



CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-XII

Subject: Chemistry

Total : 11 Marks (expected) [MCQ-1 × 3 Mark, Conversion Q-1 × 3 Marks, LQ-5 Marks]

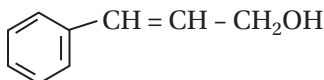
Chapter Name : *Aldehydes, Ketones and Carboxylic Acids* (Chap : 8)

Level - 1

SECTION - A

[1 Marks MCQ]

1. Write the I.U.P.A.C. name of the following compound:



- (A) 1-hydroxy-phenyl propenol (B) 3-benzyl prop-2-en-1-ol
(C) 1-phenyl prop-1-en-3-ol (D) 3-phenyl prop-2-en-1-ol

[Hints : CBSE – 2017]

2. Which of the following tests/reactions is given by aldehydes as well as ketones?

- (A) Fehling's test (B) Tollen's test (C) 2, 4-DNP test (D) Cannizaro reaction

[Hints : CBSE : Sample paper 2023]

3. The oxidation of toluene to benzaldehyde by chromyl chloride is:

- (A) Etard reaction (B) Riemer-Tiemann's reaction
(C) Stephen's reaction (D) Cannizaro's reaction

[Hints : NCERT, Pg - 233, Vol-II]

4. Reduction of aldehydes and ketones into hydrocarbon using zinc amalgam and conc. HCl is called:

- (A) Cope reduction (B) Dow reduction (C) Wolff ... reduction (D) Clemensen reduction

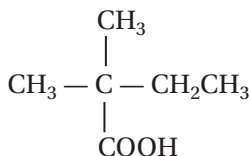
[Hints : CBSE - 2022]

5. CH_3CHO and $\text{C}_6\text{H}_5\text{CH}_2\text{CHO}$ can be distinguished chemically by:

- (A) Benedict's test (B) Iodoform test (C) Tollen's reagent test (D) Fehling's solution test

[Hints : NCERT - Vol = II, Pg 230]

6. What is the correct IUPAC name of the given compound?



- (A) 2, 2-dimethyl-butanoic acid (B) 2-carboxyl-2-methyl butane
(C) 2-ethyl-2-methylpropanoic acid (D) 3-methylbutane carboxylic acid

[Hints : CBSE - 2020]

7. In the reaction, $\text{CH}_3\text{CH}=\text{CH}-\text{CH}_2-\text{CH}_2\text{CN} \xrightarrow[\text{(ii) H}_2\text{O}]{\text{(i) AlH(iBu)}_2} ?$

Identify the product formed in the given reaction:

- Ⓐ $\text{CH}_3-\text{CH}_2\text{CH}_2\text{CHCH}_2\text{CN}$ Ⓑ $\text{CH}_3\text{CH}=\text{CH}-\text{CH}_2\text{CH}_2\text{CHO}$
Ⓒ $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CHO}$ Ⓓ None of these

[Hints : NCERT, Vol-II, Pg- 232]

8. Which of the following is most reactive in nucleophilic addition reaction?

- Ⓐ HCHO Ⓑ CH_3CHO Ⓒ $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$ Ⓓ $\text{CH}_3\text{COC}_2\text{H}_5$

[Hints : CBSE - 2023]

9. A compound (A) molecular formula $\text{C}_5\text{H}_{10}\text{O}$, forms a phenyl hydrozone and gives negative Tollen's and iodoform tests. The compound on reduction gives n-pentane. The compound (A) is:

- Ⓐ pentan-3-one Ⓑ pentanal Ⓒ pentanol Ⓓ pentan-2-one

[Hints : CBSE - 2023]

10. Which of the following does not give aldol condensation?

- Ⓐ CH_3CHO Ⓑ Cyclohexyl-CHO Ⓒ $\text{C}_6\text{H}_5\text{-CHO}$ Ⓓ $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$

[Hints : CBSE - 2023]

SECTION - B

[3 Marks CQ]

