

CHEMISTRY

BOOKS - CAREER POINT

PRACTICE TEST - 5

Chemistry

1. An optically active compound 'X' has molecular formula $C_4H_8O_3$. It evolves CO_2 with aq. $NaHCO_3$. X' reacts with $LiAlH_4$ to give achiral compound. 'X' is -

A.
$$CH_3CH_2\ C\ HCOOH$$

B.
$$CH_3$$
 C $HCOOH$
 OMe

C.
$$CH_3$$
 C $HCOOH$ CH_2OH

D.
$$CH_3$$
 C HCH_2COOH

Answer: C



- 2. $2CH_3COC_2H_5 \xrightarrow{C_2H_3ONa}$ A, A is formed by claisen condensation. Which is/are true about A ?
- (a) A forms oximes (b) A Shows tautomerism (c) A shows iodoform test
 - A. a and b
 - B. b and cs
 - C. a and c

D. a,b and c

Answer: D



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3. $CHCl_3 + KOH + CH_3NH_2 \rightarrow CH_3NC$

This reaction is called as -

- A. Frankland reaction
- B. Carbylamine reaction
- C. Wurtz reaction
- D. Finkelstein reaction

Answer: B



4. Product of bromination of propene with N-bromosuccinimide will be

A.
$$CH_3-C=CH_2 \ \stackrel{|}{\underset{Br}{|}}$$

$$\mathsf{B.}\,Br-CH_2-CH=CH_2$$

C.
$$CH_3 - CH - CH_2 - Br$$

D.
$$Br - CH_2 - CH = CHBr$$

Answer: B



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5. Which of the following is least reactive in a nucleophilic reaction?

A.
$$(CH_3)_2CH-Cl$$

$$\operatorname{B.}CH_2=CH-Cl$$

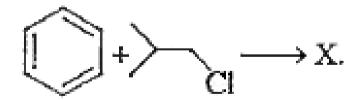
$$\mathsf{C}.\,CH_3CH_2Cl$$

$$\mathsf{D.}\,CH_2=CH-CH_2Cl$$

Answer: B

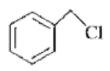


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6.

Compound x is-



A.



В.



D.

Answer: D



7. Iodoform cannot be prepared by reacting which the following with NaOH and iodine

- A. CH_3OH
- B. CH_3CH_2OH
- C. CH_3CHO
- D. $(CH_3)_2CO$

Answer: A



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8. Which of the following is responsible for the higher boiling point of an alcohol than that of an alkyl halide of comparable molecular mass

- A. Vander Waals attraction
- B. Dipole-dipole attraction
- C. Intermolecular hydrogen bonding
- D. Dipole-induced dipole attraction

Answer: C



- **9.** Glycol when treated with aq. HIO_4 the product formed is -
 - A. Only acetone
 - B. Only methanal
 - C. Only ethanoic acid
 - D. Mixture of (1) and (2)

Answer: B



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10. Williamson's synthesis involves -

- A. SN^1 mechanism
- B. Nucleophilic addition reaction
- C. SN^2 mechanism
- D. S_E mechanism

Answer: C



$$C_2H_5MgBr + O$$

$$CH_2-CH_2 \xrightarrow{H_3O^*} Product$$

11.

The product formed in the above reaction will be -

A.
$$C_2H_5CH_2OH$$

B.
$$C_2H_5CHO$$

C.

D.
$$C_2H_5CH_2CH_2OH$$

Answer: D



12. Which of the following reaction will yield, 2-Propanol?

A.
$$CH_3-CHO \xrightarrow{CH_3MgBr} \stackrel{H_2\frac{\emptyset}{H^+}}$$

$$\mathsf{B.}\, HCHO \xrightarrow{CH_3MgBr}_{H_2\frac{\emptyset}{H^+}}$$

C.
$$CH_2 = CH - CH_3 \stackrel{BH_3}{\longrightarrow}_{H_2O_2/OH}$$

D.
$$CH_2 = CH_2 \stackrel{\mathrm{dil}}{\longrightarrow}_{KMnO_4}$$

Answer: A



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13. Which of the following alkene and alcohol are needed to prepare di-iso propyl ether by alkoxy mercuration-demercuration method -

A.
$$CH_2=CH_2, CH_3-\mathop{CH}\limits_{OH}-CH_3$$

$$\mathsf{B.}\,CH_3-CH=CH_2,CH_3CH_2CH_2OH$$

C.
$$CH_3-\stackrel{CH_3}{C}=CH_2,$$
 $CH_3-\stackrel{C}{C}H-CH_3$

D.
$$CH_3-CH=CH_2, CH_3-CH-CH_3$$

Answer: D



14. The compound which gives most stable carbocation on dehydration with an acid is -

B.
$$CH_3CH_2CH_2CH_2OH$$

C.
$$CH_3 - CH - CH_2CH_3$$

D.
$$CH_3-\mathop{C}\limits_{CH_3}^{\dag}H-CH_2OH$$

Answer: A



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15. There are four alcohols, P, Q, R and S which have 3, 2, 1 and zero alpha hydrogen atom (s) respectively. Which does not give the Victor-Meyer's test?

