



CHEMISTRY

BOOKS - MARVEL CHEMISTRY (HINGLISH)

ALDEHYDES, KETONES AND CARBOXYLIC ACIDS

MULTIPLE CHOICE QUESTIONS

1. Which of the following does not have alpha hydrogen ?

- A. Formaldehyde
- B. Acetaldehyde
- C. Phenyl acetaldehyde
- D. Acetone

Answer: A



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2. Almonds contain which carbonyl compound ?

- A. Acetaldehyde
- B. Benzaldehyde
- C. Muscone
- D. Cinnamaldehyde

Answer: B



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3. An aldehydic group can be present

- A. only at the second carbon atom of carbon chain
- B. in between carbon chain
- C. only at the end of chain

D. at any place in carbon chain

Answer: C



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4. A ketone group can be present

A. only at the second carbon atom of carbon chain

B. in between carbon chain

C. only at the end of carbon chain

D. at any place in carbon chain

Answer: B



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5. The general formula $C_nH_{2n}O$ represents

A. alcohols

B. only ketones

C. only aldehydes

D. aldehydes and ketones

Answer: D



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6. Carbon of carbonyl compound is _____ hybridised and make the bond angle with -R and =O is _____

A. sp^2 , 90°

B. sp^3 , 120°

C. sp^2 , 120°

D. sp , 180°

Answer: C

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7. $(CH_3)_2C = O$ is called

- A. acetone
- B. acrolein
- C. dimethyl ketone
- D. propanone

Answer: D

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8. Aldehyde may be defined as

- A. first oxidation of primary alcohol
- B. first oxidation product of secondary alcohol
- C. an organic compound containing -CHO group

D. Both (a) and (c)

Answer: D



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9. Which one of the following formulae represent a ketone ?

A. 

B. 

C. 

D. 

Answer: A



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10. The aldehyde and ketone are examples of

A. functional isomers

B. chain isomers

C. position isomers

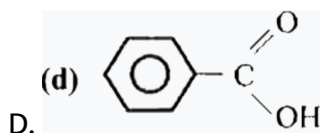
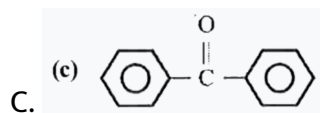
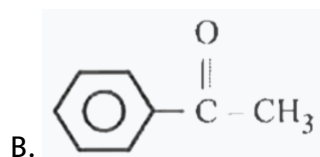
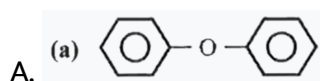
D. metamers

Answer: A



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11. Which of the following is structure of benzophenone ?



Answer: C



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12. The compound which is not isomeric with diethyl ether is :

A. n-propyl methyl ether

B. butane-1-ol

C. 2-methyl propan-2-ol

D. butanone

Answer: D



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13. Acetone is

A. Symmetrical ketone

B. Asymmetric ketone

C. Mixed ketone

D. Carboxylic acid

Answer: A



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14. Which of the following are functional isomers ?

A. $CH_3 - CHO$ and $CH_3 - CO - CH_3$

B. $CH_3 - CO - CH_3$ and $C_2H_5 - CHO$

C. $HCHO$ and $CH_3 - OH$

D. CH_3CHO and C_2H_5CHO

Answer: B



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15. Acetone is isomeric to

- A. n-propyl alcohol
- B. ethyl methyl ether
- C. propanal
- D. isopropyl alcohol

Answer: C



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16. In ketones, the isomerism starts having number of carbon atoms

- A. 2
- B. 3
- C. 4
- D. 5

Answer: B



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17. The acid which contains the aldehyde group is

- A. acetic acid
- B. formic acid
- C. benzoic acid
- D. propionic acid

Answer: B



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18. Aldehydes and ketones are

- A. Chain isomers

B. Functional isomers

C. position isomers

D. Optical isomers

Answer: B



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19. The IUPAC name of a 2 methyl butyraldehyde is

A. ethanol

B. methanol

C. 3-methylbutane

D. 2-methyl butanal

Answer: D



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20. Aldehydes derive their common name on the basis of their

- A. primary structure
- B. secondary structure
- C. acid forming property
- D. alcohol forming property

Answer: C



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21. The molecular formula of propanal is

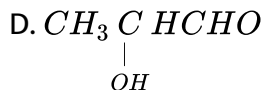
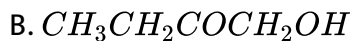
- A. HCHO
- B. CH_3CHO
- C. $\text{CH}_3\text{CH}_2\text{CHO}$
- D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$

Answer: C



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22. Which of the following represents 1-hydroxy propanone ?



Answer: A



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23. IUPAC name of $CH_3CH_2COCH_3$ is _____.

A. 2-butanal

B. 1-butanal

C. 1-butanone

D. 2-butanone

Answer: D



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24. Which of the following is the formula of a saturated aliphatic aldehyde ?

A. $C_5H_{11}O$

B. $C_6H_{13}O$

C. $C_5H_{10}O$

D. $C_6H_{14}O$

Answer: C



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25. IUPAC name of $CH_3CH_2CH_2COCH_3$ is

- A. Methyl -propyl ketone
- B. Pentan-2-one
- C. Pentan-3-one
- D. 2-Methyl butanone

Answer: B



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26. The IUPAC name of the compounds

$CH_3CH(OH)CH_2CH(CH_3)CHO$ is :

- A. 2-hydroxy-4-methyl pentanal
- B. 3-hydroxy-2-methyl butanal
- C. 4-hydroxy-2-methyl pentanal

D. 3-hydroxy-2-methyl pentanal

Answer: C



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27. The IUPAC name of diethyl ketone is

A. Butanone

B. Pentan-2-one

C. Pentan-3-one

D. Pentanone

Answer: C



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28. The IUPAC name of crotonaldehyde is

A. Propanal

B. But-2-en-1al

C. But-1-en-2-al

D. Pent-2-en-1-al

Answer: B



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29. Methyl n-propyl ketone has IUPAC nomenclature as _____.

A. 2-pentanone

B. 2-butanone

C. 3-pentanone

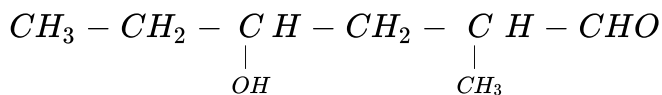
D. 2-butyraldehyde

Answer: A



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30. The IUPAC name of the following compound will be



- A. 1-hydroxy-2-ethyl-hexanal
- B. 4-hydroxy-2-methyl-hexanal
- C. 3-hydroxy-2-pheneyl-hexanal
- D. 2-hydroxy-4-methyl-pentanal

Answer: B



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- A. β - hydroxybutyraldehyde
- B. β -hydroxy acetaldehyde

C. α – hydroxy butyraldehyde

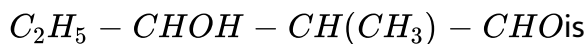
D. diacetone alcohol

Answer: A



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32. The IUPAC name of the compound



A. 2-Hydroxy-3-methyl pentanal

B. 3-hydroxy-2-methyl butanal

C. 4-Hydroxy pentanal

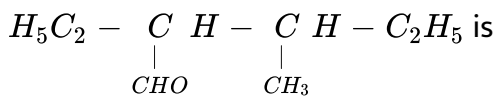
D. 3-Hydroxy pentanal

Answer: B



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33. The IUPAC name of :



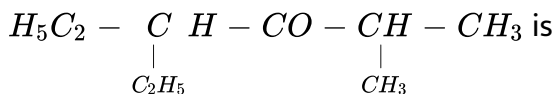
- A. 2-Ethyl-3-methyl pentanal
- B. 4-Methyl hexanal
- C. 3-Ethyl-2-methyl pentanal
- D. 3,3-Diethyl propanal

Answer: A



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34. The IUPAC name of the compound :



- A. 2-Ethyl-3-methyl hexanone
- B. 4-Ethyl-2-methyl-3-hexanone

C. Ethylmethyl hexanone

D. 4-Ethylmethyl-3-hexanone

Answer: B



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35. Methyl magnesium chloride on reacting with acetonitrile gives

A. acetone

B. ethanol

C. ether

D. methanol

Answer: A



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36. Which of the following will give an aldehyde on oxidation ?

A. 2 methyl propane

B. Propan -2-ol

C. Propan-1-ol

D. methoxy ethane

Answer: C



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37. Calcium acetate on heating gives

A. formaldehyde

B. formic acid

C. methanoic anhydride

D. acetone

Answer: D



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38. On heating a mixture of calcium formate and calcium propanoate, compound obtained is ?

A. propanone

B. propanal

C. propane

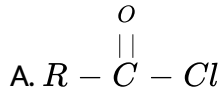
D. propanoic acid

Answer: B



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39. Which of the following will give ketone with Grignard Reagent ?



D. Both a & c

Answer: D



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40. When calcium salts of acetic and propionic acid are heated together, we will obtain

A. Acetone

B. acetaldehyde

C. Acetic acid

D. ethyl methyl ketone

Answer: D



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41. What is formed when primary alcohol undergoes catalytic dehydrogenation ?

A. aldehyde

B. ketone

C. alkene

D. acid

Answer: A



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42. Which one of the following gives a ketone on oxidation ?

A. primary alcohol

B. secondary alcohol

C. tertiary alcohol

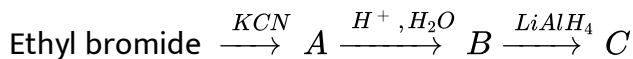
D. methyl alcohol

Answer: B



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43. In the reaction ,



The product C is :

The product is

A. Propanal

B. Propanone

C. Butanal

D. Butanone

Answer: A



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44. In the reaction



The product is

- A. Propanal
- B. Propanone
- C. 1-Butanal
- D. Butanone

Answer: D



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45. DIBAL-H is

- A. di isobutylaluminium hydride

B. di butylammonium hydride

C. di butylaluminium hydride

D. di butylamino hydride

Answer: A



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46. 1,1-dichloroethane on boiling with KOH yield

A. propanone

B. ethanal

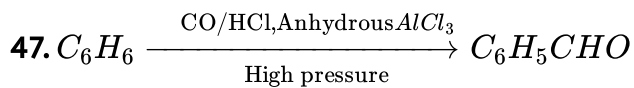
C. gen-ethanediol

D. ethanol

Answer: B



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This reaction is known as

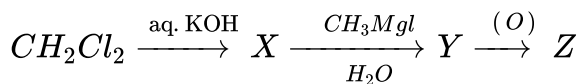
- A. Stephen reaction
- B. Etard reaction
- C. Rosenmund reaction
- D. Gatterman Koch formylation

Answer: D



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48. Identify Z in the reaction ?



- A. $CH_3 - OH$
- B. $CH_3 - CH_2OH$
- C. CH_3CHO

D. HCHO

Answer: C



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49. Which of the following compounds is oxidised to prepare methyl ethyl ketone?