Convert the following:

11. Acetaldehyde to formaldehyde

[Hints : Oxidation, decarboxylation, oxidation]

12. Propanal to butanone

[Hints : Use Grignard's reagent]

13. Toluene to Benzoic acid

[Hints : CBSE - 2023]

14. Benzaldehyde to 1-phenyl ethanol

[Hints : CBSE - 2023]

15. Bezonitrite to acetophenone

[Hints : NCERT Pg-247-248]

16. 1, 2-dicyclohexylethene to cyclohexanone

[Hints : Ozonolysis reaction]

17. Benzoyl chloride to benzaldehyde

[Hints : NCERT, vol-II, Pg-247]

18. Benzene to benzaldehyde

[Hints : Gattermann-Koch reaction]

19. Benzene to acetophenone

[Hints : Friedelcraft's reaction]

20. Toluene to benzaldehyde

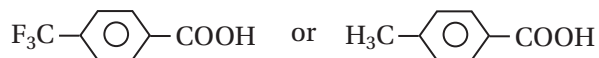
[Hints : NCERT, Vol-II, Pg-232]

SECTION - C

[5 Marks LAQ]

21. (i) Draw the structure of the 2, 4-dinitrophenyl hydrozone of benzaldehyde.

(ii) Which acid of the following pair is a stronger acid?



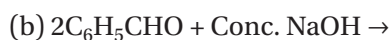
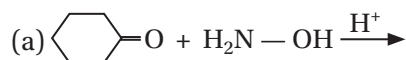
(iii) Write the chemical equation involved in Rosenmund's reaction.

(iv) Why are α -hydrogen atoms of aldehydes and ketones acidic in nature?

(v) Write a chemical test to distinguish between benzaldehyde and benzoic acid.

[Hints : CBSE - 2023]

22. (i) Write the products of the following reactions:



(ii) Give simple chemical tests to distinguish between the following pairs of compounds

(a) Benzaldehyde and benzoic acid

(b) Propanol and propanone

[Hints : All India - 2014, 2020]

23. (i) How can you convert each of the following compounds to benzoic acid?

1. acetophenone 2. ethylbenzene 3. bromobenzene

(ii) Arrange the following compounds in increasing order of their property as indicated.

1. $\text{O}_2\text{NCH}_2-\text{COOH}$, $\text{F}-\text{CH}_2\text{COOH}$, $\text{CN}-\text{CH}_2\text{COOH}$

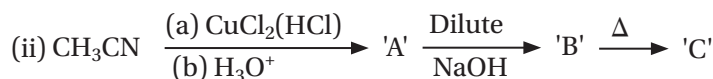
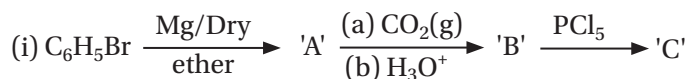
(Acidic character)

2. Ethanol, propanol, butanone, propanone

(Reactivity in nucleophilic addition reaction)

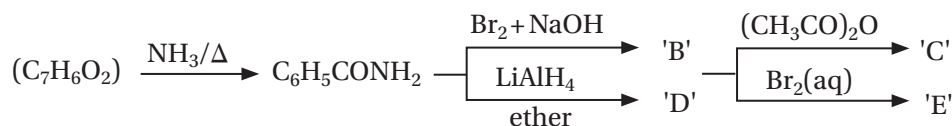
[Hints : CBSE - 2023]

24. Write structures of compounds A, B, and C in each of the following reactions:



[Hints : CBSE - 2017]

25. An aromatic compound 'A' of molecular formula $\text{C}_7\text{H}_6\text{O}_2$ undergoes a series of reactions as shown below



Identify A to E.

ANSWER

1. Ⓓ
2. Ⓒ
3. Ⓐ
4. Ⓓ
5. Ⓑ
6. Ⓐ
7. Ⓑ
8. Ⓐ
9. Ⓐ
10. Ⓒ

