

APOLLO

Carbonyl

FBISE Chemistry Class 11 (HSSC-I)

Domain E: Organic Chemistry

22 questions | questions

Original FBISE question crops. National Curriculum 2022-23 topic.

6.	The conversion of a nitrile into a carboxylic acid involves which type of reaction, and which reagent/conditions are required?	Hydrolysis using dilute acid or dilute alkali followed by acidification	Oxidation with acidified $K_2Cr_2O_7$ under reflux	Reduction with $LiAlH_4$	Neutralization with NaOH solution
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50.	Which reagent could best be used to distinguish between propanal and propanone?	$Ag(NH_3)_2^+$	Br_2 in CCl_4	2,4-dinitrophenyl hydrazine (2,4-DNPH)	$NaBH_4$ in CH_3OH
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14.	The compound which gives Silver mirror test as well as Iodoform test is:	Ethanol	Ethanal	Propanal	Propanone	☐	☐	☐	☐
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15.	Which pair of organic compounds can be distinguished by using 2, 4-DNPH?	Ethanol and Acetone	1-Propanol and 2-Propanol	Ethanal and Ethanol	Ethyl chloride and Ethyl bromide	☐	☐	☐	☐
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17.	Which of the following organic compound can be identified by Fehling solution test?	CH_3-CH_2-OH	CH_3-COOH	CH_3CH_2CHO	CH_3-CH_2-Cl	☐	☐	☐	☐
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OR	Write down the mechanism of base catalysed nucleophilic addition reaction of formaldehyde ($HCHO$) with HCN .	03
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OR	How can Iodoform test be applied for identification of aldehydes and ketones? Describe by giving chemical equations.	1.5 + 1.5
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3+3	OR	Write down a chemical reaction between CH_3COOH and CH_3OH with necessary conditions. Also write the mechanism of this reaction, explaining each step.	2+4
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15.	Aldehydes can be oxidized to:	Carboxylic acids	Ketones	Alcohols	Esters
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Describe the use of 2,4-dinitrophenylhydrazine to detect presence of carbonyl compounds.	03
Complete the given equations by identifying the	

representation.				c. Ethanol into Ethene	
Q.6 What is meant by Nucleophilic addition reactions? Write mechanism of the reaction when HCN reacts with Formaldehyde and $NaOH$ act as a base.	2+4	OR	State Le-Chatlier's Principal. How it helps to obtain maximum product in:	a. Exothermic reactions b. Endothermic reactions	2+2 +2

Q.4 How can ethanoic acid be prepared from the following? Write all reagents and conditions with chemical equation:	2x3
a. Ethanol	
b. Ethane nitrile	
c. Ethyl acetate	

Which compound will NOT give a positive Fehling's Test?	Ethanal	Methanal	Propanone	Propanal
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Ethanal is reduced by $NaBH_4$ to produce:	Ethene	Ethanol	Ethanoic acid	Ethane
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Acetone reacts with iodine and aqueous sodium hydroxide to produce:	Yellow ppt	Red ppt	Blue ppt	Green ppt
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Write equation of formation of a primary alcohol from:	1.5
a. Reduction of a carbonyl compound	+
b. Reduction of a carboxylic acid	1.5

Which carboxylic acids are produced from the following chemicals? Write all the reagents, conditions and complete chemical equation for the reactions:	2x3
a. Propane nitrite	
b. Methyl acetate	
c. Ethanal	

FBISE model paper | Section A Q1(viii) | 1 mark

viii.	Which one of the following reacts with aldehyde to give red precipitates of copper(I) oxide	Grignard's Reagent	Fehlings solution	Tollen's solution	KMnO ₄
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FBISE model paper | Section A Q1(xv) | 1 mark

xv.	Identify which reagent is used to convert ethanal into ethanol?	KMnO ₄	Zn/HCl	H ₂ SO ₄	LiAlH ₄
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FBISE model paper | Section A Q1(xvii) | 1 mark

xvii.	Identify carbonyl compound that forms an iodoform.	Propanal	Methanal	3-hexanone	Propanone
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First Annual 2026 | Section B Q2(ix) OR | 3 marks

Write down the mechanism of reaction for acid catalysed Esterification by acetic acid and ethanol.	03
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First Annual 2026 | Section C Q4 OR | 6 marks

OR	a. Write down the general mechanism of nucleophilic addition reactions of aldehydes and ketones. b. Explain the chemistry and usage of: (i) Fehling's solution test (ii) Tollens' test
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