A. Q

B. P

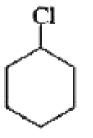
C.R

Answer: D



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16. Which of the following will be the least reactive towards nucleophilic substitution ?



В.

C.

D. C_2H_5Cl

Answer: C



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17. A new carbon-carbon bond formation is involve in

A. Cannizzaro reaction

B. Friedel Crafts alkylation

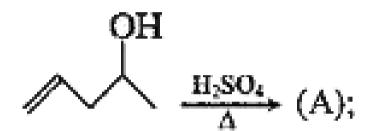
C. Clemmensen reduction

D. All the above

Answer: B



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18.

Product (A) is -

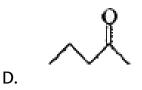


A.





C.

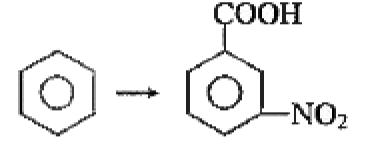


Answer: B



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19. Which is the best method for carrying out the following reaction -



A. $HCOOH, HNO_3/H_2SO_4$

B. $CH_{3}Cl/AlCl_{3},\,HNO_{3}/H_{2}SO_{4},\,KMnO_{4}/H^{+}\,$ heat

C. $CH_{3}Cl/AlCl_{3}, KMnO_{4}/H^{+}$, heat , $HNO_{3}/H_{2}SO_{4}$

D. $HNO_3 \, / \, H_2SO_4, \, CH_3Cl \, / \, AlCl_3, \, KMnO_4 \, / \, H^{\, +} \,$, heat

Answer: C



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20. Which of the following give positive isocyanide test?



A.

B. $CH_3 - NH_2$

C. $CH_3 - NH - CH_3$



Answer: B

D.



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21. Acetophenone is formed from the oxidation of -

A. β -phenyl ethylalcohol

B. 2-phenyl-1-propanol

C. 1-phenyl-2-propanol

D. 1-phenyl ethanol

Answer: D



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22.
$$CH_2OH.CH_2OHVHCl \rightarrow A \xrightarrow{NaBH_4} B \xrightarrow{H_2O^+}$$

C, the end product C will be

A.

В.

Answer: D



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23. The correct order of reactivity of PhMgBr with

A.
$$I > II > III$$

$$\mathsf{B}.\,III>II>I$$

$$\mathrm{D.}\,I > III > II$$

Answer: C



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24. Insulin regulates the metabolism of:

A. minerals

B. amino acids

C. glucose

D. vitamins

Answer: C



25. Base catalysed aldol condensation occurs in

- A. Benzaldehyde
- B. 2-methyl propanal
- C. 2,2-Dimethyl propanal
- D. None of these

Answer: B



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26. In the Cannizzaro reaction given below:

$$2Ph-CHO \stackrel{OH^-}{\longrightarrow} PhCH_2OH + PhCO_2^-$$

the slowest step is -

- A. The attack of OH at the carbonyl group
- B. The transfer of hydride ion to the carbonyl group
- C. The abstraction of proton from carboxylic acid
- D. The deprotonation of $PhCH_2OH$

Answer: B



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27. The compound which gives a crystalline product on reaction with sodium bisulphite and reduces ammoniacal silver nitrate is -

- A. CH_3CH_2CHO
- B. CH_3CH_2OH

C.
$$CH_3 - C - CH_2CH_3$$
 O
 O
 O
 O
 O
 O
 O
 O

Answer: A



28. Which of the following is weakest acid among the following

$${\rm B.}\,HC\equiv CH$$

$$\mathsf{C}.\,H_2CO_3$$

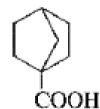
D.
$$C_2H_5OH$$



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29. In the following reaction, the product is:

A.



В.

C.

Answer: D

D.



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30. What will be the product when ethyl acetate is treated with sodium ethoxide in ethanol?

