

Step Academy official

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STUDENT NAME	
PAPER CODE	55700
TIME ALLOWED	40
Paper Date	24-02-2026



CLASS	New 1st Year (FSC/ICS)
SUBJECT	Chemistry
TOTAL MARKS	25
Paper Type	

Q1. Choose the correct answer.

$$5 \times 1 = 5$$

1.

An alkene undergoes ozonolysis followed by reduction with zinc dust and water to yield propanone and methanal. The alkene is:

2. Halogenation of alkanes is an example of:

(A) Electrophilic substitution (B) Nucleophilic substitution (C) Free-radical substitution (D) Oxidation

3. The most stable carbonium ion among the following is:

(A) CH_3^+ (B) CH_3CH_2^+ (C) $(\text{CH}_3)_2\text{CH}^+$ (D) $(\text{CH}_3)_3\text{C}^+$

4. Markownikov's rule is applicable to :

(A) $\text{CH}_2 = \text{CH}_2$ (B) $\text{CH}_3 - \text{CH}_2 - \text{CH}_3$ (C) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$ (D) $(\text{CH}_3)_2 - \text{C} = \text{CH}_2$

5. What intermediate is formed during the electrophilic addition of HBr to an alkene?

(A) Carbocation (B) Carbanion (C) Radical (D) Epoxide

Q2. Write short answers of the following questions.

$$5 \times 2 = 10$$

1 . Why alkanes are least reactive?

2 . Write structural formulas of: (a) 1, 3-Butadiene (b) Vinyl bromide.

3 . Prepare ozonide from ethene.

4 . Explain how inductive effects from alkyl groups stabilize carbocations in alkenes.

5 . What are closed chain hydrocarbon give example.

Q3. Write detailed answers of the following questions.

$$2 \times 5 = 10$$

1. Describe the free radical halogenation of methane using Cl_2 as an example.

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2. Explain the following reactions of alkenes with examples: (i) Halogenation (ii) Ozonolysis (iii) Epoxidation (iv) Polymerization