

QB365 Question Bank Software Study Materials

Carbonyl Compounds and Carboxylic Acids 50 Important 1 Marks Questions With Answers (Book Back and Creative)

12th Standard

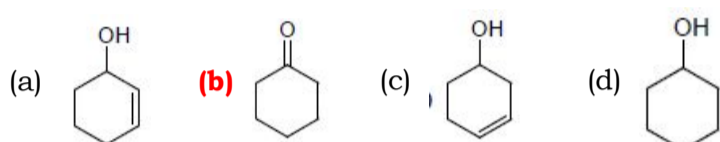
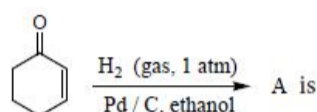
Chemistry

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

1) The correct structure of the product 'A' formed in the reaction _____.



2) The formation of cyanohydrin from acetone is an example of _____.

(a) nucleophilic substitution (b) electrophilic substitution (c) electrophilic addition (d) **Nucleophilic addition**

3) Reaction of acetone with one of the following reagents involves nucleophilic addition followed by elimination of water. The reagent is _____.

(a) Grignard reagent (b) Sn / HCl (c) **hydrazine in presence of slightly acidic solution** (d) hydrocyanic acid

4) In the following reaction, $HC \equiv CH \xrightarrow[HgSO_4]{H_2SO_4} X$ Product 'X' will not give _____.

(a) Tollen's test (b) **Victor meyer test** (c) Iodoform test (d) Fehling solution test

5) $CH_2 = CH_2 \xrightarrow[zn/H_2O]{i)O_3} X \xrightarrow{NH_3} Y 'Y'$ is _____.

(a) Formaldehyde (b) di acetone ammonia (c) **hexamethylene tetraamine** (d) oxime

6) Predict the product Z in the following series of reactions Ethanoic acid $\xrightarrow{PCl_5} X \xrightarrow[Anhydrous AlCl_3]{C_6H_6} Y \xrightarrow[II)H_3O^+]{1)CH_3MgBr} Z$.

(a) **$(CH_3)_2 C(OH)C_6H_5$** (b) $CH_3CH(OH)C_6H_5$ (c) $CH_3CH(OH)CH_2-CH_3$ (d)

7) Which of the following represents the correct order of acidity in the given compounds

(a) $FCH_2COOH > CH_3COOH > BrCH_2COOH > ClCH_2COOH$ (b) **$FCH_2COOH > ClCH_2COOH > BrCH_2COOH > CH_3COOH$**

(c) $CH_3COOH > ClCH_2COOH > FCH_2COOH > Br-CH_2COOH$ (d) $Cl CH_2COOH > CH_3COOH > BrCH_2COOH > ICH_2COOH$

8) Benzoic acid $\xrightarrow[i)\Delta]{ii)NH_3} A \xrightarrow{NaOBr} B \xrightarrow{NaNO_2/HCl} C$ 'C' is _____.

(a) anilinium chloride (b) O - nitro aniline (c) **benzene diazonium chloride** (d) m- nitro benzoic acid

9) Ethanoic acid $\xrightarrow{P/Br_2}$ 2-bromoethanoic acid. This reaction is called _____.

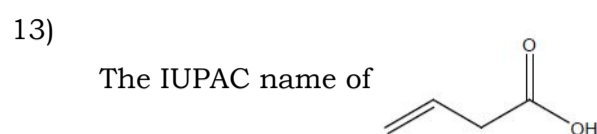
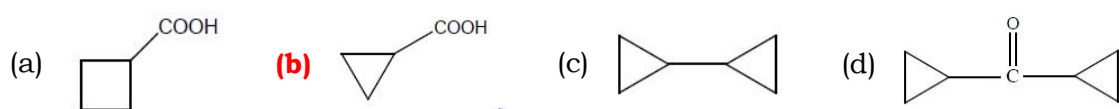
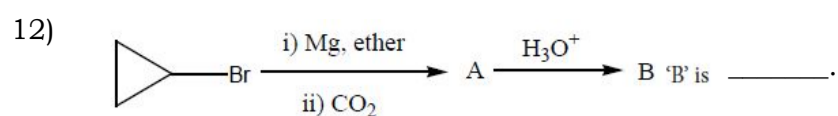
(a) Finkelstein reaction (b) Haloform reaction (c) **Hell - Volhard - Zelinsky reaction** (d) none of these

10) $CH_3Br \xrightarrow{KCN} (A) \xrightarrow{H_2O^+} (B) \xrightarrow{PCl_5} (C)$ product (c) is _____.

