART D****Answer any 2 (10 marks each)**

23. Explain the structure and biochemical functions of hemoglobin and myoglobin.

24. a) Give the characteristics of enzyme action b) How enzymes are classified c) Write a note on the applications of enzymes.
25. What are Fertilizers? Give any five important requirements of a good fertilizer. Explain NPK Value of a fertilizer.
26. Write a note on the electrophilic substitution reactions of Pyridine.

(10 x 2 = 20)