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N – 2588

Reg. No. :

Name :

Third Semester B.Sc. Degree Examination, March 2022

First Degree Programme under CBCSS

Chemistry

Complementary Course for Zoology

CH 1331.4 : ORGANIC CHEMISTRY

(2017 & 2018 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer all questions. Each question carries 1 mark

1. Give an example of basic amino acid.
2. Define metamerism.
3. Give an example for a water soluble polysaccharide.
4. Name the pyrimidine base present in RNA, but not in DNA.
5. Give the classification of polymers on the basis of formation.
6. Suggest the monosaccharide which contains aldehydic group.
7. What is electronic affect?
8. Give an example of tertiary carbocation.

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9. Write the species formed by homolytic fission.
10. What do you understand by the term resolution?

(10 × 1 = 10 Marks)

SECTION – B

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

11. What are fats and oils? How do they differ from each other?
12. Draw the structure of L-Glyceraldehyde and L-Erythrose.
13. Between methylamine and ammonia, which is the stronger base and why?
14. What do you understand by the term polarity of a covalent bond?
15. Which conformation of cyclohexane is more stable?
16. What is meant by isoelectric point in the case of amino acids?
17. Explain how the genetic code gets transmitted to new generation by DNA molecule.
18. What is mutarotation?
19. Draw the structure of D-Arabinose and D-Ribose.
20. What is asymmetric synthesis?
21. Give an example for addition polymerization.
22. State isoprene rule.

(8 × 2 = 16 Marks)

SECTION – C

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

23. Discuss in brief the denaturation of proteins.
24. What are polypeptides? Describe the synthesis of a tripeptide having three different amino acid groups.
25. Write a note on the role of DNA in biosynthesis of proteins.

26. Discuss the mechanism of anti-Markonikoff addition to alkenes.
27. What is meant by racemization and resolution?
28. Give a brief account of the tertiary structure of proteins.
29. Define the following terms used in lipid chemistry:
 - (a) saponification value
 - (b) Iodine value
30. Discuss the ring structure of glucose.
31. Write a note on thermoplastics and thermosetting plastics.

(6 × 4 = 24 Marks)

SECTION – D

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

32. Describe the structure and Functions of DNA and RNA.
33. How are the following conversions made?
 - (a) D-glucose to D-fructose
 - (b) D-fructose to D-glucose
34. What are S_N1 and S_N2 reactions? Give the mechanism of each type of reactions.
35. Discuss the preparation and applications of the synthetic rubbers Buna S Neoprene and butyl rubber.

(2 × 15 = 30 Marks)