

**Note:** SECTION-A is COMPULSARY consisting of TEN questions carrying 2 marks each. SECTION - B contains THREE questions carrying 10 marks each and student has to attempt any TWO questions. SECTION- C contains NINE questions carrying 05 marks each and student has to attempt any SEVEN questions.

**SECTION-A** (10×2=20)

1. Answer in short:
- Define structural isomerism and name different types of structural isomerism.
  - Write down ozonolysis reaction on alkanes.
  - What are the structure and uses of vanillin?
  - Write down the structure and use of lactic acid.
  - Write one qualitative test for aliphatic amines.
  - Write down the reaction of crossed Aldol condensation.
  - Write down the structure and use of acetyl salicylic acid.
  - Draw the chemical structure of chloral hydrate and amphetamine.
  - Write about  $sp^2$  hybridization in alkenes.
  - Define dienes and name different types of dienes.

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**SECTION-B**

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(2×10=20)

(Long essay type)

- Write down the reaction, mechanism and evidences for electrophilic addition reaction on alkenes. Discuss various factors affecting it.
- Write down the reaction, mechanism and evidences for halogenation reaction on alkanes. Discuss various factors affecting it.
- Discuss the reaction, mechanism and uses for Cannizzaro reaction, crossed cannizzaro reaction and Benzoin condensation.

**SECTION-C**

(7×5=35)

(Short note)

- What is tautomerism and metamerism? Explain with suitable example.
- Define alkanes. Discuss  $sp^3$  hybridization in alkanes.
- Explain anti-Markownikoff's addition in alkenes.
- Explain stability of conjugated dienes.
- Explain basicity of aliphatic amines and effect of substituents on basicity of aliphatic amines.
- Discuss qualitative test for carboxylic acid and aliphatic amines.
- Define organic compound and classify them.
- What are carbocations? Discuss their stability and rearrangement.
- Discuss free radical addition reaction on dienes.