B. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2023
SEMESTER – **4** : COMPLEMENTARY COURSE FOR BSC BOTANY AND ZOOLOGY
COURSE : **15U4CPCHE4.2: ADVANCED BIO-ORGANIC CHEMISTRY - II**
(Common for supplementary 2018/2017/2016/2015 Admissions)

Time: Three Hours   Max. Marks: 60

PART A
Answer **all** the questions. Each question carries 1 mark.

1. Two main constituents of starch are ------------------- and -------------------.
2. Give an example of ketohexose.
3. Deficiency of Vitamin A causes -------------.
4. ………………is an example of neutral amino acid.
5. Stae isoprene rule
6. Which vitamin is known as ascorbic acid?
7. Give the significance of R_f value
8. Name an alkaloid used as antimalarial.   (1 × 8 = 8)

PART B
Answer **any Six** questions. Each question carries 2 marks.

9.   What are essential oils? Give an example.
10. Draw the structure of pyrimidine.
11. What happens when glucose is treated with NH_2OH?
12. What is isoelectric point? Explain.
13. Convert glucose to fructose
14. Give the principle of ion exchange chromatography
15. What are the advantages of high performance liquid chromatography
16. Describe quaternary structure of proteins.
17. Give the sources of vitamins C, K, A and D.   (2 × 6 = 12)

PART C
Answer **any Four** questions. Each question carries 5 marks

18. State Huckel's rule? Illustrate by taking furan as an example
19. Discuss the role of MUFAS and PUFA in preventing heart diseases.
20. What is meant by inversion of cane sugar? Explain with relevant equations
21. Suggest any one method for the preparation of pyridine. Why is it basic in nature?
22. Give the reactions of amino acids with (a) NaOH (b) HCl (c) acetic anhydride
23. Explain the separation amino acids

                                                 (5 × 4 = 20)

PART D

Answer **any Two** questions. Each question carries 10 marks.

24. What are hormones? Discuss the classification of hormones. In what respects vitamins differ from hormones?

25. Explain the structure and biological activities of Vitamin A and Vitamin B

26. Discuss the principle and application of gas chromatography and thin layer chromatography

27. What are oils and fats? What are the different methods for the analysis of oils and fats?

(10 × 2 = 20)