- A. Aspirin
- B. Malonic ester
- C. Ethyl butyrate
- D. Aceto acetic ester

Answer: D

31. Which of the following order is incorrect?

A.
$$HCOOH > CH_3COOH > CH_3CH_2COOH$$
 -(acidic nature)

B. Benzamide < aniline < cyclohexylamine -(acidic nature)

$$\mathsf{C.}\ FCH_2COOH > ClCH_2COOH > BrCH_2COOH$$
 - (acidic nature)

Answer: D



32.
$$CH_3COOAg + Br_2 \xrightarrow{\Delta} CH_3Br + CO_2 + AgBr$$

The above reaction is known as

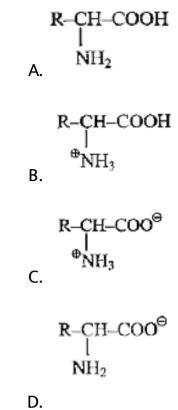
- A. Hunsdiecker reaction
- B. Wurtz-Fittig reaction
- C. Mustard oil reaction
- D. Hofmann bromamide reaction

Answer: A



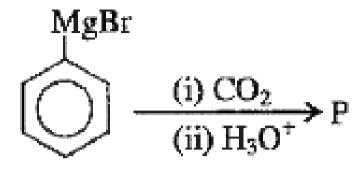
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33. At the isoelectric point for amino acid, the species present



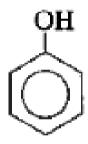
Answer: C



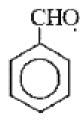


34.

In the above reaction, product 'P' is -



A.



C.

Answer: B

D.



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35. The reaction

$$RCH_2CH_2COOH \xrightarrow{Red P} R-CH_2-CH-COOH Br$$

is called as -

- A. Reimer-Tiemann reaction
- B. Sandmeyer reaction
- C. Cannizzaro reaction

D. Hell-Volhard Zelinsky reaction

Answer: D



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$$\begin{array}{c} CH_3CH_2CI \xrightarrow{KCN} X \xrightarrow{Ni/H_2} Y \\ \xrightarrow{\text{scetic}} Z \\ \xrightarrow{\text{anhydride}} Z \end{array}$$

'Z' in the above reaction sequence is -

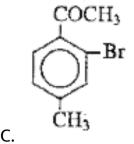
- A. $CH_3CH_2CONHCOCH_3$
- B. $CH_3CH_2CH_2NHCOCH_3$
- C. $CH_3CH_2CH_2CONHCH_3$
- D. $CH_3CH_2CH_2NH_2$

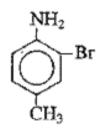


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37. The final end product (C) obtained in this reaction

$$\begin{array}{c}
\stackrel{\text{NH}_2}{\longrightarrow} \\
\stackrel{Ac_2O}{\longrightarrow} (A) \xrightarrow{Bc_2} \\
\stackrel{H_2O}{\longrightarrow} (B) \xrightarrow{H_2O} \\
\stackrel{H^+}{\longrightarrow} (C)
\end{array}$$





Answer: D

D.



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38. $CH_3CH_2NH_2$ and $CH_3-NH-CH_3$ are

A. Functional isomers

B. Position isomers

C. Enantiomers

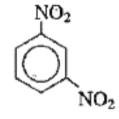
D. Geometrical isomers

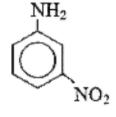
Answer: A



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39. The major product (70% to 80%) of the reaction between m-dinitrobenzene with NH_4HS is -





В.

A.

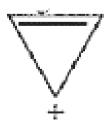
Answer: B

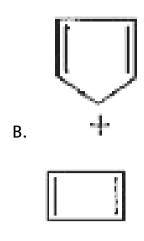


A.

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40. Among the following the aromatic compound is -





C.



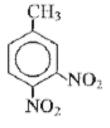
D.

Answer: A



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41. p-nitrotoluene on further nitration gives :



A.

В.

$$O_2N \bigvee O_2$$

$$NO_2$$

C.

D.
$$O_2N$$
 O_2

Answer: B



42. Which one of the following monomers gives the polymer neoprene on polymerization -

A.
$$CH_2 = CHCl$$

B.
$$CH_2=\stackrel{CH_3}{\stackrel{}{C}}-CH=CH_2$$

C.
$$CH_2=\overset{Cl}{\overset{}{C}}-CH=CH_2$$

$$\operatorname{D.}CF_2=CF_2$$

Answer: C



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43. Acetylation of milk sugar give -

A. Hepta-Acetyl product

B. Octa-Acetyl product

C. Hexa-Acetyl product

D. Glucosazone & Glucosone

Answer: B



A.

Λ.

$$H_2C=CH-\overset{Cl}{C}=CH_2 \ \ ext{and} \ \ H_2C=CH-CH=CH_2$$

B.
$$H_2C=CH-CH=CH_2 \,\, ext{and}\,\, H_5C_6-CH=CH_2$$

 $\mathsf{C.}\,H_2C=CH-CN\, ext{ and }\,H_2C=CH-CH=CH_2$

D.
$$H_2C=CH-CN$$
 and $H_2C=CH-\mathop{C}\limits_{CH_3}=CH_2$

Answer: C