(a) **acetylchloride** (b) chloro acetic acid (c) α - chlorocyno ethanoic acid (d) none of these

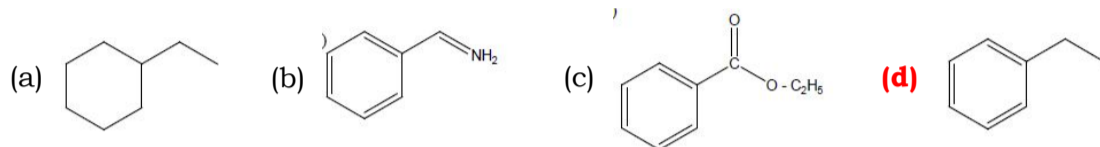
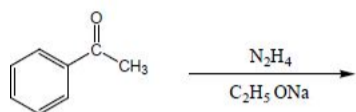
11) Which one of the following reduces tollens reagent

(a) **formic acid** (b) acetic acid (c) benzophenone (d) none of these

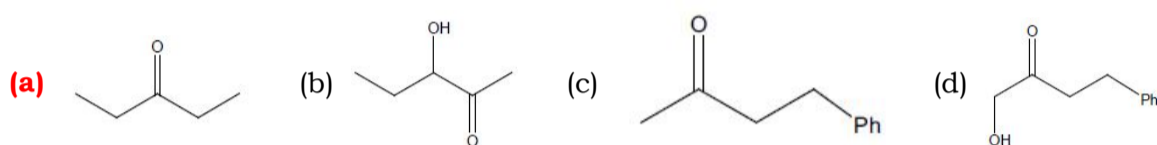


- (a) **but - 3- enoicacid** (b) but - 1- ene-4-oic acid (c) but - 2- ene-1-oic acid (d) but -3-ene-1-oicacid

14) Identify the product formed in the reaction



15) In which case chiral carbon is not generated by reaction with HCN?



16) Which one of the following reaction is an example of disproportionation reaction.

- (a) Aldol condensation (b) **cannizaro reaction** (c) Benzoin condensation (d) none of these

17) Which one of the following undergoes reaction with 50% sodium hydroxide solution to give the corresponding alcohol and acid.

- (a) **Phenylmethanal** (b) ethanal (c) ethanol (d) methanol

18) The reagent used to distinguish between acetaldehyde and benzaldehyde is _____.

- (a) Tollens reagent (b) **Fehling's solution** (c) 2,4 - dinitrophenyl hydrazine (d) semicarbazide

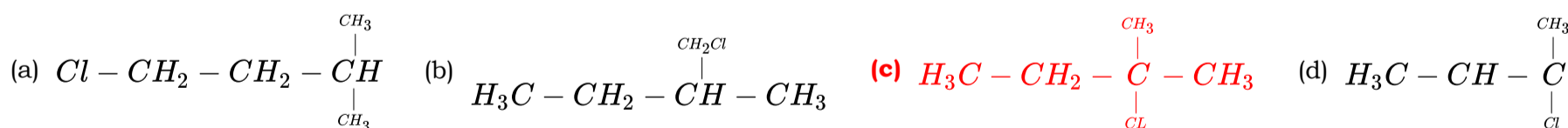
19) Phenyl methanal is reacted with concentrated NaOH to give two products X and Y. X reacts with metallic sodium to liberate hydrogen X and Y are _____.

- (a) sodium benzoate and phenol (b) Sodium benzoate and phenyl methanol (c) **phenyl methanol and sodium benzoate** (d) none of these

20) In which of the following reactions new carbon - carbon bond is not formed?

- (a) Aldol condensation (b) Friedel craft reaction (c) Kolbe's reaction (d) **Wolf kishner reduction**

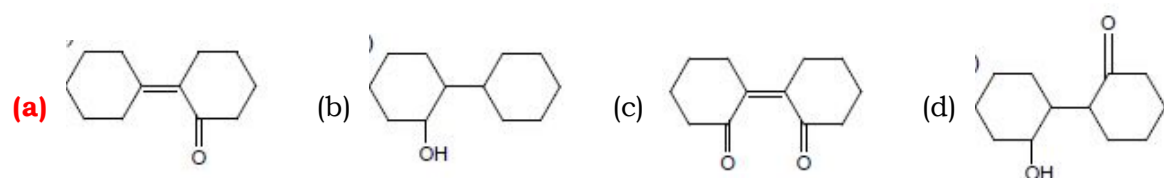
21) An alkene "A" on reaction with O₃ and Zn - H₂O gives propanone and ethanol in equimolar ratio. Addition of HCl to alkene "A" gives "B" as the major product. The structure of product "B" is _____.



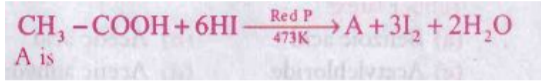
22) Carboxylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecular mass. It is due to their _____.

- (a) more extensive association of carboxylic acid via van der Waals force of attraction (b) formation of carboxylate ion (c) formation of intramolecular H-bonding (d) **formation of intermolecular H - bonding**

23) Of the following, which is the product formed when cyclohexanone undergoes aldol condensation followed by heating?



