

CHEMISTRY · JEE MAIN

Aldehydes & Ketones

Chapter-wise previous year questions, with answer key

11

PYQS

2021-2026

PAPERS

4

TOPICS

Preparation of Aldehydes and Ketones

Oxidation and Reduction

Nucleophilic Addition Reactions

Aldol Condensation

- 1 Attempt each question on paper first. They're grouped by topic, newest papers first.
- 2 Check yourself against the answer key at the end.
- 3 Got one wrong? Tap "Step-by-step solution" under it for the full working.

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Preparation of Aldehydes and Ketones · 6 PYQs

Q1 JEE Main 2026 · 8 Apr · Shift 2

' x ' is the product which is obtained from benzene by reacting it with carbon monoxide and hydrogen chloride in the presence of cuprous chloride. ' y ' is the major product obtained from the benzene by reacting it with ethanoyl chloride in the presence of anhydrous AlCl_3 . Product (major) obtained by heating x and y in the presence of alkali is z . Total number of π (pi) electrons in z is ____.

Numerical answer: enter the value.

[Step-by-step solution](#) ► [prepwiser.in/questions/ZcS24iBZSr](https://www.prepwiser.in/questions/ZcS24iBZSr)

Q2 JEE Main 2026 · 6 Apr · Shift 2

' x ' is the product which is obtained by the hydrolysis of prop-1-yne in the presence of mercuric sulphate under dilute acidic medium at 333 K. ' y ' is the product which is obtained by the reaction of ethane nitrile with methyl magnesium bromide in dry ether followed by hydrolysis. IUPAC name of product obtained from ' x ' and ' y ' in the presence of barium hydroxide followed by heating is :

- (A) 2 - Methylpent-4-en-3-one
- (B) 4-Methylpent-3-en-2-one
- (C) 4-Methylpent-1-ene
- (D) 2-Methylpent-3-one

[Step-by-step solution](#) ► [prepwiser.in/questions/nFf8YkmZiR](https://www.prepwiser.in/questions/nFf8YkmZiR)

Q3 JEE Main 2026 · 6 Apr · Shift 2

An optically active alkyl bromide $\text{C}_4\text{H}_9\text{Br}$, reacts with ethanolic KOH to form major compound [A] which reacts with bromine to give compound [B]. Compound [B] reacts with ethanolic KOH and sodamide to give compound [C]. One molecule of water adds to compound [C] on warming with mercuric sulphate and dilute sulphuric acid at 333 K to form compound [D]. The functional group in compound D will be confirmed by :

- (A) Haloform test
- (B) Lucas test
- (C) Silver mirror test
- (D) Benedict test

[Step-by-step solution](#) ► [prepwiser.in/questions/_vGfc7PqH_](https://www.prepwiser.in/questions/_vGfc7PqH_)

Q4 JEE Main 2026 · 6 Apr · Shift 1

Given below are two statements :

Statement I : 2, 6-diethylcyclohexanone and 6-methyl-2-n-propylcyclohexanone are metamers.

Statement II : 2, 2, 6, 6 - tetramethylcyclohexanone exhibits keto-enol tautomerism.

In the light of the above statements, choose the correct answer from the options given below

- (A) Both Statement I and Statement II are true
- (B) Both Statement I and Statement II are false
- (C) Statement I is true but Statement II is false
- (D) Statement I is false but Statement II is true

[Step-by-step solution](#) ► [prepwiser.in/questions/AW1m2CwfR_](https://www.prepwiser.in/questions/AW1m2CwfR_)

Q5 JEE Main 2026 · 24 Jan · Shift 2

Grignard reagent RMgBr(P) reacts with water and forms a gas (Q). One gram of Q occupies 1.4dm^3 at STP. (P) on reaction with dry ice in dry ether followed by H_3O^+ forms a compound (Z). 0.1 mole of (Z) will weigh ____ g. (Nearest integer)

Numerical answer: enter the value.

[Step-by-step solution ► prepwiser.in/questions/JG6IKBsk6v](https://www.prepwiser.in/questions/JG6IKBsk6v)

Solve these online with step-by-step solutions → [prepwiser.in/learn/chapter/fQL2sv4wrN/questions](https://www.prepwiser.in/learn/chapter/fQL2sv4wrN/questions)

Q6 JEE Main 2025 · 28 Jan · Shift 1

Both acetaldehyde and acetone (individually) undergo which of the following reactions?

