

Reg. No

Name

22U335

B. Sc. DEGREE END SEMESTER EXAMINATION : OCTOBER 2022

SEMESTER 3 : COMPLEMENTARY FOR ZOOLOGY AND BOTANY

COURSE : 19U3CPCHE3.2 : BIO-INORGANIC AND HETEROCYCLIC CHEMISTRY

(For Regular - 2021 Admission and Improvement / Supplementary - 2020 / 2019 Admissions)

Time : Three Hours

Max. Marks: 60

PART A

Answer All (1 mark each)

1. The optimum temperature for maximum enzyme action is.....
2. Give any two examples for the electron carriers in photosynthesis.
3. The Product obtained by the condensation between 4,5 – diaminopyridine and formic acid is
4. Give an example each for Natural Auxin and Synthetic Auxin.
5. What is the hybridization of all the atoms in furan?
6. Give any two characteristics of an ideal fungicide.
7. What do you mean by a prosthetic group? Give example?
8. Define standard free energy change.

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. Describe the structure of hemerythrins.
10. What are the main characteristic features of enzymes?
11. What is the importance of ATP in bioprocesses?
12. What are the structural changes that occur when hemoglobin binds with oxygen?
13. How Triple superphosphate is prepared?
14. What do you mean by stereospecificity of an enzyme?
15. Explain Gattermann Koch reaction of Furan.
16. What are iron – sulphur proteins? Discuss their role in biological systems.

(2 x 6 = 12)

PART C

Answer any 4 (5 marks each)

17. Write a note on the thermodynamics of biochemical processes
18. Discuss any one Electrophilic and Nucleophilic substitution reactions of Pyrimidine.
19. Describe the structure of hemoglobin. What are the structural changes that occur on oxygen binding?
20. Explain the structure and function of 2,4 - D and 2,4,5 - T.
21. Comment on the chemical constitution of nucleic acid
22. Explain the secondary structure of DNA?

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. Write a note on the electrophilic substitution reactions of Pyridine.
24. Briefly explain the structure and the nature of oxygen binding in
a) Hemocyanin b) Hemerythrin
25. Discuss in detail about Plant Growth Hormones.
26. a) Give the characteristics of enzyme action b) How enzymes are classified c) Write a note on the applications of enzymes

(10 x 2 = 20)