A. propanol-2

B. butanol-1

C. butanol-2

D. acetone

Answer: C



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50. The aldehyde which can't be prepared by reaction between hydrogen cyanide and Grignard's reagent is

- A. formaldehyde
- B. Acetaldehyde
- C. propionaldehyde
- D. butyraldehyde

Answer: A



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51. In Rosenmund reaction-COCl is converted into

- A. $-CHO$
- B. $-CO-$
- C. $-OH$
- D. $-H$

Answer: A



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52. Isopropylidene dichloride when boiled with caustic soda gives

A. isopropyl alcohol

B. n-propyl alcohol

C. acetaldehyde

D. acetone

Answer: D



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53. 2-propanol on hydrolysis gives a / an

A. acetic acid

B. acetone

C. acetaldehyde

D. propionaldehyde

Answer: B



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54. 2,2-dichlorobutane on hydrolysis gives a / an

A. aldehyde

B. sec. alcohol

C. ketone

D. acid

Answer: C



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55. An unstable compound having two-OH groups on terminal carbon would immediately give a / an

- A. ketone
- B. monohydric alcohol
- C. aldehyde
- D. Carboxylic acid

Answer: C



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56. Stephen's reduction converts nitriles into:

- A. amine
- B. imine
- C. *-ol*
- D. *-one*

Answer: B



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57. Calcium propionate on dry distillation gives

- A. Butanone
- B. butanal
- C. a symmetrical ketone
- D. an unsymmetrical ketone

Answer: C



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58. The reaction, $CH(3).CX_2.CH_3 \rightarrow CH_3COCH(3)$, involves

- A. reduction

- B. hydrolysis
- C. oxidation
- D. dehalogenation

Answer: B



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59. An unstable dihydroxy compounds is formed as the intermediate complex, when aldehydes and ketones are prepared from

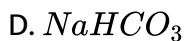
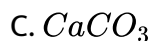
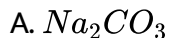
- A. Geminal dihalides
- B. Vicinal dehalides
- C. Dialkylhalides
- D. Polymethylene dihalide

Answer: A



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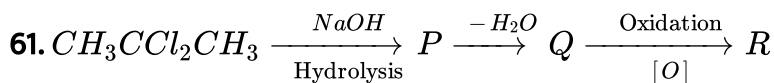
60. During dry distillation of calcium salts of fatty acids, the following compound, as a side product is obtained



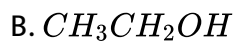
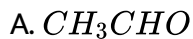
Answer: C

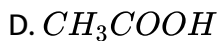
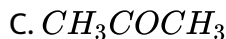


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The compound R is



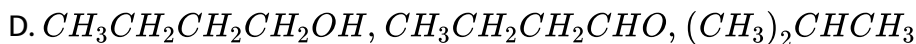
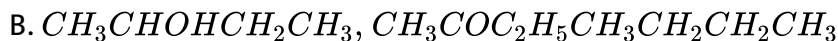


Answer: D



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62. An alcohol (A) with molecular formula $\text{C}_4\text{H}_{10}\text{O}$ on oxidation forms compound (B) $\text{C}_4\text{H}_8\text{O}$. The compound (B) gives iodoform test, but does not reduce ammoniacal silver nitrate, (B) on treatment with amalgamated zinc and HCl gives compound (C) C_4H_{10} . Identify A,B,C.



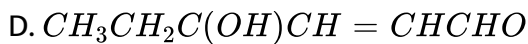
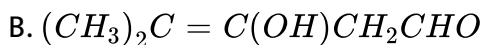
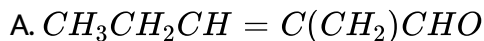
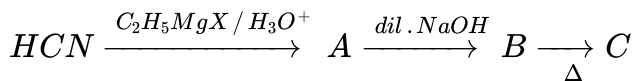
Answer: B



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63. Consider the following sequence of reaction and find out product C.



Answer: A

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64. R_2CCl_2 on alkaline hydrolysis gives

A. ketone

B. aldehyde

C. alcohol

D. acid

Answer: A



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65. 2-butanone can be obtained by heating a mixture of calcium salt of

A. formic acid and butyric acid

B. propionic acid and formic acid

C. propionic acid and acetic acid

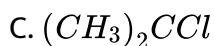
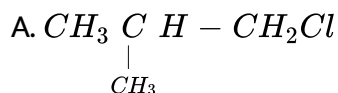
D. acetic acid and formic acid

Answer: C



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66. $C_3H_6Cl_2(A)$ on treatment with aqueous caustic alkali gave B.B does not reduce Fehling's solution but gives pink colour with Schiff reagent very slowly . A is



Answer: C



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67. Acetone is

A. a pungent smelling liquid

B. insoluble in ethanol

C. insoluble in ether

D. soluble in water in all proportions

Answer: D



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68. Methanol, ethanol and propanone are water soluble because they form _____ with water molecule

A. Solvation

B. Hydration

C. Association

D. Hydrogen bonding

Answer: D



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69. The odour of acetophenone is like

- A. Butter
- B. Vanilla
- C. Cinnamon
- D. Pistachio

Answer: D



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70. The reaction useful to separate aldehyde and ketones from other organic compound is

- A. addition of HCN
- B. addition of RMgX
- C. addition of NH_3
- D. addition of NaHSO_3

Answer: D



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71. Cyclic ketals are prepared from ketone by the action of

- A. Ethyl alcohol
- B. Ethylene glycol
- C. Ethyl ether
- D. Glycerol

Answer: B



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72. Which of the following can undergo haloform reaction ?

- A. Benzaldehyde

B. acetaldehyde

C. Formaldehyde

D. Chloral

Answer: B



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73. Which of the following will react with acetaldehyde to give white crystalline solid-soluble in water ?

A. $NaHSO_4$

B. Na_2SO_3

C. $NaHSO_3$

D. Na_2CO_3

Answer: C



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74. The attack of nucleophile $NH_2 - R$ on carbonyl group is favoured by

- A. high acidity
- B. low basicity
- C. high basicity
- D. low acidity

Answer: D



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75. A water soluble compound 'A' (C_3H_6O) does not evolve hydrogen gas with sodium but gives a pink colour with Schiff's reagent.

The compound 'A' is

- A. an alcohol
- B. an ether

C. an aldehyde

D. a ketone

Answer: C



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76. Aldol condensation is a reaction given by

A. Aldehydes with α — hydrogen atom

B. Ketones having α — hydrogen atom

C. Aldehydes in the presence of Na_2CO_3

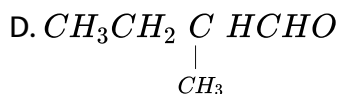
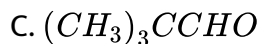
D. Both (a) and (b)

Answer: D



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77. Which of the following will not undergo aldol condensation ?



Answer: C



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78. Fehling's solution is an alkaline solution of

A. Cu^{++} ions in the presence of tartarate

B. Cu^{++} ions in the presence of citrate ions

C. Cu^{++} ions in the presence of citrate

D. Cu^{++} ions in the presence of tartarate ions

Answer: A



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79. Which reducing agent is used in Clemmensen reduction-

A. NH_2NH_2 , glycol, KOH

B. Zn, Hg and HCl

C. Zn and HCl

D. $LiAlH_4$

Answer: B



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80. When formaldehyde is treated with ammonia, the compound formed is:

- A. formaldehyde ammonia
- B. methyl amine
- C. hexamethylene tetramine
- D. formaline

Answer: C



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81. When acetaldehyde reacts with phenylhydrazine, it forms

- A. acetaldoxime
- B. hydrazone
- C. phenylhydrazone
- D. methalamine

Answer: C



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82. When formaldehyde reacts with a NaOH it gives

- A. brown ressinous mass
- B. black charred mass
- C. sodium formate and methyl alcohol
- D. formic acid

Answer: C



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83. When acetaldehyde reacts with ammonia, the product is

- A. hexamethylene tetramine
- B. acetaldehyde ammonia
- C. deacetone amine

D. ethyl amine

Answer: B



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84. Clemmensen reduction is _____ reactions.

A. dehydration

B. deoxygenation

C. decarboxylation

D. de-electronation

Answer: B



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85. Which compound undergoes iodoform reaction ?

A. HCHO

B. CH_3CHO

C. CH_3OH

D. CH_3COOH

Answer: B



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86. Chloral is :

A. CCl_3CHO

B. CCl_3CH_3

C. Cl_2CHCOOH

D. Cl_3CCOOH

Answer: A



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87. The reagent with which both acetaldehyde and acetone react easily is

- A. Fehlings solution
- B. Grignard reagent
- C. Schiff's reagent
- D. Tollen's reagent

Answer: B



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88. Formaldehyde gives an additive product with Methylmagnesium iodide which in aqueous hydrolysis gives

- A. CH_3OH
- B. C_2H_5OH
- C. $(CH_3)_2CHOH$

D. $\text{CH}_3\text{CHOHCH}_3$

Answer: B



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89. Which of the following gives position haloform test and positive Fehling's solution test ?

A. ethanol

B. acetone

C. acetaldehyde

D. formaldehyde

Answer: C



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90. An important organic compound is formed on treatment of ketones with HCN. This is called.

- A. cyanohydrin
- B. acetal
- C. aldol
- D. ketol

Answer: A



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91. Acetaldehyde reacts with moist chlorine to form :

- A. chlorotone
- B. acetal chloride
- C. chloral
- D. chloric acid

Answer: C



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92. Acetone reacts with phosphorous pentachloride to give:

- A. 1,1-dichloropropane
- B. 2,2-dichloropropane
- C. propane
- D. 2-chloropropane

Answer: B



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93. When two molecules of formaldehyde reacts in the presence of base to produce CH_2OH and $HCOONa$, the reaction is known as

A. Claisen's condensation

B. Cannizaro's reaction

C. Wurtz reaction

D. Aldol condensation

Answer: B



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94. Schiff's reagent is obtained by passing gas in aqueous solution of rosaniline ?

A. NO_2

B. CO_2

C. SO_2

D. O_2

Answer: C



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95. If formaldehyde and KOH are heated, then we get

- A. acetylene
- B. methane
- C. methyl alcohol
- D. ethyl formate

Answer: C



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96. $CH_3CHO \xrightarrow{OH^-} CH_3CH(OH)CH_2CHO$ represents

- A. Aldol condensation
- B. Cannizaro's reaction
- C. Benzoin's condensation

D. Clemmenson's reaction

Answer: A



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97. Acetaldehyde react with HCN :

A. tartaric acid

B. Acetaldehyde Cyanohydrin

C. Acrylic acid

D. Malonic acid

Answer: B



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98. Formalin is an aqueous solution of

- A. methyl formate
- B. formic acid
- C. formyl chloride
- D. formaldehyde

Answer: D



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99. The molecule that can give Cannizzaro's reaction is

- A. acetaldehyde
- B. butyraldehyde
- C. formaldehyde
- D. propionaldehyde

Answer: C



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100. Acetaldehyde reacts with ethyl magnesium chloride to give product which on hydrolysis gives

- A. Butan-1-ol
- B. 2-Methylpropan-2-ol
- C. Butan-2-ol
- D. Pentan-1-ol

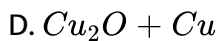
Answer: C



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101. When acetaldehyde is heated with Fehling's solution it gives a precipitate of

- A. Cu
- B. CuO



Answer: C



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102. Compound 'A' undergoes formation of cyanohydrin which on hydrolysis gives lactic acid $[CH_3CH(OH)COOH]$ Therefore, compound 'A' is :

A. Formaldehyde

B. Ethyl cyanide

C. Ethyl alcohol

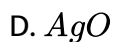
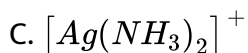
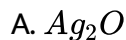
D. Acetaldehyde

Answer: D



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103. Aldehydes give silver mirror test with ammoniacal silver nitrate solution due to the formation of

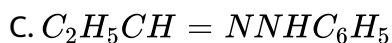
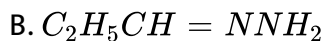
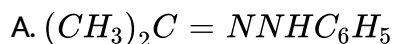


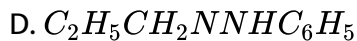
Answer: B



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104. Propionaldehyde reacts with phenyl hydrazine to form the product





Answer: C



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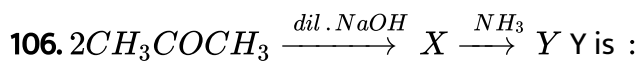
105. Aldehydes act as

- A. oxidizing agents
- B. reducing agents
- C. dehydrating agents
- D. neutral agents

Answer: B



Watch Video Solution



A. Mesityl oxide

B. 2-Butene

C. 2-Butenal

D. Diacetone amine

Answer: D



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107. Oxidation of a compound X gives a product which react with phenyl hydrazine but does not give silver mirror test . The structure of X is

A. CH_3CHO

B. CH_3CH_2OH

C. $(CH_3)_2CHOH$

D. $CH_3CH_2CH_2OH$

Answer: C

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108. Cannizzaro reaction involves

- A. Oxidation
- B. Reduction
- C. Both oxidation and reduction
- D. Decarboxylation

Answer: C

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109. Which is most difficult to oxidise-

- A. Ethanal
- B. Butanal
- C. Propanone

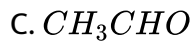
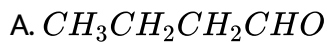
D. Propanal

Answer: C



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110. Which of the following has maximum boiling point ?

