S – 3457

Reg. No. : .....

Name : .....

Third Semester B.Sc. Degree Examination, February 2024

First Degree Programme under CBCSS

Chemistry

Complementary Course for Zoology

CH 1331.4 : ORGANIC CHEMISTRY

(2020 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark.
Answer in one word to maximum of two sentences.

1. Define the term optical isomerism.
2. What are enantiomers?
3. Give one example for a non reducing sugar.
4. What are oligosaccharides?
5. Write Michaelis-Menten equation and explain the terms.
6. What are nucleotides?
7. How will you synthesis PVC?
8. Draw the structure of geraniol.
9. Give one example for antimalerial drug.
10. What do you mean by genetic code?

(10 × 1 = 10 Marks)

SECTION – B

Short answer type (Not to exceed one paragraph)
Answer **any eight** questions. Each question carries **2** marks.

11. Draw the stereoisomers of tartaric acid.
12. Compare the relative stabilities of geometrical isomers of 2-butene.
13. Give the structure of starch.
14. What is the structural difference between ribose and arabinose?
15. What is a peptide bond? How it can be synthesized?
16. Explain the biuret test for proteins.
17. Define saponification value of oil. What is its significance?
18. What is vanaspathi? How it can be prepared?
19. Give the names of any two drugs of plant origin.
20. How will you synthesis paracetamol?
21. Explain isoprene rule with an example.
22. What is meant by vulcanization of rubber? Mention its advantages.

(8 × 2 = 16 Marks

SECTION – C

Short essay (Not to exceed **120** words)

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

23. Explain the conformational isomerism with regard to ethane and their relativ stabilities.
24. Differentiate mutarotation and epimerization.
25. Discuss the classification of amino acids.
26. What are enzymes? Discuss its industrial applications.
27. Give the synthesis of neoprene and Buna-S.
28. Explain the synthesis and mode of action of sulpha drugs.
29. Write short note on natural rubbers.

30. What are drugs? How are they classified?

31. Explain the terms transcription and translation.

(6 × 4 = 24 Marks)

SECTION – D

Long essay

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

32. (a) Discuss the preparation and properties of glucose and fructose. (8)

(b) Differentiate thermoplastics and thermosetting plastics. Give the method of preparations of thermoplastics and thermosetting plastics by taking suitable examples. (7)

33. (a) What are the biological functions of nucleic acids? (9)

(b) Discuss the structure of DNA. (6)

34. What are proteins? Discuss the various structures of proteins.

35. Write short notes on the following

(a) Asymmetric synthesis.

(b) *E-Z* nomenclature in stereo isomers.

(c) Biochemical and chemical methods of resolution.

(2 × 15 = 30 Marks)
