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R – 1269

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2023

First Degree Programme Under CBCSS

Chemistry

Core Course XI

CH 1642 : ORGANIC CHEMISTRY – III

(2020 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

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

1. What are zwitter ions?
2. Pyrrole is a weak base. Justify this statement.
3. Give the structure of paracetamol.
4. Mention the two uses of Teflon.
5. Define acid value.
6. What is Ziegler-Natta catalyst?
7. State Beer-Lambert's law.
8. What is the chemical name of vitamin C?

P.T.O.

9. What is bathochromic shift?

10. What is meant by chemical shift?

(10 × 1 = 10 Marks)

SECTION – B

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

11. Compare the aromatic character of pyrrole and furan.

12. Give one method of preparation of sulphanilamide.

13. What are essential amino acids? Give one example.

14. Give the classification of proteins.

15. State and explain isoprene rule.

16. Draw the structure of morphine.

17. How will you prepare nylon-6,6?

18. What are plasticizers? What is its role?

19. Explain the effect of H-bonding on O-H stretching frequency.

20. Mention the important types of electronic transitions.

21. Draw the NMR spectrum of ethanol and label the peaks.

22. Explain the isotopic effect in mass spectrometry.

(8 × 2 = 16 Marks)

SECTION – C

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

23. Explain the cleansing action of detergents.

24. Write short note on classification of drugs based on application.

25. What are peptide bonds? Explain the solid phase peptide synthesis.

26. What are lipids? Discuss its biological importance.

27. Discuss the cationic mechanism of addition polymerization.

28. Explain the effect of conjugation in the UV-Visible spectra of enes by taking suitable examples.

29. What is McLafferty rearrangement? Give one example.

30. Explain any two colour tests for proteins.

31. What are the factors influencing chemical shift?

(6 × 4 = 24 Marks)

SECTION – D

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

32. How quinoline and indole are prepared? Explain the reactions of quinoline and indole.

33. (a) Discuss the various structures of proteins. **8**

    (b) Differentiate DNA and RNA. **7**

34. (a) How are vitamins classified? Discuss various vitamin deficiency diseases. **7**

    (b) Write short note on phenol-formaldehyde resin. **8**

35. (a) Explain the theory of mass spectrometry. **7**

    (b) Discuss the Factors influencing carbonyl stretching frequency by taking examples. **8**

(2 × 15 = 30 Marks)
