

Reg. No. :

Name :

Fourth Semester B.Sc. Degree Examination, July 2019

(First Degree Programme under CBCSS)

Complementary Course for Zoology

CH 1431.4 ORGANIC AND BIOPHYSICAL CHEMISTRY

(2013-2016 Admns)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** marks :

1. α - amino acids are the building blocks of _____
2. Millon's reagent is _____
3. What are enzymes?
4. What is a nucleoside?
5. Write one example each for natural and synthetic polymer.
6. The molecular formula of citral is _____
7. What are the monomers of Buna S rubber?

8. Two solutions having the same osmotic pressure across a semipermeable membrane are called _____
9. Coagulating power _____ with increase in valency of oppositely charged ion of electrolyte added.
10. Rf value is defined as _____

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** marks :

11. What are phospho lipids?
12. What are waxes? Give two examples.
13. Explain denaturation of proteins.
14. What are the functions of proteins?
15. Write two different classifications of polymers with one example for each.
16. Explain isoprene rule.
17. What are isotonic solutions? Explain.
18. Explain the different types of adsorption with example.
19. Explain the cleansing action of soaps and detergents.
20. Write the principle of Column chromatography.
21. What are the different methods to detect the components of a mixture in TLC.
22. What are the advantages of chromatography?

(8 × 2 = 16 Marks)

SECTION – C

Answer **any six** questions. Each question carries **4** marks :

23. Explain the mechanism of enzyme action.
24. Differentiate iodine value and saponification value.
25. Explain the properties and uses of fats and oils.
26. Discuss any two methods for the extraction of essential oils.
27. What is vulcanisation. Explain its significance.
28. Explain the factors that affect the adsorption of gases.
29. Explain the action of protective colloids.
30. Write a short note on electrophoresis.
31. Write a note on factors affecting column efficiency. **(6 × 4 = 24 Marks)**

SECTION – D

Answer **any two** questions. Each question carries **15** marks :

32. What are nucleic acids? Explain the structure of RNA and DNA.
33. Describe the preparation, properties and uses of any three synthetic rubbers.
34. What are colloids? Explain Tyndall effect. Discuss about any four applications of colloids.
35. Explain osmosis, osmotic pressure and reverse osmosis. How will you determine molar mass from osmotic pressure measurement?

(2 × 15 = 30 Marks)