

B.Sc. DEGREE END SEMESTER EXAMINATION – JULY 2021**SEMESTER – 4: CHEMISTRY (COMPLEMENTARY COURSE FOR BOTANY AND ZOOLOGY)****COURSE: 15U4PCHE4.2, ADVANCED BIO-ORGANIC CHEMISTRY – II***(Common for Improvement 2018 admission / Supplementary 2018/2017/2016/2015 admissions)*

Time: Three Hours

Max. Marks: 60

SECTION A***Answer all the questions. 1 mark each***

1. Give an example for an α -amino acid.
2. Coagulation of egg white by heat is due to.....
3. Sucrose on hydrolysis gives
4. Give the name of any one female sex hormone.
5. Name an alkaloid used as antimalarial.
6. State Huckel's rule.
7. The deficiency of cyanocobalamin causes.....
8. Give an example for a non-reducing sugar. (1 × 8 = 8)

SECTION B***Answer any Six questions. 2 marks each***

9. What are essential amino acids? Give examples.
10. Explain why sucrose is called as invert sugar?
11. What are steroid hormones? Give one example.
12. How will you convert furan to pyrrole?
13. Give the structure and biological activity of Vitamin A.
14. What is the basic principle of gas chromatography?
15. Define acid value and iodine value
16. Give two industrial applications of cellulose. (2 × 6 = 12)

SECTION C***Answer any Four questions. 5 marks each***

17. How will you convert glucose to i) mannose and ii) fructose.
18. Give the colour reactions of proteins.
19. Comment on the role of MUFA and PUFA in preventing heart diseases.
20. Explain the principle of HPLC.
21. State Huckel's rule? Illustrate by taking furan as an example.
22. What are essential oils? How they are extracted from plants. (5 × 4 = 20)

SECTION D

Answer any Two questions. 10 marks each

23. i) Discuss the function and deficiency diseases of vitamin B and C.
ii) What are hormones? Give an account of steroid hormones.
24. i) How is sucrose manufactured from sugar cane? Why is it called non-reducing sugar?
ii) How was the structure of glucose arrived at?
25. i) What are polypeptides? Describe two methods of their preparation.
ii) What are the difficulties encountered in the synthesis of peptides? How have these been overcome?
26. How was the structure of nicotine established? (10 × 2 = 20)