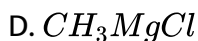
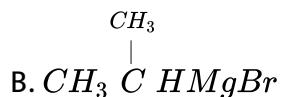
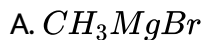


Answer: A



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111. The Grignard reagent required to prepare 2-butanol from acetaldehyde is



Answer: C



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112. Mesityl oxide is obtained by the condensation of

A. Acetone

B. Acetaldehyde

C. Formation

D. Benzaldehyde

Answer: A



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113. Compound 'A' $C_5H_{10}O$ forms a phenyl hydrazone and gives a negative Tollen's reagent test and iodoform test. On reduction with $Zn-Hg/HCl$, compound A gives n-Pentane. The compound 'A' is

A. Pentanal

B. Pentanone-2

C. Pentanone-3

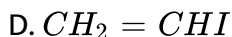
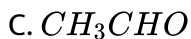
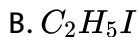
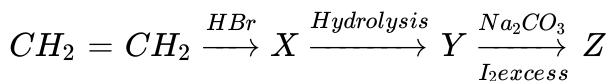
D. Amyl alcohol

Answer: C



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114. Identify Z in the following series

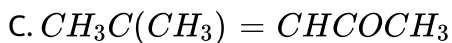
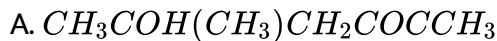
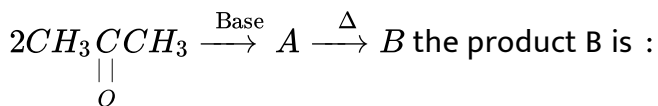


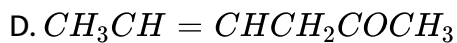
Answer: A



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115. In the reaction





Answer: C



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116. Which of the following is used as a preservative for biological specimens ?

A. formalin

B. formic acid

C. liquid NH_3

D. acetic acid

Answer: A



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117. Which of the following statements is incorrect regarding aldehyde and acetone ?

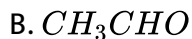
- A. Both reduce ammoniacal silver nitrate to silver
- B. Both react with hydroxylamine to form oximes
- C. Both react with phenylhydrazine to form phenyl hydrazone
- D. Both react with sodium bisulphate to form addition product

Answer: A



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118. Which of the following compound will undergo self - aldol condensation in the presence of cold dilute alkali?





Answer: B



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119. Acetone can be reduced to propane. This reduction is called

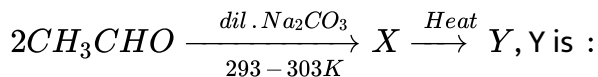
- A. Clemmensen's reduction
- B. Catalytic reduction
- C. Sabatier and Sendern's reduction
- D. Aldol Condensation

Answer: A



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120. In the reaction



A. Mesityl oxide

B. 2-Butane

C. 2-Butenal

D. But-2-en-3-al

Answer: C



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121. 3-Pentanone on reduction with $Zn(Hg)$, HCl gives

A. Pentane

B. Pentanol

C. 3-Pentanol

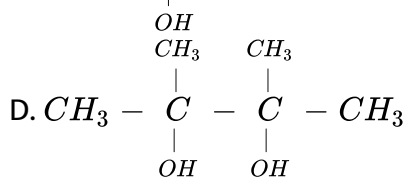
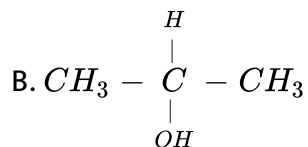
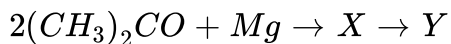
D. 3-Pentanal

Answer: A



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122. In the reaction, compound Y is



Answer: D



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123. Formaldehyde condenses with phenol in the presence of dil. H_2SO_4 to yield

- A. bakelite
- B. formalin
- C. lewisite
- D. formose

Answer: A



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124. Aldehydes and ketones , on treatment with hydroxylamine give

- A. hydrazone
- B. phenylhydrazone
- C. oxime
- D. alcohol

Answer: C



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125. Which of the following does not give brick red ppt. with Fehling solution ?

A. formaldehyde

B. acetaldehyde

C. propionaldehyde

D. acetone

Answer: D



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126. Hexamethylenetetramine is also known as

A. urotropine

B. benzoin

C. formalin

D. gammaxene

Answer: A



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127. Which of the following compounds will not undergo aldol condensation ?

A. ethanal

B. propanal

C. 2,2,2-trichloroethanal

D. 2,2-dibromoethanals

Answer: C

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128. 4-hydroxy-4-methyl-2-pentanone is obtained when one of the following is reacted with base. The compound is

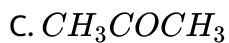
- A. acetone
- B. methanal
- C. acetaldehyde
- D. ethyl methyl ketone

Answer: A

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129. Which of the following compound can not give 'aldol' reaction ?

- A. CH_3CHO
- B. C_6H_5CHO



Answer: B



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130. Which of the following is used as urinary antiseptic drug ?

A. Urotropine

B. Acetaldehyde

C. Hexamethylene tetramine

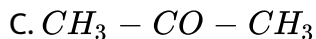
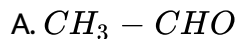
D. Both (a) and (c)

Answer: D



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131. Which of the following can not act as reducing agent ?



Answer: C



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132. In aldol condensation

A. α -hydrogen attacks on carbonyl carbon

B. α - carbon attacks on carbonyl carbon

C. β - carbon attacks on carbonyl carbon

D. β - hydrogen attacks on carbonyl carbon

Answer: B



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133. Which of the following process is suitable for replacing oxygen atom of carbonyl group by the hydrogen atoms ?

- A. Williamsons process
- B. Cannizaro's process
- C. Clemmensen's process
- D. Wurtz reaction

Answer: C



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134. Acetone reacts with $Ba(OH)_2$ to give diacetone alcohols is called

A. Cannizzaro's reaction

B. Aldol condensation

C. Clemmensen's reaction

D. Hoffmann's reaction

Answer: B



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135. Formaldehyde is very reactive than other carbonyl compounds because of

A. absence of α – hydrogen

B. absence of α – carbon

C. absence of electron releasing alkyl group of carbonyl carbon

D. presence of hydrogenation on carbonyl carbon atom

Answer: C

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136. Which of the following reaction is called self oxidation reduction reaction?

- A. Aldol condensation
- B. Cannizzaro's reaction
- C. Pinacol formation
- D. Clemmensen's reduction

Answer: B

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137. Tollen's reagent is

- A. Ammonical Cu_2Cl_2
- B. Ammonical $AgNO_3$

C. Alkaline $NiCl_2$

D. Ammonical $Fe(OH)_3$

Answer: B



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138. Fehling's solution is

A. acidified copper sulphate solution

B. ammonical cuprous chloride solution

C. copper sulphate and Rochelle salt + NaOH

D. ammonical silver nitrate solution

Answer: C



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139. A plastic bakelite is a compound of HCHO with

- A. benzene
- B. phenol
- C. ammonia
- D. hydrocarbon

Answer: B



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140. Clemmensen's reduction will convert cyclohexanone into:

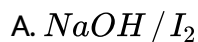
- A. n-hexane
- B. benzene
- C. cyclohexane
- D. cyclohexanol

Answer: C

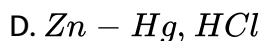
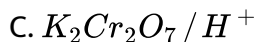


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141. To distinguish between 2-pentanone and 3-pentanone which reagent can be used ?



B. Tollen's reagent



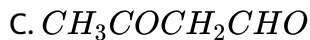
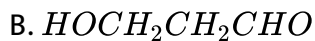
Answer: A



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142. A natural compound (X). $\text{C}_4\text{H}_8\text{O}_2$. Reduces Fehling's solution, liberates hydrogen when treated with sodium metal and gives a positive

iodoform test. The structure of (X) is:

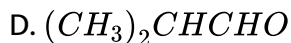
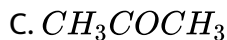
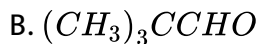
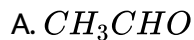


Answer: A



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143. Which one of the following undergoes Cannizarro's reaction?



Answer: B



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144. Acetone when added to liquid ammonia gives

- A. acetaldol
- B. diacetone amine
- C. ethyl amine
- D. acetic acid

Answer: B



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145. Propanone on treatment with CH_3MgBr gives _____ as a final product.

- A. isopropyl alcohol
- B. tert butyl alcohol

C. n-propyl alcohol

D. isobutyl alcohol

Answer: B



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146. Acetone on treatment with aq. Baking soda gives

A. acetic acid

B. acetaldehyde

C. acetaldol

D. acetol

Answer: D



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147. Urotropine is obtained from

- A. urea and tropine
- B. acetaldehyde and ammonia
- C. acetic acid and ammonia
- D. ammonia and formaldehyde

Answer: D



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148. A sample of urine when added to a Fehling's solution gives red precipitate due to

- A. action of urine on Fehling's solution
- B. action of uric acid on Fehling's solution
- C. action of glucose on Fehling's solution
- D. action of fructose on Fehling's solution

Answer: C



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149. Aldehydes act as

- A. catalyst
- B. oxidizing agent
- C. mordant
- D. reducing agent

Answer: D



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150. Hydroxyl amine on treatment with propanone gives

- A. propanone oxime

- B. propanone phenyl hydrazone
- C. propanone oxime and water
- D. propanone phenylhydrazone and water

Answer: C



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151. Ethanal on treatment with phenylhydrazine gives

- A. ethanalhydrazone
- B. ethanal phenyl hydrazone
- C. ethanolphenyl hydrazone and water
- D. ethanal phenyl hydrazone and water

Answer: D



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152. Acetone on treatment with sodium and ethanol gives

- A. acetic acid
- B. propanol
- C. 1-propanol
- D. isopropyl alcohol

Answer: D



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153. Which of the following does not undergo aldol condensation ?

- A. CH_3CHO
- B. CH_3CH_2CHO
- C. CH_3COCH_3
- D. C_6H_5CHO

Answer: D



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154. Carbonyl group undergoes

- A. electrophilic addition reactions
- B. nucleophilic addition reaction
- C. both
- D. can not predict

Answer: B



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155. Aldehydes and ketones give addition reaction with

- A. HCN

B. NaHSO_3

C. Both (a) and (b)

D. NH_2NH_2

Answer: C



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156. Rochelle salt is one of the components of the following reagent

A. Fehling's solution

B. Tollen's reagent

C. Benedict's solution

D. Bayer's reagent

Answer: A



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157. In Cannizzaro's reaction an aldehyde undergoes

- A. Oxidation
- B. reduction
- C. oxidation and reduction
- D. neither oxidation nor reduction

Answer: C



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158. Which of the following undergoes Cannizzaro's reaction ?

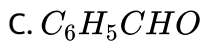
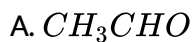
- A. CH_3CHO
- B. $C_6H_5CH_2CHO$
- C. Triphenyl acetaldehyde
- D. CH_3COCH_3

Answer: C



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159. Bezaldehyde which undergoes Cannizzaro's reaction but does not reduce Fehling's solution is



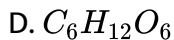
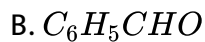
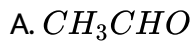
D. Propionaldehyde

Answer: C



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160. Which of the following does not react with Fehling's solution ?



Answer: B



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161. Acetaldehyde reacts with ammonia to form a

A. condensation product

B. substitution product

C. addition product

D. resin like product

Answer: C



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162. The class of compounds that are reduced to primary alcohols and also respond to Fehling's solution are known as

- A. aliphatic aldehydes
- B. aliphatic ketones
- C. aromatic amines
- D. aromatic ketones

Answer: A



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163. Aldol condensation between which of the following compounds followed by dehydration gives mesityl oxide?

