CHEMISTRY:

Max.Marks: 60

SECTION I Single Correct Answer Type

This section contains 10 multiple choice questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

21. $C - CH_3$ $dil.H_2SO_4 \rightarrow The product formed is$

$$\begin{array}{c} C_6H_5-C-CH_3\\ OH \end{array}$$

C₆H₅

$$CH_3$$
 C_6H_5

$$D) \xrightarrow{C_6H_5} C - CH_3$$

- 22. Acetophenone can be converted to ethyl benzene using
 - A) H₂/Ni

B) Birch reduction

C) M.P.V reduction

D) Wolff kishner reduction

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23.	Formation of acetal is possible in	
	A) acidic medium	B) basic medium
	C) neutral medium	D)in both acidic and basic medium
24.	Acetaldehyde is treated with HCN and the cyanohydrin formed on hydrolysis	
	gives lactic acid. It is.	
	A)d-isomer	B) ℓ-isomer
	C) d, \(\ell \) mixture	D) meso isomer
25.	Condensation reactions with NH ₂ OH, NH ₂ NH ₂ etc taking place with aldehydes	
	and ketones take place at pH	
	A) 7 B) above	e 7 C) around 4 D) 1
26.	Which is more convenient to reduce group O (without affecting Br) in $CH_2Br - CH_2 - CHO$	
	A) clemmensen	B) Wolff-kishner
	C) mozingo	D) All
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The product formed in the following reaction is 27.

$$\begin{array}{c|c} C_6H_5 - C - C - CH_3 \\ \parallel & \parallel \\ O & O \end{array} \xrightarrow{\begin{array}{c} 1.NaOH, \Delta \\ 2.H_3O^+ \end{array}}$$

C₆H₅ - COCH-CH₃ A) ÓН

 $C_6H_5CHCOCH_3$ B) ÓН ОН C₆H₅C COOH ĊН₃

D)

- C) C₆H₅COOCOCH₃
- The reagent required to convert C₆H₅CN to C₆H₅COCH₃ is 28.
 - A) $DIBAL H, H_3O^+$

B) LiAlH₄, CH₃I

C) $dil.H_2SO_4, CH_2N_2$

- D) CH_3MgBr, H_2O, H^+
- $C_6H_5 CH = CH CHO \xrightarrow{NaBH_4}$. The product formed is 29.
 - A) $C_6H_5CH_2CH_2CH_2OH$
- B) $C_6H_5CH = CH CH_2OH$

C) $C_6H_5CH_7CH_7CHO$

D) C₆H₅CH₂CHOHCH₃

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- 30. Acetaldehyde, when treated with aluminium ethoxide gives
 - A) CH₃CHOHCH₂CHO
- B) CH₃COCH₂CH₃
- C) CH₃COCH₂COOC₂H₅
- D) CH₃COOC₂H₅

SECTION II

Multiple Correct Answer(s) Type

This section contains 5 multiple choice questions. Each question has four choices (A), (B), (C) and (D) out of which ONE or MORE are correct.

$$\begin{array}{c}
 & CH_2OH \\
 & HOH_2C \longrightarrow C \longrightarrow CH_2OH \\
 & CH_2OH \longrightarrow CH_2OH
\end{array}$$

$$\begin{array}{c}
 & CH_2OH \\
 & CH_2OH \longrightarrow CH_2OH
\end{array}$$

- 31. $CH_3CHO \frac{HCHO.(excess)}{OH}$
- The reactions involved are.

A) aldol

B) cannizzaro

C) KOH

- D) KOH LAH
- 32. Acetaldehyde and formaldehyde can be distinguished with
 - A) Cl₂, NaOH

B) K₂Cr₂O₇, Con.H₂SO₄

C)Benedict solution

D)2,4-DNPH

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Acetaldehyde is obtained from which of the following reactions? 33.

$$CH_3 - C - O C_2H_5$$
 $1.DIBAL-H$
A) O

B)
$$CH_3CH = CH - CH_3 \xrightarrow{1.O_3} \xrightarrow{2.Zn, H_2O}$$

C)
$$(CH_3COO)_2 Ca + (HCOO)_2 Ca \xrightarrow{\Delta}$$
 D) $CH_3 - C \equiv N \xrightarrow{1.SnCl_2, HCl} \xrightarrow{2.H.O^+}$

D)
$$CH_3 - C = N \frac{1.SnCl_2, HCl}{2.H.O^+}$$

A) a dicarboxylic acid

34.

B) a phenolic acid

C) a hydroxy acid

- D) a diol
- Aldehydes and ketones can be identified by using 35.
 - A) 2,4-dinitro phenyl hydrazine
- B) semicarbazide

C) Hydroxyl amine

D)Hydrazine

SECTION III Integer Answer Type

This section contains **5 questions**. The answer to each question is single digit integer, ranging from 0 to 9 (both inclusive).

- 36. How many of the following give stable hydrates formaldehyde, cyclopropanone, ninhydrin acetone, hexafluoro acetone.
- 37. How many of the following are more reactive than benzaldehyde towards nucleophilic addition p-methylbenzaldehyde, p-nitrobenzaldehyde, p-anisaldehyde
- 38. Acetaldehyde gives a product with con.H₂SO₄. The number of oxygen atoms present in the product are.

39. CH₂OH Number of formaldehyde molecules formed is

$$H-C-H+D-C-D$$
 $Cannizaro\ reaction$

40. O Ö . How many different alcohols may be formed theoretically in this reaction.

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