K21U 1108

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree CBCSS (OBE) Regular Examination, April 2021
(2019 Admission Only)
COMPLEMENTARY ELECTIVE COURSE IN CHEMISTRY/POLYMER CHEMISTRY
4C04CHE/PCH (BS) Chemistry (for Biological Science)

Time : 3 Hours

Max. Marks : 32

Instruction : *Write* ***only*** *in* ***English.***

SECTION – A

(Very short answer type – **Each** carries **1** mark – Answer **all 5** questions).

1. The heteroatom in furan is _____
2. Which sugar unit is present in RNA ?
3. Draw the structure of progesterone.
4. Give the Michaelis-Menten equation.
5. Name the metal present in Myoglobin.

SECTION – B

(Short answer type – **Each** carries **2** marks – Answer **4** questions out of 6).

6. Give a laboratory test illustrating the reducing action of fructose.
7. How to convert Quinoline to pyridine ?
8. Draw the structure of pyrimidine bases present in DNA.
9. What is a Zwitter ion ?
10. Write a short note on biochemistry of cobalt.
11. Explain the importance of Hemoglobin in Oxygen transport.

P.T.O.

SECTION – C

(Short essay type – **Each** carries **3** marks – Answer **3** questions out of 5).

12. What is meant by Mutarotation ?

13. Write a short note on DNA replication.

14. Illustrate the classification of amino acid by citing an example for each.

15. Why Vitamin A and Vitamin C are essential to us ? Provide their important sources.

16. Describe the mechanism of Sodium-Potassium pump.

SECTION – D

(Long essay type – **Each** carries **5** marks – Answer **2** questions out of 4).

17. Explain the following conversions with suitable equations
    i) Glucose to Fructose and
    ii) Fructose to Glucose

18. Give the products of the following reactions
    i) Friedel-Crafts acetylation of Pyrrole
    ii) Nitration of Furan
    iii) Conversion of Furan to Thiophene
    iv) Sulphonation of Pyridine
    v) Bromination of Quinoline.

19. Discuss the primary, secondary and tertiary structure of Proteins.

20. Describe the mechanism of Enzyme action.