- 24) Which among the following on oxidation with alk.KMnO₄ will give butanone?
 (a) Butan -1- ol **(b) Butan - 2-ol** (c) Both (a) and (b) (d) Neither (a) nor (b)
- 25) The formation of cyanohydrin from a ketone is an example of _____.
 (a) electrophilic addition **(b) nucleophilic addition** (c) nucleophilic substitution (d) electrophilic substitution
- 26) Calcium acetate + calcium benzoate $\xrightarrow{\text{distillation}}$ gives _____.
 (a) benzophenone (b) benzaldehyde **(c) acetophenone** (d) phenyl benzoate
- 27) Give the structure of 3-phenyl-2-propanal _____.
 (a) CH₂=CH-CHO (b) CH₃CHOH-CH₂CHO **(c) C₆H₅CH=CH-CHO** (d) CH₃-CH=CH-CHO
- 28) Acetic acid when heated with HI/P gives _____.
 (a) methane **(b) ethane** (c) propane (d) acetaldehyde
- 29) Toluene is oxidised by acidified KMnO₄ to _____.
 (a) salicylic acid (b) benzyl alcohol (c) benzaldehyde **(d) benzoic acid**
- 30) Reduction of RCHO to RCH₃ by N₂H₄ in C₂H₅ONa is _____ reaction.
 (a) Stephen reduction (b) Catalytic reduction (c) Clemmensen reduction **(d) Wolff-kishner reduction**
- 31) Benzaldehyde condenses with N, N - dimethyl aniline in the presence of strong acid to give _____.
 (a) Benzal aniline (b) Cinnamic acid (c) Schiff's base **(d) Malachite green dye**
- 32) The common and IUPAC name of HOOC - (CH₂)₄ - COOH is _____.
 (a) Glutaric acid, hexanedioic acid (b) Glutaric acid, pentanedioic acid **(c) Adipic acid, hexanedioic acid**
 (d) Adipic acid, pentanedioic acid
- 33) Partial reduction of acetic acid in the presence of LiAlH₄ results in the formation of _____.
 (a) ethane **(b) ethanol** (c) ethene (d) ethyne
- 34) acid chloride + alcohol \rightarrow ?.
 (a) acids (b) amides **(c) esters** (d) amines
- 35) The structure that refers methyl phenyl carbinol is _____.
 (a) C₆H₅CH₂OH (b) C₆H₅COCH₃ **(c) C₆H₅CH OH CH₃** (d) C₆H₅CH₂CH₃
- 36) On fusion with KOH benzophenone undergoes _____, and gives potassium benzoate and _____.
 (a) disproportionation reaction, toluene (b) condensation reaction, toluene **(c) disproportionation reaction, benzene**
 (d) condensation reaction, benzene
- 37) CH₃-CH₂-CH₂-CH₂-CHO and $\begin{matrix} CH_3 \\ | \\ CH_3 - C - CHO \\ | \\ CH_3 \end{matrix}$ exhibit _____ isomerism.
 (a) positional (b) geometrical (c) functional **(d) chain**
- 38) Aldehydes and ketones are reduced to hydrocarbons by zinc amalgam and cone.HCl. This is_____ reaction.
(a) Clemmenson's reduction (b) Wolff krishner reduction (c) Rosenmunds reduction (d) catalytic reduction

- 39) The hybridisation of carbon in CHO group is _____.
- (a) dsp^2 (b) sp^3 (c) **sp^2** (d) sp
- 40) A cyanohydrin of a compound X on hydrolysis gives lactic acid. X is _____.
- (a) HCHO (b) **CH_3CHO** (c) $(CH_3)_2CO$ (d) $C_6H_5CH_2CHO$
- 41) The basic catalyst used in Knoevenagel reaction?
- (a) NaOH (b) aniline (c) **pyridine** (d) Schiff's base
- 42) Which one of the following answers Schiff's test?
- (a) **Acetone** (b) Acetophenone (c) Benzophenone (d) Butanone
- 43)  $CH_3-COOH + 6HI \xrightarrow[473K]{Red P} A + 3I_2 + 2H_2O$
A is
- (a) CH_3-CH_2OH (b) CH_3-CHO (c) **CH_3-CH_3** (d) $CH_3-CH_2-CH_2-OH$
- 44) A stronger acid will have _____ K_2 value but _____ PK_2 value
- (a) **higher but smaller** (b) smaller but higher (c) smaller but smaller (d) higher but higher
- 45) Acetamide is _____ in nature
- (a) basic (b) acidic (c) **amphoteric** (d) neutral
- 46) Ethylacetate reacts with methanol, the product is
- (a) propyl acetate (b) acetaldehyde (c) **methyl acetate** (d) acetic acid
- 47) IUPAC name of glucoric acid is
- (a) butane dioic acid (b) propane dioic acid (c) **pentane dioic acid** (d) hexane dioic acid
- 48) IUPAC name of benzoic acid is
- (a) hexanoic acid (b) hexane dioic acid (c) **phenyl methanoic acid** (d) pentanoic acid
- 49) Preparation of aldehydes from calcium salt of fatty acids one of the reactant should be
- (a) calcium acetate (b) **calcium formate** (c) calcium benzoate (d) sodium acetate
- 50) Fehling's solution 'A' contains
- (a) **Aqueous copper sulphate** (b) Sodium potassium tartrate (c) Aqueous silver nitrate (d) Schiff's reagent