- A. CH_3CHO and CH_3COCH_3
- B. two molecules of CH_3COCH_3

C. CH_3CHO and $HCHO$

D. two molecules of CH_3CHO

Answer: B



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164. The compound obtained by the reduction of propionaldehyde by amalgamated zinc and concentrated HCl is

A. Propanal

B. Propane

C. Propene

D. Propanol

Answer: B



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165. At room temperature, formaldehyde is :

- A. Gas
- B. Liquid
- C. Solid
- D. Semisolid

Answer: A



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166. Which factor/s will increase the reactivity of



group?

- (i) Presence of group with positive inductive effect
- (ii) Presence of group with negative inductive effect
- (iii) Presence of large alkyl group

- A. Only i
- B. Only ii
- C. i and iii
- D. ii and iii

Answer: B



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167. CH_3CHO reacts with aqueous NaOH solution to form

A. 3-hydroxy butanal

B. 2-hydroxy butanal

C. 4-hydroxy butanal

D. 3-hydroxy butanol

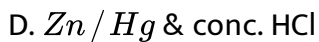
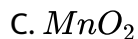
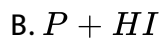
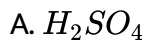
Answer: A



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168. Among the following the reagents used for the conversion,

$(CH_3)_2CO \rightarrow CH_3CH_2CH_3$ is / are



Answer: D



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169. Which of the following undergoes oxidation and reduction simultaneously in the presence of 50% $NaOH$?

A. acetaldehyde

B. Acetone

C. Benzoic acid

D. Benzaldehyde

Answer: D



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170. In the Fehling's solution, Rochelle's is used to

- A. liberate Cu^{2+} ions
- B. decolorize the solution
- C. prevent precipitation of Cu^{2+} ions
- D. prevent precipitation of Cu^{+} ions

Answer: C



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171. Some statements are give below :

- A. For Formaldehyde with ammonia gives an antiseptic used in urinary infection
- B. A ketone on treatment with Grignard's reagent, followed by hydrolysis, yield a secondary alcohol.

C. Benzaldehyde gives aldol condensation.

D. Aldehydes and ketones, both give crystalline derivatives with hydroxylamine. Among the above, the false statements are :

A. B and C

B. B,C and D

C. A,B and D

D. A and D

Answer: A



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172. Ketones do not show reducing property because

A. they do not behave as reducing agents

B. they are not oxidized

C. of absence of oxidisable H-atom on carbonyl group

D. they are very stable

Answer: C



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173. In the reaction $RCHO \xrightarrow{\Delta} RCH = NOH$, is :

A. ammonia

B. phenylhydrazine

C. hydroxylamine

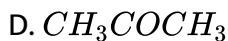
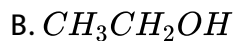
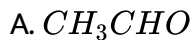
D. hydrazine

Answer: C



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174. Which of the following is needed for the preparation of 2 butanol from CH_3MgBr ?

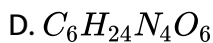
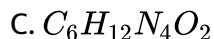
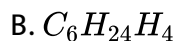
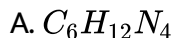


Answer: C



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175. The molecular formula of urotropine is



Answer: A



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176. Formaldehyde differs from acetaldehyde in the reaction with

- A. hydroxylamine
- B. Na and alcohol mixture
- C. acid $K_2Cr_2O_7$
- D. NH_3

Answer: D



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177. Hexamethylene tetramine is used as

- A. Antipyretic

- B. Analgesic
- C. Urinary antiseptic
- D. Anti-inflammatory

Answer: C



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178. The gaseous compound A gives silver mirror test. A on treatment with NH_3 gives $C_6H_{12}N_4$. A would give

- A. Haloform reaction
- B. Cannizzaro's reaction
- C. Bimolecular reduction
- D. Aldol condensation

Answer: B



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179. Two isomeric compounds A and B have molecular formula C_3H_6O . A responds to silver mirror test but not B. B on treatment with Zn (Hg) and conc. HCl gives propane. A and B are respectively.

- A. ethanal and propanone
- B. propanone and ethanal
- C. propanal and propanone
- D. propanaone and propanal

Answer: C



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180. The compound A gives the test for an aldehydic as well as carboxylic group .A is

- A. acetic acid

- B. formic acid
- C. carbolic acid
- D. benzoic acid

Answer: B



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181. The compound, α – ethyl butyraldehyde is known as

- A. 2-Ethylbutanal
- B. 2-Ethylbutane aldehyde
- C. 2-methylbutanal
- D. 2-Methylbutyraldehyde

Answer: A



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182. From the following compounds, the one which is the best highly soluble in water is

- A. Formaldehyde
- B. Acetaldehyde
- C. Propionaldehyde
- D. Butyraldehyde

Answer: A



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183. When acetaldehyde reacts with the following compounds, acetaldehyde sodium bisulphite is formed.

- A. Na_2SO_3
- B. $NaSO_3$
- C. $NaHSO_3$

D. NaHSO_4

Answer: C



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184. Sulphurdioxide gas (SO_2) is used in the preparation of the following reagent

A. Tollen's reagent

B. Fehling's reagent

C. Schiff's reagent

D. Grignard's reagent

Answer: C



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185. A hypnotic drug is obtained when the following carbonyl compound is reacted with chloroform.

- A. acetaldehyde
- B. Formaldehyde
- C. Benzaldehyde
- D. Acetaone

Answer: D



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186. If excess of Grignard reagent is used, acetone produced in the reaction, on further reaction with G.R. gives

- A. Tertiary butyl alcohol
- B. Ethyl alcohol
- C. Secondary alcohol

D. Ethyl acetate

Answer: A



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187. Consider the following substances :

(1) 2-propanol (2) propanone (3) methylamine

The correct sequence of increasing order of boiling point is

A. $2 < 3 < 1$

B. $1 < 2 < 3$

C. $2 < 1 < 3$

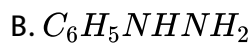
D. $3 < 2 < 1$

Answer: D



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188. A reagent which reacts differently with CH_2O , C_2H_4O , C_3H_6O is

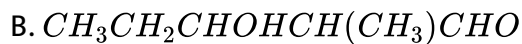
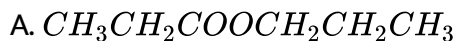


Answer: D



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189. Treatment of propanal with dilute NaOH solution gives



Answer: B



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190. Treatment of butanal with dilute NaOH solution gives

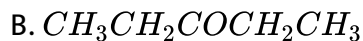


Answer: C



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191. Compound 'A' $C_5H_{10}O$ forms a phenyl hydrazone and gives a negative Tollen's reagent test and iodoform test. On reduction with Zn-Hg/HCl, compound A gives n-Pentane. The compound 'A' is

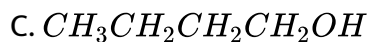


Answer: B



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192. An compound (A) which undergo halogorm reaction give compound (B) on reduction . Compound (B) on dehydration with conc. H_2SO_4 gives compound (C) which forms secondary butylbromide with HBr. Identify (A).



Answer: A



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193. When H-CHO reacts with NH_3 urotropin is formed. In this molecule how many C-C bonds are present ?

A. 4

B. 2

C. 0

D. 6

Answer: C



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194. Diethyl ketone and dimethyl ketone can be distinguished with

- A. Tollen's reagent
- B. Fehling's solution
- C. Schiff's reagent
- D. Haloform test

Answer: D



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195. Low reactivity of ketones with respect to aldehydes is due to

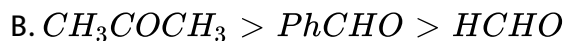
- A. greater +I effect of alkyl group
- B. greater steric hindrance of alkyl group
- C. both a and b
- D. less steric hindrance of alkyl group

Answer: C



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196. Correct order of reducing power of the following carbonyl compounds.



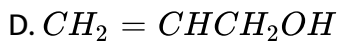
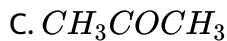
Answer: D



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197. A water soluble compound of molecular formula C_3H_6O give yellow crystalline solid on heating with I_2 and Na_2CO_3 . The compound is





Answer: C



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198. Union of two or more molecules of the same or different compound with or without the elimination of water to form a new substance is known as

A. synthesis

B. polymerization

C. condensation

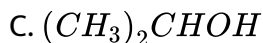
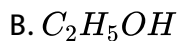
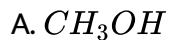
D. addition

Answer: B



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199. Formaldehyde gives an additive product with Methylmagnesium iodide which in aqueous hydrolysis gives



Answer: B



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200. Chloral is :

A. an aldehyde

B. a ketone

C. an alcohol

D. an amines

Answer: A



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201. Formaldehyde and formic acid are distinguish by treating with

A. Tollen's reagent

B. $NaHCO_3$

C. Fehling's solution

D. Schiff's reagent

Answer: B



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202. Which of the following statement is true ?

- A. Aldehyde are less susceptible to oxidation than ketones
- B. Allaldehydes undergo Cannizarro reaction
- C. Aldehydes are more susceptible to oxidation than ketones
- D. Formaldehyde does not react with ammonia

Answer: C



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203. Butanal is heated with ammoniacal silver nitrate. The product formed is

- A. $CH_3CH_2CH_2COOH$
- B. $(CH_3)_2CHCOOH$
- C. $CH_3COOH + CH_3OH$
- D. $HCOOH + C_2H_5COOH$

Answer: A



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204. Acetaldehyde reacts with

- A. nucleophiles only
- B. electrophiles only
- C. both nucleophiles and electrophiles
- D. free radicals only

Answer: C



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205. Aldehyde used in the manufacture of perfumes is

- A. CH_3CHO
- B. C_6H_5CHO
- C. C_2H_5CHO

D. $HCHO$

Answer: B



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206. Which of the following reaction is used for detecting the presence of carbonyl group in aldehydes and ketone ?

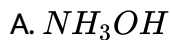
- A. Reaction with hydroxylamine
- B. Reaction with phenyl hydrazine
- C. Both a and b
- D. Reduction

Answer: C



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207. Which of the following reagent form oxime with carbonyl compound ?



Answer: B



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208. An organic compound 'X' having molecular formula $C_5H_{10}O$ yield phenylhydrazone and gives negative response to the iodoform test and Tollens test . It produces n-pentane on reduction. 'X' could be

A. Pentanal

B. Pentan-2-one

C. Pentane-3-one

D. Amyl alcohol

Answer: C



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209. The appropriate reagent for the transformation.



A. Zn_{Hg}, HCl

B. H_2 / Ni

C. NH_2NH_2, OH^-

D. $NaBH_4$

Answer: A



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210. A compound containing only carbon, hydrogen and oxygen has molecular mass of 44.0. On complete oxidation, it is converted into a compound of molecular mass 60.0. The compound is :

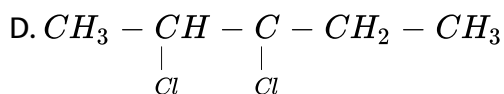
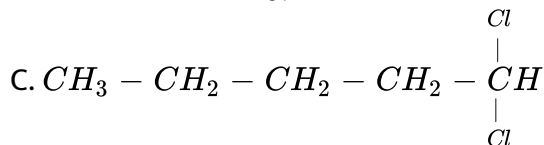
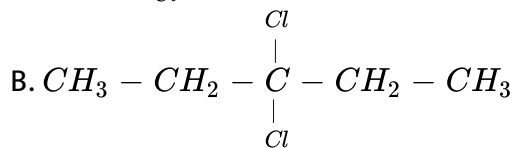
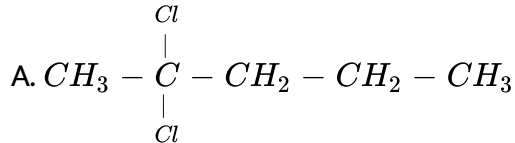
- A. An aldehyde
- B. An acid
- C. An alcohol
- D. An ether

Answer: A



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211. A compound containing molecular formula $C_5H_{10}Cl_2$ on hydrolysis gives compound containing molecular formula $C_5H_{10}O$, which reacts with NH_2OH and also forms iodoform but does not give Fehling test original compound is

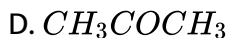
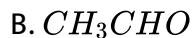


Answer: A



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212. Cyanohydrin of which of the following forms lactic acid



Answer: B



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213. One of the following named reaction is an example of "disproportionation reaction". Identify it.

