



# B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS  
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



Post Mid Term Examination 2025-26

CHEMISTRY (043)

Class : XI  
Date : 08/01/2026

Duration: 1 Hr  
Max. Marks: 25

## Instructions:

- There are three sections A, B, and C with 13 questions in total.
- Section A has 3 Multiple Choice Questions and 2 Assertion Reasoning based Question of one mark each.
- Section B has 4 questions of two marks each and Section C has 4 questions of three marks each.
- All questions are compulsory.
- Calculators are not allowed.

## Section A

- Which of the following is an example of an electrophile? 1  
(a)  $\text{CH}_3^+$  (b)  $\text{CH}_3^-$  (c)  $\text{OH}^-$  (d)  $\text{C}_2\text{H}_5^-$
  - Identify the correct IUPAC name of  $\text{CH}_3\text{CHO}$ . 1  
(a) 1-Butene (b) Ethanal (c) Butanal (d) Propene
  - What is the general formula of an alkyne? 1  
(a)  $\text{C}_n\text{H}_{2n}$  (b)  $\text{C}_n\text{H}_{2n+2}$  (c)  $\text{C}_n\text{H}_{2n-2}$  (d)  $\text{C}_n\text{H}_{2n+3}$
- Assertion-Reasoning (A/R) Q NO. 4 to 5.
- Both A and R are correct, and R explains A.
  - Both A and R are correct, but R does not explain A.
  - A is correct, but R is incorrect.
  - A is incorrect, but R is correct.
- Assertion (A): Alkanes are saturated hydrocarbons. 1  
Reason (R): Alkanes contain only sigma bonds between carbon atoms.
  - Assertion (A): Cis isomers is more than trans isomer. 1  
Reason (R): Benzene undergoes addition reactions readily.

## Section B

- Write the short notes on hyperconjugation. 2

7. Differentiate between homolytic and heterolytic bond fission with suitable examples. 2
8. Write the structure and IUPAC name of the following compounds:  
(a) An alkene with 5 carbon atoms having a double bond at the second position.  
(b) A straight-chain alkyne with 4 carbon atoms. 2
9. Explain the term +I and -I effect with suitable examples. 2

### Section C

10. Explain the Nitration reaction with its mechanism. 3
11. Explain the following reactions: 3  
(i) Decarboxylation (ii) Wurtz reaction
12. Convert the following: 3  
(a) Ethene to Ethane.  
(b) Methane to Ethane  
(c) Benzene to Nitrobenzene.
13. Write short notes on the following: 3  
(a) Conformation of ethane.  
(b) Ozonolysis of But-2-ene followed by zinc dust distillation.

-----All the Best-----