



Paper Code : CHEDSC 13L

III Semester B.Sc. Degree Examination (NEP), April 2023

Subject : CHEMISTRY (Paper – I)

Paper : DSC – I : Analytical and Organic Chemistry – II

Time : 2 Hours

Max. Marks : 60

**Instruction** : Answer *all* the Sections.

SECTION – A

Answer **any five** of the following :

(5×2=10)

1. a) What is electromagnetic spectrum ? Give the wavelength range of visible region.
- b) Give two differences between Nephelometry and Turbidimetry.
- c) Define extraction efficiency.
- d) How carbocations are formed ? Give an example.
- e) Explain Sandmyers reaction with example.
- f) Write Van Deemter equation and indicate terms.
- g) What are racemic mixture ?

SECTION – B

Answer **any four** of the following :

(4×5=20)

2. Derive an expression for Beer-Lambert's law.
3. Explain theory and three applications of Paper chromatography.
4. Write a note on Pinacol-Pinacolone rearrangement reactions.

P.T.O.

Paper Code : CHEDSC 13L



5. What is geometrical isomerism ? Explain the methods to determine the configuration of geometrical isomers.
6. Explain the instrumentation used in turbidimetric determination.
7. What are enantiomers ? Write any four properties of them.

SECTION – C

Answer **any three** of the following :

(3×10=30)

8. a) Explain the principle and procedure for the colorimetric determination of amount of copper using ammonia. 5
- b) Briefly explain the following : 5
  - i) Sensitivity.
  - ii) Detection limit.
9. a) State Nernst distribution law and derive the equation. 5
- b) Explain the applications of ion exchange chromatography in softening of hard water. 5
10. a) With suitable examples explain the following reactions. 5
  - i) Perkins reaction
  - ii) Claisen – Schmidt condensation.
- b) Which are factors affecting the stability of carbanions ? 5
11. a) Explain E/Z notations with CIP rules. 5
- b) What are distereoisomers ? Write the properties of distereoisomers. 5
12. a) What are arynesive two reactions of arynes ? 5
- b) Write a brief explanation with four factors which effect column efficiency. 5