- A. Birch reduction
- B. Aldol condensation
- C. Reimer-Tiemann reaction
- D. Cannizzaro reaction

Answer: D



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214. Identify the correct statement.

- A. Aldehydes on reduction gives secondary alcohls.
- B. Ketones on reduction give primary alcohols
- C. Ketones reduce Fehling's solution and give cuprous oxide
- D. Ketones do not react with monhydrix alcohol

Answer: D



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215. Ketones reacting with Mg-Hg over water give

- A. Pinacolone
- B. Pinacols
- C. Alcohols
- D. None of these

Answer: B



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216. Grignard reagent on reaction with hydrogen cyanide followed by hydrolysis will form

- A. Aldehydes
- B. Ketones
- C. Esters
- D. Acid Amides

Answer: A



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217. Which product will be obtained by the hydrolysis of the product obtained by reaction of butane-nitrile with ethyl magnesium bromide ?

- A. Ethyl-n-propyl ether
- B. Ethoxy propane

C. Ethyl propanoate

D. Hexane-3-one

Answer: D



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218. The number of 'sigma' and π electrons in methanol are

A. 6 and 2

B. 2 and 6

C. 4 and 4

D. 4 and 2

Answer: A



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219. The formula $C_5H_{10}O$ represents

- A. an aldehyde and a symmetrical ketone only
- B. an aldehyde and an unsymmetrical ketone only
- C. a symmetrical and an unsymmetrical ketone only
- D. an aldehyde and a symmetrical as well as unsymmetrical ketone.

Answer: D



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220. Metaldehyde is _____ form of aldehyde.

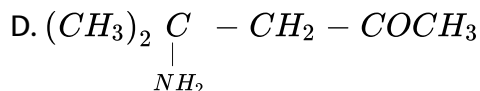
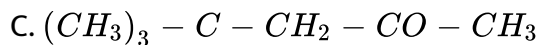
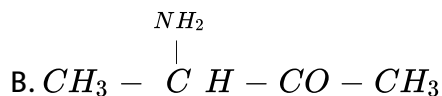
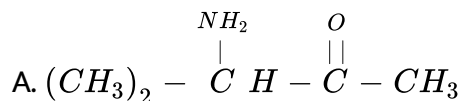
- A. dimer
- B. trimer
- C. tetramer
- D. monomer

Answer: C



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221. Which of the following is diacetone amine ?



Answer: D



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222. Which of the following reaction does not yield acetone ?

- A. Dry distillation of calcium acetate
- B. Dry distillation of calcium formate
- C. acetic acid with calcium hydroxide followed by dry distillation
- D. Passing vapours of isopropyl alcohol over a heated catalyst at 300°C

Answer: B



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223. What is formed when a primary alcohol undergoes catalytic hydrogenation?

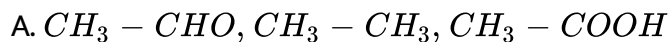
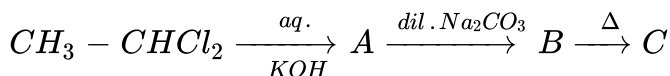
- A. aldehyde
- B. ketone
- C. alkene
- D. acid

Answer: A

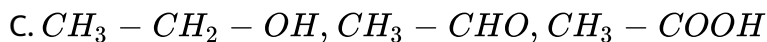


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224. What are A,B,C in the following series of reaction ?



B.



Answer: B



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225. An compound (A) $C_4H_8Cl_2$ on alkaline hydrolysis to give compound (B) C_4H_8O which gives an oxime and positive Tollen's reagent test. What is the structure of (A) ?

- A. $CH_3CH_2CH_2CHCl_2$
- B. $CH_3CCl_2CH_2CH_3$
- C. $CH_3CH(Cl)CH(Cl)CH_3$
- D. $CH_2ClCH_2CH_2CH_2Cl$

Answer: A



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226. Reactivity of aldehydes and ketone is mainly due to

- A. dipole moment
- B. polarisation
- C. polarisation due to dipole moment

D. bond angle

Answer: C



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227. Urotropine gives highly explosive cyclonite after

A. Hydrolysis

B. Nitration

C. oxidation and reduction

D. Reduction

Answer: B



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228. When an aldehyde is warmed with Zn / Hg and HCl, it gives

A. alcohol

B. Hydrocarbon

C. Carboxylic acid

D. ketone

Answer: B



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229. The reaction of CH_3CH_2MgBr with formaldehyde after acidification gives

A. an aldehyde

B. a primary alcohol

C. a ketone

D. secondary alcohol

Answer: B

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230. Cross Cannizzaro reaction is

- A. Condensation reaction
- B. Addition reaction
- C. Disproportionation reaction
- D. Elimination reaction

Answer: C

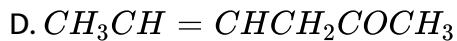
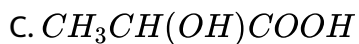
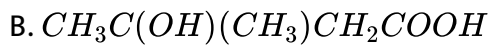
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231. In the reaction ,



The product B is ?

- A. $CH_3COH(CH_3)CH(2)COCH_3$



Answer: C



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232. In aldol condensation the intermediate ion formed is

A. Enolate ion

B. Carbonium ion

C. Cation

D. Hydroxyl ion

Answer: A



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233. Acetone on reduction with Mg-metal in the presence of benzene gives

- A. Pinacol
- B. Urotropine
- C. 2-propanol
- D. diacetone alcohol

Answer: A



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234. A compound that given a positive iodoform test is

- A. 1-pentanol
- B. 2-pentanol
- C. 3-pentanol
- D. pentanol

Answer: B



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235. A compound A has a molecular formula C_2Cl_3OH , It reduces Fehling solution and on oxidation produces a monocarboxylic acid B. A can also be obtained by the action of Cl_2 on Ethanol. A is

- A. chloroform
- B. chloral
- C. trichloro ethanol
- D. trichloro acetic acid

Answer: B



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236. Ethanal on treatment with washing soda gives

- A. sodium acetate and water
- B. 3-Hydroxybutanal
- C. acetic acid
- D. acetic acid and sodium carbonate

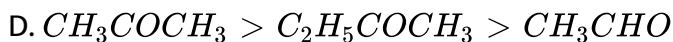
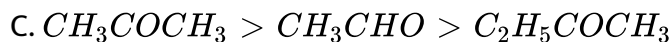
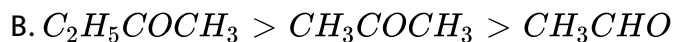
Answer: B



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237. Correct order of reactivity of

CH_3CHO , $C_2H_5COCH_3$ and CH_3COCH_3 is



Answer: A

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238. Which of the following reactions is given by both, formaldehyde and acetaldehyde ?

- A. Cannizzaro's reaction
- B. Aldol condensation
- C. Haloform reaction
- D. Oxime formation

Answer: D

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239. The four compounds are given below :

- a. CH_3COCH_3 b. C_2H_5CHO
- c. C_6H_5CHO d. C_2H_5OH

In case of these compounds with one of the following statements is true ?

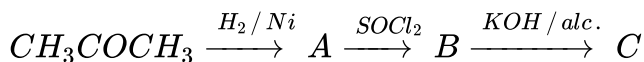
- A. A,B and C undergo aldol condensation
- B. B and C undergo Cannizarro's reaction
- C. A,B and D give haloform reaction
- D. Only A and B undergo aldol condensation

Answer: D



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240. Identify A,B,C in the following reaction :



- A. $CH_3CHOHCH_3$, $CH_3CHClCH_3$, $CH_3CHOHCH_3$
- B. $CH_3CHOHCH_3$, $CH_3CHClCH_3$, $CH_3CH = CH_2$
- C. $CH_3CH_2CH_2OH$, $CH_3CH_2CH_2Cl$, $CH_3CH_2CH_2OH$

D. $CH_3CH_2CH_2OH$, $CH_3CH_2CH_2Cl$, $CH_3CH = CH_2$

Answer: B



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241. Some statement are given below :

1. haloform test positive in case of ethanal as well as acetone.
2. carbonyl compounds undergoes nucleophilic addition reaction.
3. aldehydes and ketones are position isomers.
4. $R_2CO + RMgX \rightarrow 3^{\circ}$ alcohol

Among the above , correct statement(s) is / are :

- A. only 1
- B. only 2 & 4
- C. only 1,2 and 4
- D. only 3

Answer: C



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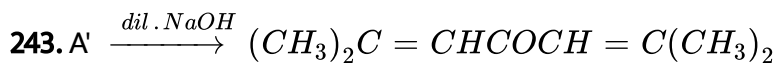
242. Sodium amalgam contains sodium and

- A. copper
- B. aluminium
- C. mercury
- D. sulphur

Answer: C



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The compound 'A' is :

- A. Acetone
- B. 2-methyl butan -2-one

C. 4-methyl butan-2-one

D. 4-methyl isopropyl ketone

Answer: A



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244. Calcium salt of fatty acid 'A' is dry distilled to give 'B'. The compound 'B' is related with dil. NaOH to give 'C' which on dehydration gives 'D'. The compound 'D' is α, β unsaturated ketone, i.e., 5-ethyl-4-methyl-hept-4-en-3-one.

Which of the following is A ?

A. Calcium acetate

B. Calcium formate

C. Calcium propionate

D. Calcium Butyrate

Answer: C



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245. Butanal with dilute NaOH gives



Answer: C



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246. The formation of cyanohydrin from ketone is an example of :

A. nucleophilic substitution

B. nucleophilic addition

C. electrophilic addition

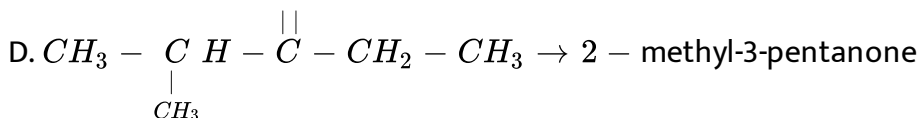
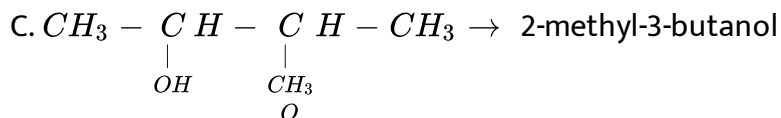
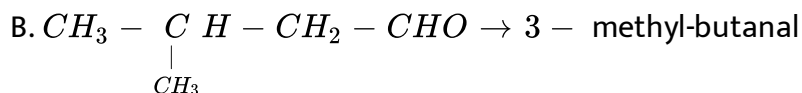
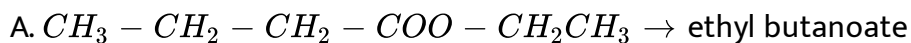
D. electrophilic substitution

Answer: B



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247. Which of the following compound has wrong IUPAC name?



