



K22U 1544

Reg. No. :

Name :

IV Semester B.Sc. Degree CBCSS (OBE) Regular/Supplementary/
Improvement Examination, April 2022
(2019 Admission Onwards)
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. Among glucose, fructose, sucrose and ribose, which one is a ketohexose ?
2. What is the monomer of starch ?
3. The 'N' atom in Pyridine is in a state of _____ hybridization.
4. In normal DNA, to which base does adenine pair with ?
5. What is the oxidation state and coordination number of Fe in hemoglobin ?

SECTION – B

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

6. Explain why Furan is less reactive towards electrophilic substitution than Pyrrole.
7. Explain two electrophilic substitution reactions of Quinoline.
8. Give the differences between DNA and RNA.
9. Define Isoelectric point.
10. What are Hormones ? Why are they called chemical messengers ?
11. Discuss the importance of Zinc in biological systems.

P.T.O.



SECTION – C

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

12. Write a short note on the structure of Cellulose.
13. What are the different reduction products obtained for pyridine under different conditions ?
14. Discuss the double helical structure of DNA.
15. Write a short note on Sorensen formol titration.
16. How the Vitamins are classified ? Give a short note on any three Vitamins belonging to each class.

SECTION – D

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

17. i) Explain any one chemical test to distinguish between glucose and fructose. 2
 - ii) Explain the action of phenylhydrazine on glucose and fructose. 3
 18. Discuss the Primary, Secondary and Tertiary structure of Proteins.
 19. Describe the biological fixation of nitrogen.
 20. What are Enzymes ? Explain the main characteristic features of Enzymes.
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