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Reg. No. : .....

Name : .....

Third Semester B.Sc. Degree Examination, January 2023

First Degree Programme under CBCSS

Chemistry

Complementary Course for Zoology

CH 1331.4 : ORGANIC CHEMISTRY

(2020 Admission onwards)

Time : 3 Hours Max. Marks : 80

PART – A

Answer **all** questions. Each question carries **1** mark.

1. What are enantiomers?
2. Draw the major confirmations of ethane.
3. What is arabinose?
4. Explain why sucrose is a non reducing sugar?
5. What is a peptide linkage?
6. What are enzyme inhibitors? Give one example.
7. Define saponification value of an oil.

8. What is neoprene chemically?

9. Mention any two natural polymers found in human body.

10. What is a drug?

(10 × 1 = 10 Marks)

PART – B

Short answer type.

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

11. Why are equatorials bonds more stable than axial bonds?

12. What is the difference between absolute and relative configuration in stereochemistry?

13. What is enzymatic resolution?

14. Draw the structures of erythrose and threose.

15. Which sugars can show mutarotation?

16. How will you convert arabinose in to glucose?

17. Explain the basic principle of Sorensen formol titration.

18. Write Michaelis-Menten equation and explain the terms.

19. What is meant by optimum temperature and optimum pH of enzyme?

20. What are coenzymes?

21. What are essential oils? Give one example.

22. Differentiate homo polymer and copolymer with one example each.

23. What are thermosetting plastics? Give one example.

24. What are the major functions of fats?

25. Give the structure of sulphaguanidine and mention its medicinal importance.

26. What are antacids? Give one example.

(8 × 2 = 16 Marks)

PART – C

Short essay

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

27. Write short note on optical isomerism.

28. What are the different conformations of cyclohexane? Discuss their relative stabilities.

29. Discuss the pyranoside and furanoside structures of fructose.

30. Explain the structural differences between starch and cellulose.

31. What are phospholipids? Mention their physiological functions.

32. Describe the structure of nucleic acids.

33. How are lipids classified?

34. Discuss the shortcomings of natural rubber. How it can be modified?

35. What are elastic fibers? Explain the uses of fibers with examples.

36. What is isoprene rule? Explain with an example.

37. Discuss briefly anticancer agents derived from plants.

38. Give one synthetic method each for the preparation of aspirin and paracetamol.

(6 × 4 = 24 Marks)

PART – D

Long essay

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

39. What is meant by resolution? Discuss the various methods employed for it.

40. (a) Write short note on polysaccharides. **7**

    (b) How will you convert glucose into fructose and fructose into glucose? **8**

41. What are proteins? Discuss the various colour tests for proteins.

42. Explain briefly transcription, translation and genetic code.

43. (a) Discuss the classification of polymers based on synthesis. **7**

    (b) Write short note on natural polymers. **8**

44. Discuss briefly

    (a) Antimalerial drugs

    (b) Antibiotics

    (c) Sulphadrugs.

(2 × 15 = 30 Marks)