Answer: C



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248. Rate of reaction



is fastest when Z is

A. Cl

B. $OCOCH_3$

C. OC_2H_5

D. NH_2

Answer: A



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249. Identify the compound that exhibits tautomerism

A. Lactic acid

B. 2-Pentanone

C. Benzoic acid

D. 2-Butene

Answer: B



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250. A compound that given a positive iodoform test is

A. 1-pentanol

B. 2-pentanone

C. 3-pentanone

D. pentanal

Answer: B



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251. When acetaldehyde is heated with Fehling's solution it gives a precipitate of

A. Cu

B. CuO

C. Cu_2O

D. $Cu + Cu_2O + CuO$

Answer: C



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252. The compound that will not give iodoform on treatment with alkali and iodine is :

A. acetone

B. ethanol

C. diethyl ketone

D. isopropyl alcohol

Answer: C



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253. The enolic form of acetone contains:

- A. 9 sigma bonds, 1 pi bond and 2 lone pairs
- B. 8 sigma bonds, 2 pi-bonds and 2 lone pairs
- C. 10 sigma bonds, 1 pi-bonds and 1 lone pair
- D. 9 sigma bonds, 2 pi-bonds and 1 lone pair

Answer: A



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254. m-Chlorobenzaldehyde on reaction with conc. KOH at room temperature gives:

- A. potassium m-chlorobenzoate and m-hydroxy benzaldehyde
- B. m-hydroxy benzaldehyde and m-chlorobenzyl alcohol
- C. m-chlorobenzyl alcohol and m-hydroxybenzyl alcohol
- D. potassium m-chlorobenzoate and m-chlorobenzyl alcohol

Answer: D



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255. In a Cannizaro reaction the intermediate that will be the best hydride donor is

A. 

B. 

C. 

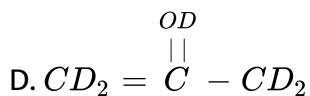
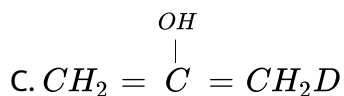
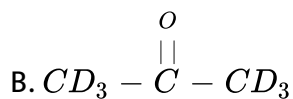
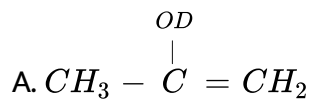
D. 

Answer: D



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256. The enol from of acetone, after treatment with D_2O , gives



Answer: B



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257. A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives

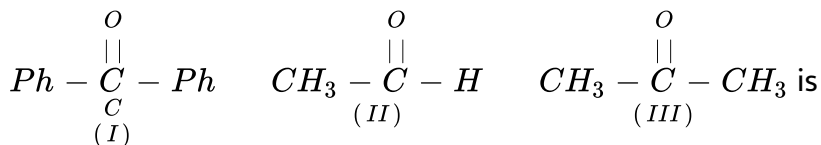
- A. benzyl alcohol and sodium formate
- B. sodium benzoate and methyl alcohol
- C. sodium benzoate and sodium formate
- D. benzyl alcohol and methyl alcohol

Answer: A



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258. The correct order of reactivity of PhMgBr with



A. $I > II > III$

B. $III > II > I$

C. $II > III > I$

D. $I > III > II$

Answer: C



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259. Ethanedial has which functional group(s) ?

A. One ketonic

B. Two aldehydic

C. One double bond

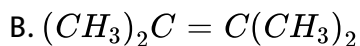
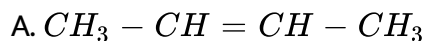
D. Two double bond

Answer: B



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260. Compound which gives acetone on ozonolysis



Answer: B



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261. Acetophenone is prepared by the reaction of which of the following in the presence of $AlCl_3$ catalyst

A. Phenol and acetic acid

B. Benzene and acetone

C. Benzene and acetyl chloride

D. Phenol and acetone

Answer: C



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262. In Etard's reaction, Benzaldehyde can be prepared by oxidation of toluene by

A. Acidic $KMnO_4$

B. $K_2Cr_2O_7 / H^+$

C. CrO_2Cl_2

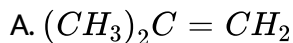
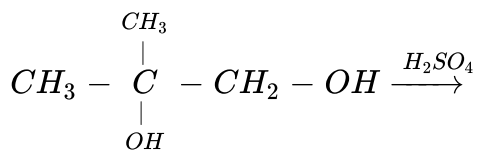
D. All of these

Answer: C

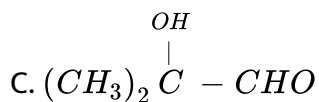


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263. The major product of the following reaction is



B. Butan -2-one



D. Isobutyraldehyde

Answer: D



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264.  on reductive ozonolysis yields

A. 6-oxoheptanal

B. 6-oxoheptanoic acid

C. 6-hydroxyheptanal

D. 3-hydroxypentanal

Answer: A



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265. Ozonolysis of an organic compound gives formaldehyde as one of the products. This confirms the presence of

A. Two ethylenic double bonds

B. A vinyl group

C. An isopropyl group

D. An acetylenic triple bond

Answer: B



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266. When m-chlorobenzaldehyde is treated with 50 % KOH solution, the product (s) obtained is (are)

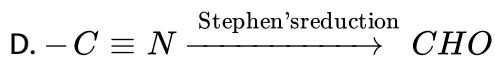
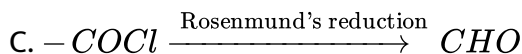
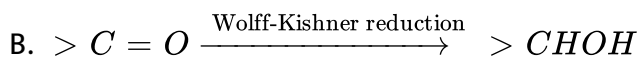
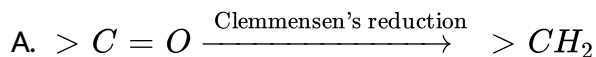


Answer: C



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267. Which one of the following pairs is not correctly matched ?



Answer: B



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268. Trichloroacetaldehyde was subjected to cannizzaro's reaction by using NaOH. The mixture of the products contains sodium trichloroacetate ion and another compound. The other compound is

- A. 2,2,2-Trichloroethanol
- B. Trichloromethanol
- C. 2,2,2-Trichloropropanol
- D. Chloroform

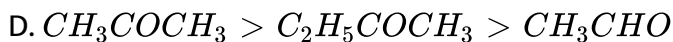
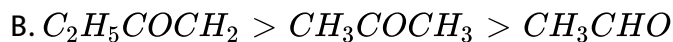
Answer: A



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269. Correct order of reactivity of

CH_3CHO , $C_2H_5COCH_3$ and CH_3COCH_3 is



Answer: A



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270. One mole of an organic compound is found to require only 0.5mol of oxygen to produce an acid. Which class of compounds does the starting material belong to ?

A. Alcohol

B. Ether

C. Ketone

D. Aldehyde

Answer: D



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271. Which of the following reagents is used to distinguish acetone and acetophenone?

A. $NaHSO_4$

B. Grignard reagent

C. Na_2SO_4

D. NH_4Cl

Answer: A



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272. Compound (A) undergoes Cannizzaro reaction and (B) undergoes positive iodoform test. Therefore

A. A=Acetaldehyde ,B=1-Pentanal

B. $A = C_6H_5CH_2CHO$, $B = 1 - Pentanal \neq$

C. A=Formaldehyde,B=2-Pentanone

D. A=Propionaldehyde,B=1-Pentanol

Answer: C



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273. The increasing order of the rate of HCN addition to compound A-D is

(A) HCHO

(B) CH_3COOH_3

(C) $PhCOCH_3$

(D) $PhCOPh$

A. $A > B > C > D$

B. $D < B < C < A$

C. $D < C < B < A$

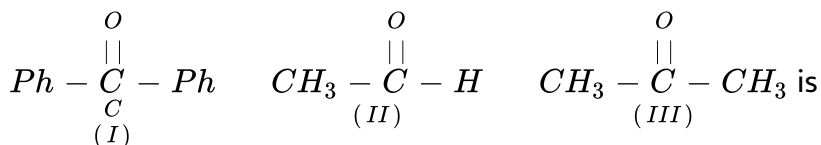
D. $C < D < B < A$

Answer: C



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274. The correct order of reactivity of PhMgBr with



A. $I > II > III$

B. $III > II > I$

C. $II > III > I$

D. $I > III > II$

Answer: C



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275. How will you convert butan -2-one to propanoic acid ?

A. Tollen's reagent

B. Fehling's solution

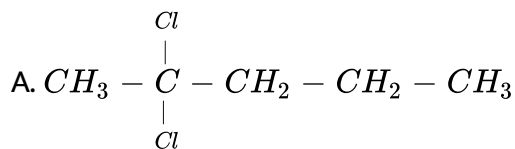
C. $NaOH / I_2 / H^+$

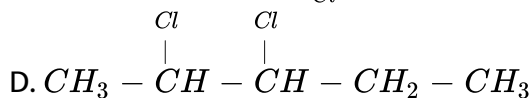
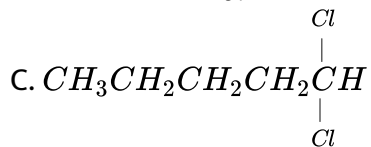
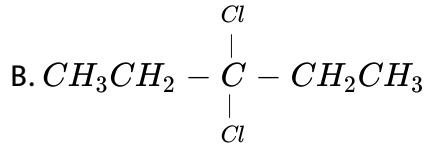
D. $NaOH / NaI / H^+$

Answer: C

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276. A compound (A) $C_5H_{10}Cl_2$ on hydrolysis gives $C_5H_{10}O$ which reacts with NH_2OH , forms iodoform but does not give Fehling test (A) is :





Answer: A



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277. The number of aldol reaction (s) that occurs in the given transformation is



A. 1

B. 2

C. 3

D. 4

Answer: C



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278. CH_3CHO and $C_6H_5CH_2CHO$ can be distinguished chemically by

- A. Benedict test
- B. Iodoform test
- C. Tollen's reagent test
- D. Fehling solution test

Answer: B



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279. In the given transformation, which of the following is the most appropriate reagent ?



A. $\text{NH}_2\text{NH}_2, \text{OH}^-$

B. $\text{Zn} - \text{Hg} / \text{HCl}$

C. $\text{Na}, \text{Liq. NH}_3$

D. NaBH_4

Answer: A



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280. Which of the following will fail to react with potassium dichromate and dilute sulphuric acid?

A. Ethyl alcohol (ethanol)

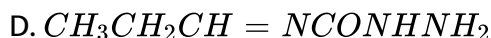
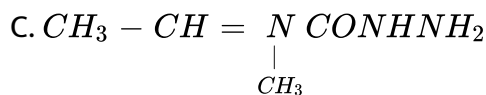
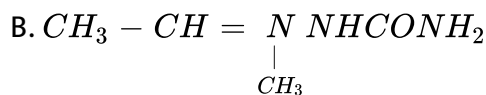
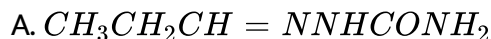
B. Acetaldehyde (ethanal)

C. Secondary propyl alcohol(2-propanaol)

D. Acetone (propanone)

Answer: D

281. Compound 'A' (molecular formula C_3H_8O) is treated with acidified potassium dichromate to form a product 'B' (molecular formula C_3H_6O) 'B' forms a shining silver mirror on warming with ammoniacal silver nitrate 'B' when treated with an aqueous solution of $H_2NCONHNH_2$ and sodium acetate gives a product 'C'. Identify the structure of 'C'



Answer: A

282. Which of the following statements regarding chemical properties of acetophenone are wrong ?

- I. It is reduced to methyl phenyl carbinol by sodium acid and ethanol
- II. It is oxidised to benzoic acid with acidified $KMnO_4$
- III. It does not undergo electrophilic substitution like nitration at meta position
- IV. It does not undergo iodoform reaction with iodine and alkali.

A. 1 and 2

B. 2 and 4

C. 3 and 4

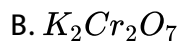
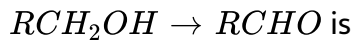
D. 1 and 3

Answer: C



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283. The most suitable reagent for the conversion of



D. PCC (Pyridine chloro chromate)

Answer: D



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284. The major organic product formed from the following reaction :



D. 

Answer: B



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285. Identify the product (E) in the following sequence of reactions :



A. 

B. 

C. 

D. 

Answer: B



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286. Two organic compounds have the same formula, C_4H_8O and are isomeric with each other. They are

- A. aldehydes and ketones
- B. alcohols and phenols
- C. butanal and butanone
- D. tert. butyl alcohol and butan-1-ol

Answer: C



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287. Urotropine has the following molecular formula

- A. $C_6H_{14}N_4$
- B. $C_6H_{12}N_4$
- C. $C_6H_{12}N_2$
- D. $C_6H_{10}N_4$

Answer: B



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288. Which of the following does not give brick red ppt. with Fehling solution ?

