Aldehydes, Ketones and Carboxylic Acids

1.	Which one of the	te with iodine and NaOH					
	solution?			(EAMCET-2010)			
	1) $CH_3 - CHO$	2) C	$G_6H_5COC_6H_5$ 3) HCHO	4) <i>CH</i> ₃ <i>OH</i>			
2.	What are \underline{X} and	ce?					
	C_2H_5OH — Cl_2	$\rightarrow \underline{X}$ Cl_2	$\rightarrow \underline{Y}$	(EAMCET-2009)			
	1) C ₂ H ₅ Cl, CH ₃ C	НО	2) CH ₃ CHO, CH ₃ CO ₂ H				
	3) CH ₃ CHO, CCl ₃	3СНО	4) C ₂ H ₅ Cl, CCl ₃ CHO				
3.	Acetone on addit	ion to me	ethyl magnesium bromide i	forms a complex, which on			
	decomposition with acid gives X and Mg(OH)Br. Which one of the following i						
	X ?						
	1) CH ₃ OH		2) (CH ₃) ₃ COH				
	3) (CH ₃) ₂ CHOH		4) CH ₃ CH ₂ OH	(EAMCET-2008)			
4.	Identify A and B	in the fol	lowing reaction				
	$CH_3 - CH_3 \stackrel{B}{\longleftarrow} CH_3COOH \stackrel{A}{\longrightarrow} CH_3CH_2OH$						
	A G	В		(EAMCET-2008)			
	1) HI + red P	LiAlH ₄					
	2) Ni/Δ	LiAlH ₄					
4	3) LiAlH ₄	HI + red	d P				
	4) Pb - BaSO ₄	Zn + HO	CI				
_	CH ₂ COOH — LiAll	$\stackrel{H_4}{\longrightarrow} A$					

 $A + CH_3COOH \xrightarrow{\quad H_2O^+\quad} B + H_2O$

In the above reactions 'A' and 'B' respectively, are

(EAMCET-2007)

1) $CH_3COOC_2H_5$, C_2H_5OH

- 2) CH₃CHO, C₂H₅OH
- 3) C₂H₅OH, CH₃CHO
- 4) C₂H₅OH, CH₃COOC₂H₅
- 6. An organic compound X on treatment with pyridium dichromate in dichloromethane gives compound Y. Compound Y reacts with and alkali to form idodoform. The compound X is
 - 1) C₂H₅OH

2) CH₃CHO

(EAMCET-2007)

- 3) CH₃COCH₃
- 4) CH₃COOH
- 7. What reagent is used in Rosenmund's reduction?

(EAMCET-2006)

- $_{1)}$ H_2 /Pd BaSO $_4$
- 2) LiAlH₄
- 3) NH₂-NH₂/KOH/CH₂OH-CH₂OH
- 4) Zn-Hg/HCI
- 8. Which of the products formed when acetone is reacted with barium hydroxide solution? (EAMCET-2006)

$$CH_3 - \overset{O}{C} - CH_2 - \overset{CH_3}{C} - CH_3$$

$$CH_3 - \overset{\circ}{C} - CH - CH - CH_3$$

$$CH_{3} - \overset{OH}{\overset{OH}{\overset{OH}{CH_{3}}}} - \overset{OH}{\overset{C}{\overset{CH}{CH_{3}}}} - CH_{3}$$

9.	Which of the following reagents converts both acetaldehyde and acetone to alkanes? (EAMCET 2006)						
	1)	Ni/H ₂	2) LiAIH ₄			
	3)	I ₂ /NaOH	4	Zn-Hg	/Con.HCl	I	
10.	3-I	Hydroxybutana	l is formed	when(X)	reacts with	ı (Y) in dilı	te (Z) solution.
	Wl	hat are X, Y and	d Z ?			(E)	AMCET- 2005)
		X	Y	•	\mathbf{Z}		6
	1.	CH ₃ CHO	(0	CH ₃) ₂ CO,	NaOH	\sim	•
	2	CH ₃ CHO	C	Н3СНО	NaCl	.0	•
	3.	(CH ₃) ₂ CC), ((CH ₃) ₂ CO,	HC1		
	4.	СН3СНО,	C	Н3СНО,	NaOH)	
11.	A	compound 'X' 1	undergoes r	eaction wit	h LiAIH ₄	to yield 'Y'	. When vapours
	of	'Y' are passed	over freshly	reduced o	copper at 30	00°C . 'X' is	s formed what is
	'Y'						AMCET-2005)
	1)	CH ₃ COCH ₃	C	2) C	H ₃ CHO		
	3)	CH ₃ COCH ₃ CH ₃ CH ₂ OH	2	4)	$CH_3 - O - C$	CH ₃	
12.	Wl	nich of the follo	wing reagen	nts can form	n a phenyl l	hydrazone w	ith alkanone?
	1)	$\stackrel{\oplus}{N}H_3OHC\stackrel{\oplus}{l}$		2) Phl	NHNH ₂	(E	AMCET – 2004)
	3)1	NH ₂ NHCONH ₂	2	4) HC	CN		
13. When ethyl alcohol is passed over red hot copper at the formula of the product							
	for	med is				(E)	AMCET 2003)
	1)	CH₃CHO	2) CH ₃ CO	OCH₃	$_{3)} C_{2}H_{4}$	4) CH ₃ C	СООН