- A. Iodoform Reaction
- B. Cannizaro Reaction
- C. Aldol Condensation
- D. Tollen's Test
- E. Clemmensen Reduction

Choose the correct answer from the options given below:

- | | |
|---------------------|---------------------|
| (A) C and E Only | (B) A, B and D Only |
| (C) A, C and E Only | (D) B, C and D Only |

[Step-by-step solution ► prepwiser.in/questions/UIWZLkdV2r](https://www.prepwiser.in/questions/UIWZLkdV2r)

Oxidation and Reduction · 2 PYQs

Q7 JEE Main 2025 · 3 Apr · Shift 1

Number of molecules from below which cannot give iodoform reaction is :

Ethanol, Isopropyl alcohol, Bromoacetone, 2-Butanol, 2-Butanone, Butanal, 2-Pentanone, 3-Pentanone, Pentanal and 3-Pentanol.

- | | |
|-------|-------|
| (A) 4 | (B) 3 |
| (C) 5 | (D) 2 |

[Step-by-step solution ► prepwiser.in/questions/89-aTljhuw](https://www.prepwiser.in/questions/89-aTljhuw)

Q8 JEE Main 2021 · 1 Sep · Shift 2

Experimentally reducing a functional group cannot be done by which one of the following reagents?

- (A) Pt-C/H_2
- (B) Na/H_2
- (C) Pd-C/H_2
- (D) $\text{Zn/H}_2\text{O}$

[Step-by-step solution ► prepwiser.in/questions/mw5ya2ecXE](https://www.prepwiser.in/questions/mw5ya2ecXE)

Nucleophilic Addition Reactions · 2 PYQs

Q9 JEE Main 2024 · 9 Apr · Shift 2

Which of the following compounds will give silver mirror with ammoniacal silver nitrate?

- A. Formic acid
- B. Formaldehyde
- C. Benzaldehyde
- D. Acetone

Choose the correct answer from the options given below :

- (A) B and C only
- (B) C and D only
- (C) A, B and C only
- (D) A only

Step-by-step solution ► [prepwisser.in/questions/CuEwmNmVPN](https://www.prepwisser.in/questions/CuEwmNmVPN)

Q10 JEE Main 2023 · 25 Jan · Shift 1

Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R :

Assertion A : Acetal / Ketal is stable in basic medium.

Reason R : The high leaving tendency of alkoxide ion gives the stability to acetal/ketal in basic medium.

In the light of the above statements, choose the correct answer from the options given below :

- (A) A is false but R is true.
- (B) Both A and R are true but R is NOT the correct explanation of A
- (C) Both A and R are true and R is the correct explanation of A
- (D) A is true but R is false.

Step-by-step solution ► [prepwisser.in/questions/iD9msSQWay](https://www.prepwisser.in/questions/iD9msSQWay)

Solve these online with step-by-step solutions → [prepwisser.in/learn/chapter/fQL2sv4wrN/questions](https://www.prepwisser.in/learn/chapter/fQL2sv4wrN/questions)

Aldol Condensation · 1 PYQs

Q11 JEE Main 2024 · 4 Apr · Shift 1

Given below are two statements :

Statements I : Acidity of α -hydrogens of aldehydes and ketones is responsible for Aldol reaction.

Statement II : Reaction between benzaldehyde and ethanal will NOT give Cross - Aldol product.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (A) Both Statement I and Statement II are incorrect
- (B) Statement I is correct but Statement II is incorrect
- (C) Both Statement I and Statement II are correct
- (D) Statement I is incorrect but Statement II is correct

Step-by-step solution ► [prepwisser.in/questions/ilrxEasdfG](https://www.prepwisser.in/questions/ilrxEasdfG)

Answer key: Aldehydes & Ketones

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Numbers match the question numbers above. For full working, open the solution link under each question.

Solve these online with step-by-step solutions → [prepwiser.in/learn/chapter/fQL2sv4wrN/questions](https://www.prepwiser.in/learn/chapter/fQL2sv4wrN/questions)

1	16	2	B	3	A	4	C	5	6	6	C	7	A	8	B
9	C	10	D	11	B										

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