A. Methanal

B. Acetaldehyde

C. Glucose

D. Propanone

Answer: D



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289. On alkaline hydrolysis 2,2-dichlorobutane gives rise to

A. 2-methyl propanal

B. butanal

C. butanone

D. pentan-2-one

Answer: C



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290. Rochelle's salt is used in Fehling's solution because it

A. helps in getting the precipitate of CuO

B. produces Cu^{2+} ions

C. prevents precipitation of Cu^{2+} ions

D. decolourises the colour of the solution

Answer: C



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291. Acetaldehyde reacts with PCl_5 , to give :

- A. 1,1-dichloro ethane
- B. 1,2-dichloro ethane
- C. 2,2-dichloro propane
- D. acetyl chloride

Answer: A



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292. During Clemmensen reduction, a carbonyl group is converted into

- A. methylene group
- B. alkane group
- C. methyl group

D. alcoholic group

Answer: A



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293. In a basic medium, the following compound gives rise to diacetone alcohol.

A. ethanal

B. butanone

C. propanone

D. butanal

Answer: C



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294. In catalytic hydrogenation of aldehydes and ketones, the catalyst used is

- A. Na and alcohol
- B. Na-Hg and water
- C. Ni or Pt or Pd
- D. Zn-Hg and conc. HCl

Answer: C



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295. Dry distillation of Ca-acetate and Ca-propionate gives

- A. propanone
- B. butanone
- C. butanal
- D. pentan-3-one

Answer: B



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296. The carbonyl compound undergoing a redox reaction may be

- A. actone
- B. propionaldehyde
- C. acetaldehyde
- D. Benzaldehyde

Answer: D



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297. Give IUPAC name of : $CH_3 - CO(CH_2)_2 - CH_3$

- A. pentan-2-one

- B. pentan-3-one
- C. pentanal
- D. 3-methyl pentanal

Answer: A



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298. Propanal and propanone are

- A. enantiomers
- B. chain isomers
- C. metamers
- D. functional isomers

Answer: D



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299. Which of the following reagents react differently with HCHO , CH_3CHO and CH_3COCH_3 ?

A. NH_3

B. NaHSO_4

C. HCN

D. NH_2OH

Answer: A



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300. Methyl ketones are usually characterised through

A. Schiff's reagent

B. Iodoform test

C. Benedict's reagent

D. Tollen's reagent

Answer: B



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301. Cannizzaro's reaction is

- A. addition reaction
- B. a disproportionation reaction
- C. self oxidation reaction
- D. Elimination reaction

Answer: B



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302. By combining the two calcium salts of carboxylic acids we are preparing 2-butanone. Find the correct pair of the following :

- A. calcium formate + calcium acetate
- B. calcium formate + calcium propanoate
- C. calcium acetate + calcium propanoate
- D. calcium acetate + calcium butanoate

Answer: C



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303. Which one of the following compounds does not react with Fehling solution ?

- A. glucose
- B. acetaldehyde
- C. formic acid
- D. benzaldehyde

Answer: D

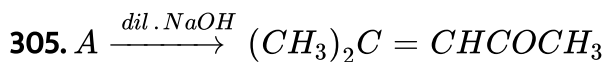
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304. Which of the following aldehyde can give a red precipitate with Fehling solution ?

- A. acetaldehyde
- B. benzaldehyde
- C. salicylic aldehyde
- D. 2-methyl benzaldehyde

Answer: A

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Then A is :

- A. acetaldehyde

B. formaldehyde

C. Propionaldehyde

D. propanone

Answer: D



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306. Which one of the following compound can be oxidised to the corresponding carbonyl compound ?

A. phenol

B. o-nitro phenol

C. 2-hydroxy propane

D. 2-methyl-2-hydroxy propane

Answer: D



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307. Acetaldehyde when treated with dilute $NaOH$ gives.

A. sodium salt of acetaldehyde

B. acetaldol

C. resins of acetaldehyde

D. $CH_3COONa + CH_3CH_2OH$

Answer: B



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308. Which of the following can be used to detect the presence of aldehydes ?

A. Tollen's reagent

B. Molisch's test

C. Millon's test

D. Neutral ferric chloride solution test

Answer: A



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309. Acetaldehyde on reaction with very dilute alkali gives

A. sodium acetate and water

B. acetic acid

C. aldol

D. methyl alcohol

Answer: C



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310. Which of the following compounds is treated with CH_3MgI in dry ether followed by hydrolysis such that 2-methylpropan-2-ol is obtained ?

- A. acetone
- B. acetophenone
- C. ethanolphenyl hydrazone and water
- D. acetaldehyde

Answer: A



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311. Compound A which treated with ethyl magnesium iodide in dry ether forms an addition compound which on hydrolysis forms compounds B. The compound B on oxidation forms 3-pentanone. Hence the compound A and B are :

- A. ethanal and pentanal

- B. pentanal and 3-pentanol
- C. propanal and 3-pentanol
- D. acetone and 3-pentanol

Answer: C



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312. The oxidation of which of the following gives ethylmethyl ketone ?

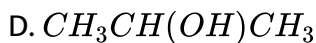
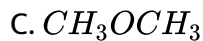
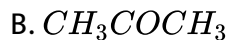
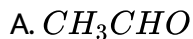
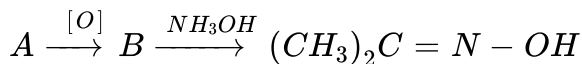
- A. 1-propanol
- B. 1-butanol
- C. 2-propanol
- D. 2-butanol

Answer: D



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313. A in the following series of reaction is :



Answer: D



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314. Ethyl ethanoate on reacting with excess of CH_3MgBr will give

A. isobutyl alcohol

B. n-butyl alcohol

C. 2-methyl propan-2-ol

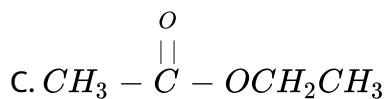
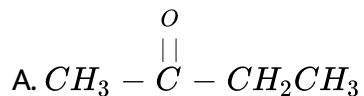
D. acetone

Answer: C



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315. Which of the following is ethyl methyl ketone ?



Answer: A



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316. 2,2,4,4-tetramethyl-3-chloropentane on hydrolysis by aq.KOH gave 'A'.

The compound 'A' on oxidation gave 'B'. The compound 'B' is neither able

to reduce Fehling's solution nor give aldol. This, on Clemmensen's reduction give which of the following :

A. 2,2,4,4-tetramethyl pentane

B. 2,2,4,4-tetramethyl hexane

C. 2,3,4,4-tetramethyl pentane

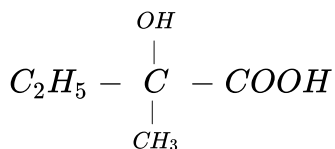
D. 2,2,3,4-tetramethyl pentane

Answer: A



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317. Compound A on reaction with HCN and on further hydrolysis gives



Hence the compound A is :

A. propanone

B. ethanal

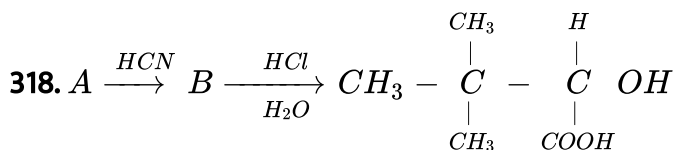
C. propanal

D. butan-2-one

Answer: D



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Which of the following is 'A' in the above series of reactions ?

A. 2,3-dimethyl propanal

B. 2,2-dimethyl propanol

C. 2,2-dimethyl propanal

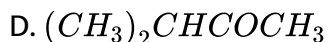
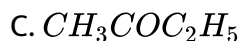
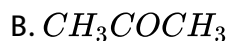
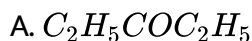
D. 3-methyl butanal

Answer: C



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319. Calcium salt of fatty acid (A) on dry distillation gives (B). The compound (B) is not able to show reduction of Tollen's reagent. The compound (B) on aldol condensation gives 5-ethyl-5-hydroxy-4-methyl-3-heptanone. Which of the following is B?



Answer: A



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320. Butan-2-one can be obtained from the dry distillation of

A. calcium propionate

B. calcium formate and calcium propionate

C. calcium acetate and calcium propionate

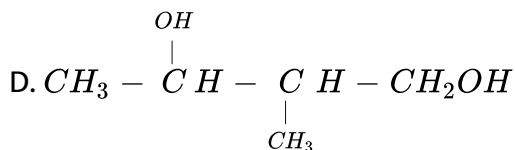
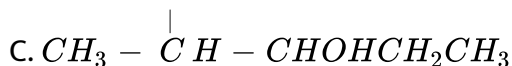
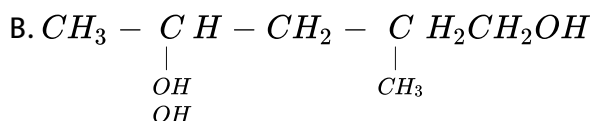
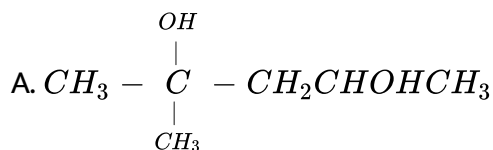
D. calcium acetate

Answer: C



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321. Acetone on treatment with dil. Na_2CO_3 from a compound which on reduction gives



Answer: A



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322. A product obtained by the reaction of X with hydroxyl amine and on further reduction gives



Hence the compound X can be :

- A. 3,3-dimethyl butan-3-one
- B. 2-methyl butan-3-one
- C. diethyl ketone
- D. 2,2-dimethyl pentan-3-one

Answer: D



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323. Acetone on treatment with CH_3MgI and on further hydrolysis gives :

- A. iso-butyl alcohol
- B. iso-propyl alcohol
- C. acetic acid
- D. 2-methyl-2-propanol

Answer: D



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324. When acetaldehyde is heated with Fehling's solution, it gives a red precipitate of :

- A. Ag_2O
- B. Cu_2O
- C. Acetic acid
- D. $Cu(OH)_2$

Answer: B

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325. 3-Pentanone can be obtained by dry distillation of

- A. calcium acetate and calcium formate
- B. calcium propionate
- C. calcium acetate
- D. calcium propionate and calcium formate

Answer: B

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326. Calcium acetate on heating yields

- A. $CaCO_3$ and H_2O
- B. $CaCO_3$ and acetone
- C. CaO , CO_2 and H_2O

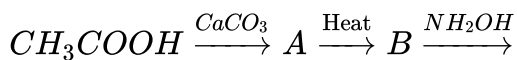
D. Acetaldehyde and $CaCO_3$

Answer: B



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327. The end product (C) of the following reaction is :



A. acetoxime

B. formaldehyde oxime

C. methylcyanide

D. acetaldehyde oxime

Answer: A



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328. Alkaline hydrolysis of R_2CCl_2 forms

- A. alkanone
- B. propane
- C. alkanal
- D. propanol

Answer: A



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329. Acetaldehyde reacts with hydroxyl amine to give

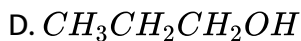
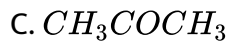
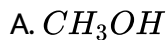
- A. alkane
- B. ketoxime
- C. Alcohols
- D. aldeoxime

Answer: D



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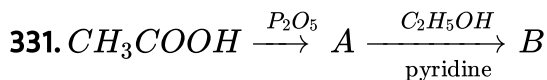
330. Which of the following on oxidation will not give a carboxylic acid with the same number of carbon atoms ?