14.	Acetaldehyde forms white crystalline precipitate on mixing with asolution						
	of			(EAMCET 2002)			
	1) Acidic Zn, Hg		2) Alcoholic				
	3) Saturated, aqueo	ous NaHSO ₃	4) Aqueous NaCl				
15.	The chemicals use	d for preparing acetop	henone are	(EAMCET 2002)			
	A) C ₆ H ₆ C) CH ₃ COCI		B) CH ₃ COOCH ₃				
	C) CH ₃ COCI		D) Anhydrous	C			
	1) A, B, C	2) B, C, D	3) A, C, D	4) A, B, D			
16.	Dry distillation of	a mixture of calcium a	cetate and calcium	format forms.			
				(EAMCET2001)			
	1) Methanol	2) Ethanal	3) Ethanol	4) Acetone			
17.	Which of the follo	wing converts acetone	to acetone oxime?	(EAMCET2000)			
	1) H ₂ N-NH ₂	2) 2, 4-DNP	3) C ₆ H ₅ NHNH ₂	4) NH ₂ OH			
18.	. Identify A and B in the following reaction						
	$CH_3 - CH_3 \leftarrow B$	(EAMCET-2008)					
	\mathbf{A}	В					
	1) HI + red P	LiAlH ₄					
	2) <i>Ni</i> /Δ	LiAlH4					
	3) LiAlH ₄	HI + red P					
•	4) Pb - BaSO ₄	Zn + HCl					

19. $CH_3COOH \xrightarrow{LiAlH_4} A$

$$A + CH_3COOH \xrightarrow{H_2O^+} B + H_2O$$

In the above reactions 'A' and 'B' respectively, are

(EAMCET-2007)

1) CH₃COOC₂H₅, C₂H₅OH

2) CH₃CHO, C₂H₅OH

3) C₂H₅OH, CH₃CHO

4) C₂H₅OH, CH₃COOC₂H₅

Which of the following is a pair of functional isomers? **20.**

(EAMCET2005)

1) CH₃COCH₃, CH₃CHO

2) C2H5CO2H, CH3CO2CH3

3) C₂H₅CO₂H, CH₃CO₂C₂H₅

4) CH₃CO₂H, CH₃CHO

Acid hydrolysis of X yields two different organic compounds. Which one of the **(EAMCET2003)** following is X?

1) CH₃COOH

2) CH₃CONH₂

3) CH₃COOC₂H₅ 4) (CH₃CO)₂O

22. In the reaction sequence₂H₅Cl +KCN. What is the molecular formula of Y?

(EAMCET2003)

1) $C_3H_6O_2$

3) C₂H₄O₂

23. In the following reaction, X and Y are respectively

(EAMCET2002)

 $CH_3COOH+NH_3 \rightarrow X_1^{-1}$

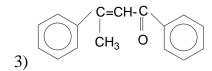
1) CH₃CONH₂, CH₄

2) CH₃COONH₄,CH₃CONH₂

3) CH₃CONH₂, CH₃COOH

4) CH₃NH₂, CH₃CONH₂

Acetophenone when reacted with a base C₂H₅ONa, yields a stable compound 24. (AIPMT 2008) which has the structure



- 25. Propanoic acid with Br_2/P yields a dibromo product. Its structure would be (AIPMT 2009)
 - 1) $CH_3 CBr_2 COOH$

- 2) $CH_2Br CH_2Br COOH$
- 3) $CHBr_2 CH_2 COOH$
- 4) $CH_2Br CH_2 COBr$
- 26. The relative reactivities of acyl compounds towards nucleophilic substitution are in the order of (AIPMT 2008)
 - 1) Acid anhydride > Amide > Ester > Acyl chloride
 - 2) Acyl chloride > ester > Acid anhydride > Amide
 - 3) Acyl chloride > Acid anhydride > Ester > Amide
 - 4) Ester > Acyl chloride > Amide > Acid anhydride
- 27. What is 'Z' in the following sequence of reactions

(AIPMT 2009)

Phenol
$$\xrightarrow{'Zn' dust} X \xrightarrow{CH_3Cl} Y \xrightarrow{Alkaline \ KMnO_4} Z$$

- 1) Benzene
- 2) Toulene
- 3) Benzaldehyde
- 4) Benzoic acid

Key

- 1) 1 2) 3 3) 2 4) 3 5) 4 6) 1 7) 1 8) 1 9) 4 10) 4
- 11) 3 12) 2 13) 1 14) 3 15) 3 16) 2 17) 4 18) 3 19) 4 20) 2
- 21) 3 22) 1 23) 2 24) 3 25) 1 26) 3 27) 4