Reg. No ..... Name **23U441**

B. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023

SEMESTER 4 : CHEMISTRY (COMPLEMENTARY FOR BOTANY AND ZOOLOGY)

COURSE : **19U4CPCHE4.2 : ADVANCED BIO-ORGANIC CHEMISTRY**

(For Regular - 2021 Admission and Improvement / Supplementary - 2020 / 2019 Admissions)

Time : Three Hours Max. Marks: 60

PART A

Answer All (1 mark each)

1. Define R_f value in chromatography.
2. What is celluloid ?
3. Give any two examples for neutral amino acids.
4. What are sulphonamides?
5. In mammal, secretion of hormones is controlled by----------
6. Which is the common natural source of geraniol?
7. Which chromatographic technique is used in the demineralization of water?
8. Give the zwitter ion structure of glycine.

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. Explain how sulphanilamide inhibits the growth of bacteria.
10. Explain iodine value of an oil?
11. How is mutarotation accounted in the case of glucose ?
12. Explain the following giving reasons?
    a) The iodine value of coconut oil is 9while that of linseed oil is 190
    b) Oils and fats develop an unpleasant odour on exposing to moist air for a long time?
13. How is citral isolated ?
14. What are basic amino acids? Give two examples.
15. Give a short account of the isolation of essential oils
16. What is meant by elution in chromatography?

(2 x 6 = 12)

PART C

Answer any 4 (5 marks each)

17. Explain, how electrophoresis is used for the separation of amino acids?
18. Distinguish between amylose and amylopectin.
19. Write the structure of geraniol. Write the reaction to show that it is unsaturated.
20. Explain how certain drugs cause addiction.
21. What are Rf values? Explain their significance. How are they determined?
22. Name two hormones you have studied and indicate their importance?

(5 x 4 = 20)

PART D
Answer any 2 (10 marks each)

23. Write a note on the different colour tests for the identification of proteins.

24. Write notes on the following :
    (a) Psychotropic drugs
    (b) Drug addiction and abuse

25. How are the following conversions made?
    a) D- glucose to D-fructose
    b) D- fructose to D-glucose

26. What are vitamins? Give the structures of Vitamin A, B and C. Discuss their biological functions?

(10 x 2 = 20)