TB214060W **Reg. No :.....**

Name :.....

B.Sc. DEGREE (C.B.C.S.) EXAMINATION, MARCH 2023

(2021 Admissions Regular, 2020 Admissions Supplementary / Improvement, 2019 &2018 Admissions Supplementary)

SEMESTER IV - COMPLEMENTARY COURSE 1 (CHEMISTRY)

(For Botany, Zoology & H. Sc.)

CH4C01B18 - ADVANCED BIO-ORGANIC CHEMISTRY

Time : 3 Hours **Maximum Marks : 60**

Part A

I. Answer any Ten questions. Each question carries 1 mark **(10x1=10)**

1. Define rancidity.
2. List any two physiological effects of piperine.
3. Recall the products obtained when citral undergoes hydrolysis.
4. Define isoelectric point of amino acid.
5. Explain fibrous protein. Give an example.
6. Give the biuret test for proteins.
7. Define a codon.
8. List two examples of polysaccharides.
9. Write the products obtained when fructose is treated with concentrated nitric acid.
10. Draw the Fischer projection and Haworth configuration of α-D-glucose.
11. Write the deficiency disease caused by cyanocobalamine.
12. What causes scurvy?

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Explain biological functions of fats,oils and waxes.
14. Explain the isolation methods for alkaloids.
15. Discuss briefly a) Strecker synthesis and b) Gabriel's synthesis
16. Explain the peptide bonds formation and its classifications.
17. Distinguish between transcription and translation.
18. Give an account of the industrial applications of cellulose.
19. Discuss the reaction of glucose and fructose with excess phenylhydrazine.
20. Explain the functions and deficiency diseases of vitamin B1 and B3.
21. List the functions of bile acids.

Part C

III. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Explain the structure and physiological activity of coniine.
23. Discuss the different structures of proteins.
24. Discuss the biological functions of nucleic acids.
25. a) Give the structure of starch and cellulose b) Distinguish between amylose and amylopectin.