

B. Sc DEGREE END SEMESTER EXAMINATION - OCT. 2020 : JANUARY 2021
SEMESTER 3 : COMPLEMENTARY CHEMISTRY FOR B Sc ZOOLOGY/BOTANY
COURSE : 19U3PCHE3.2 : BIO-INORGANIC AND HETEROCYCLIC CHEMISTRY
(For Regular - 2019 Admission)

Time : Three Hours

Max. Marks: 60

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

1. What is meant by genetic code?
2. Draw the structure of thymine
3. The Product obtained by the condensation between 4,5 – diaminopyridine and formic acid is
4. Is 1,3-cyclobutadiene aromatic or not?
5. What are PIPs?
6. Give two examples for Dithiocarbamates.
7. Define standard free energy change.
8. Give any two examples for the electron carriers in photosynthesis.

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

9. How can the specificity of enzyme action be best explained
10. Give the structure of ATP?
11. What are Carboxypeptidase? Give functions?
12. Comment on the basic nature of pyridine.
13. What is 2,4 – D and 2,4,5 – T?
14. What is cytochrome P450? Why it is named so?
15. Which is the major photosynthetic pigment in plants? Give its structure.
16. Explain the biological importance of protein chain in hemoglobin?

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

17. Comment on the chemical constitution of nucleic acid
18. Explain the elementary mechanism of Na⁺/K⁺ ATPase-Sodium Potassium pump?
19. Discuss in detail aromaticity of any two five membered Heterocyclic compounds.
20. What are Phosphatic Fertilizers? Discuss the method of preparation of any two phosphatic fertilizers.
21. Write a note on the thermodynamics of biochemical processes
22. Distinguish between PS I and PS II. Discuss the photochemical electron transport chain involving chlorophyll.

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

23. Write a note on a) peroxidase b) catalase c) Ferridoxine
24. Give any one method for the preparation of a) Furan, b) Pyridine, c) Indole and d) Purine.
25. What are Fertilizers? Give any five important requirements of a good fertilizer. Explain NPK Value of a fertilizer.
26. Briefly explain the structure and the nature of oxygen binding in
a) Hemocyanin b) Hemerythrin

(10 x 2 = 20)