Answer: C



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Identify B

- A. Methyl acetate
- B. Ethyl propionate
- C. Ethyl acetate
- D. Methyl propionate

Answer: C



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332. Urotropine is called

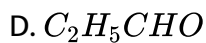
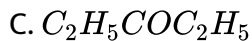
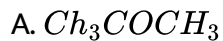
- A. Hexamethylene diamine
- B. Hexamethylene triamine
- C. Hexamethylene tetramine
- D. Hexamethylene pentamine

Answer: C



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333. Ca-acetate + Ca – propionate on distillation gives



Answer: B



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334. Cannizzaro's reaction is given by

A. Formaldehyde

B. Acetaldehyde

C. Acetic acid

D. Acetone

Answer: A



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335. A dihalo alkane P, having formula $C_3H_6Cl_2$, on hydrolysis gives a compound, that can reduce Tollen's reagent. The compound P is

- A. 1,2-Dichloropropane
- B. 2,2-Dichloropropane
- C. 1,1-Dichloropropane
- D. 1,3-Dichloropropane

Answer: C



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336. IUPAC name of crotonaldehyde is

- A. But-1-en-2-al
- B. 2-Methyl pent-2-ene-3-one
- C. But-2-enal
- D. But-2-en-1-al

Answer: C



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337. White precipitate is formed when aldehyde is treated with

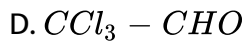
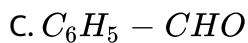
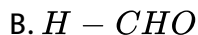
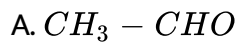
- A. Tollen's reagent
- B. Biuret test
- C. Millions test
- D. Xanthoprotic test

Answer: C



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338. Cannizzaro's reaction is not given by

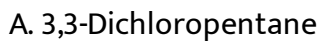


Answer: A



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339. Which will not give pentan-3-one ?



B. 2,2-Dichloropentane

C. Pentan-3-ol

D. Ca-propanoate

Answer: B



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340. $C_4H_{10}O$ has how many metamers ?

A. 1

B. 2

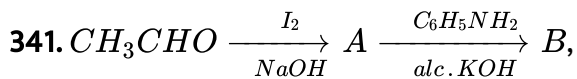
C. 3

D. 4

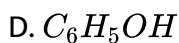
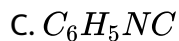
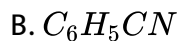
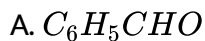
Answer: C



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Identify B.



Answer: C



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342. Ethyl methyl ketone is obtained by heating calcium salts of

A. Acetic acid + Propionic acid

B. Acetic acid and Formic acid

C. Propionic acid and Formic acid

D. Acetic acid and Butyric acid

Answer: A



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343. Fehling solution on reaction with glucose gives

- A. Copper
- B. Cupric oxide
- C. Cuprous oxide
- D. Silver

Answer: C



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344. IUPAC name of $CH_3 - \overset{\overset{C_2H_5}{|}}{\underset{\underset{CHO}{|}}{C}} - CH_2 - CH_3$

- A. 3-Methyl pentan-2-al

B. 2,3-Dimethyl butanal

C. 3-Ethyl butan-2-al

D. 2-Ethyl-2-methyl butanal

Answer: D



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345. Which reducing agent is used in Clemmensen reduction-

A. $\text{Na} - \text{Hg} + \text{H}_2\text{O}$

B. $\text{Na} + \text{ROH}$

C. $\text{Zn} - \text{Hg} + \text{conc.HCl}$

D. $\text{Zn} - \text{Hg} + \text{ROH}$

Answer: C



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346. 2, 2-dichloropropane $\xrightarrow{\text{Aq.KOH}}$ A $\xrightarrow[\text{reduction}]{\text{Clemmensen}}$ B, B is

A. Propane

B. butane-1-ol

C. Butene

D. Propene

Answer: A



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347. Acetone undergoing Aldol condensation followed by dehydration gives

A. 4-Methylpent-3-ene-2-one

B. 4-Methylpent-2-ene-2-one

C. But-2-enal

D. 2,3-Dimethylpentan-2-one

Answer: A



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348. Which of the following undergoes condensation with NH_2OH but does not undergo aldol condensation ?

A. $H-CHO$

B. $CH_3 - CHO$

C. $CH_3 - COCH_3$

D. $CH_3 - COC_2H_5$

Answer: A



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349. Which of the following can add across the double bond of acetaldehyde ?

A. H_2

B. NH_2OH

C. Hydrazine

D. Phenyl hydrazine

Answer: A



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350. Acetoxime on reduction gives

A. isopropyl alcohol

B. Isopropyl amine

C. acetaldehyde

D. Isopropyl cyanide

Answer: B



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351. Isopropyl chloride $\xrightarrow{aq. KOH}$ A $\xrightarrow{\text{dehydration}}$ B,

B is

- A. n-propyl alcohol
- B. Iso-propyl chloride
- C. Propene
- D. Propanone

Answer: C



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352. Acetylene $\xrightarrow{\text{excess HCl}}$ A $\xrightarrow{\text{Hydrolysis}}$ B $\xrightarrow{Na-Hg + H_2O}$ C

C is

- A. Ethanol
- B. Ethylene

C. Acetaldehyde

D. Acetone

Answer: A



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353. The IUPAC name of diethyl ketone is

A. Butanone

B. Pentan-2-one

C. Pentan-3-one

D. Butan-2-one

Answer: C



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354. The formation of cyanohydrin from ketone is an example of :

- A. Electrophilic addition
- B. Nucleophilic addition
- C. Nucleophilic substitution
- D. electrophilic substitution

Answer: B



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355. In the Fehling's solution, Rochelle's is used to

- A. liberate Cu^{2+} ions
- B. decolorize the solution
- C. prevent precipitation of Cu^{2+} ions
- D. prevent precipitation of Cu^{+} ions

Answer: C



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356. 2-pentanone can be obtained from dry distillation of

- A. calcium butyrate and calcium acetate
- B. calcium acetate and calcium formate
- C. calcium propionate
- D. calcium acetate

Answer: A



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357. Amongst the following, the compound which will give iodoform test is

- A. 3-pentanol

B. 3-methyl-2-butanol

C. propanal

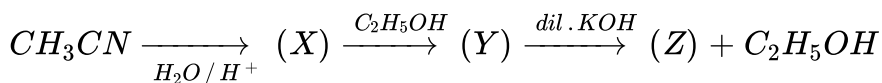
D. butanal

Answer: B



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358. The product (Z) in the following sequence of reaction is



A. CH_3COOK

B. CH_3COOH

C. CH_3COOCH_3

D. CH_3COCH_3

Answer: A



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359. 2,2 -dichlorobutane on boiling with aqueous KOH gives

- A. butanal
- B. 2-butanone
- C. 2-butanol
- D. butanoic acid

Answer: B



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360. Ethane nitrile reacts with propyl magnesium bromide to give

- A. 2-pentanone
- B. 3-pentanone
- C. hexanone
- D. ethyl n-propyl ketone

Answer: A



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361. Which of the following gives characteristic deep colour with $FeCl_3$?

- A. Ethanol
- B. Resorcinol
- C. Phenol
- D. Both "b" and "c"

Answer: D



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362. The enolic form of acetone contains:

- A. 8σ bond, 2π bond and 2 lone pair

B. 9 σ bond, 1 π bond and 2 lone pair

C. 9 σ bond, 2 π bond and 1 lone pair

D. 10 σ bond, 1 π bond and 1 lone pair

Answer: B



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363. Calcium acetate + Calcium propionate $\rightarrow P + CaCO_3$. The Compound is

A. Acetone

B. Ethanol

C. Ethanal

D. Butanone

Answer: D



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364. The preparation of ethers by diazomethane method is known as

- A. Etherification
- B. De-etherification
- C. Methylation of alcohol
- D. Methylation

Answer: C



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365. Which of the following compounds when treated with dibenzyl cadmium yields benzyl methyl ketone ?

- A. Acetone
- B. Acetaldehyde
- C. Acetic acid

D. Acetyl chloride

Answer: D



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366. The reagent used in Wolff-Kishner reduction is

A. $\text{NH}_2 - \text{NH}_2$ and KOH in ethylene glycol

B. Zn-Hg / conc. HCl

C. NaBH_4

D. $\text{Na} - \text{Hg} / \text{H}_2\text{O}$

Answer: A



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367. Which reagent is used in Etard reaction?

- A. Chromyl chloride
- B. Ethanoyl chloride
- C. SnCl_2 and HCl
- D. Cadmium chloride

Answer: A



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368. The acid, which contains both -OH and -COOH groups is

- A. Phthalic acid
- B. Adipic acid
- C. Glutaric acid
- D. Salicylic acid

Answer: D



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369. Nitrations of which among the following compounds yields cyclonite ?

- A. Formaldehyde
- B. Benzaldehyde
- C. Urotropine
- D. Acetaldehyde ammonia

Answer: C



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370. Which of the following compound will give positive iodoform test ?

- A. isopropyl alcohol
- B. Propionaldehyde
- C. Ethylphenyl ketone

D. Benzyl alcohol

Answer: A



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371. Aldehyde or ketones when treated with $C_6H_5 - NH - NH_2$. The product formed is

A. Semicarbazone

B. Phenylhydrazone

C. Hydrazone

D. Oxime

Answer: B



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1. In the case of carboxylic acids, the α -carbon is the carbon :

- A. of carboxylic group
- B. bearing carboxyl group
- C. at the other end of the chain
- D. of the side chain

Answer: B



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2. General formula for mono-carboxylic acid is :

- A. $C_nH_{2n}O_2$
- B. $C_nH_{2n+1}COOH$
- C. $C_nH_{2n-1}COOH$
- D. $C_nH_{2n}COOH$

Answer: A



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3. Aliphatic carboxylic acid are functional isomers of

- A. Aliphatic esters
- B. Aliphatic ethers
- C. Aliphatic ketones
- D. Aliphatic alcohols

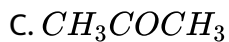
Answer: A



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4. Compound having molecular formula $C_3H_6O_2$ is:-

- A. $C_2H_5 - COOH$



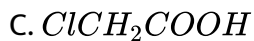
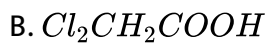
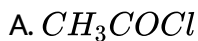
D. Both (a) and (b)

Answer: D



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5. Which of the following formula represent chloroethanoic acid ?



Answer: C



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6. Fatty acids are

- A. Monocarboxylic acids
- B. Di-carboxylic acids
- C. Tricarboxylic acids
- D. Tetra carboxylic acids

Answer: A



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7. General formula for mono-carboxylic acid is :

- A. $C_nH_{2n}O_2$
- B. $C_nH_{2n}O$
- C. $C_nH_{2n}O_3$
- D. $C_nH_{2n-2}O_2$

Answer: A



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8. Which of the following is example of tricarboxylic acid ?

A. Ethanoic acid

B. Benzoic acid

C. Citric acid

D. Tartaric acid

Answer: C



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9. Glacial acetic acid is the same as :

A. vinegar

- B. Pure anhydrous acetic acid
- C. mixture of acetic acid and acetic anhydride
- D. mixture of alcohol and acetic acid

Answer: B



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10. Which of the following compound does not have a carboxyl group.

- A. Benzoic acid
- B. Picric acid
- C. Methanoic acid
- D. Ethanoic acid

Answer: B



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11. Acetic acid is a weak acid because :

- A. it has no replaceable hydrogen
- B. it is insoluble in water
- C. it is highly ionized
- D. it is slightly ionized

Answer: D



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12. Which one of the following is ethanoic acid ?

- A. HCOOH
- B. CH_3COOH
- C. $\text{CH}_3\text{CH}_2\text{COOH}$
- D. $\text{C}_6\text{H}_5\text{COOH}$

Answer: B



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13. The common name of $CH_3(CH_2)_{16}COOH$ acid is :

A. ocadecanoic acid

B. stearic acid

C. palmitic acid

D. oleic acid

Answer: B



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14. The I.U.P.A.C. name of $CH_3 - CH_2 - \underset{\substack{| \\ CH_3}}{C} H - CH_2 - COOH$ is

A. 2-methyl butane-1-carboxylic acid

B. 3-methyl pentanoic acid

C. hexanoic acid

D. caproic acid

Answer: B



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15. The I.U.P.A.C. name of lactic acid $CH_3CHOHCOOH$ is :

A. 2-hydroxy propanoic acid

B. 1-hydroxy-2-methyl acetic acid

C. α — hydroxy propionic acid

D. 3-hydroxy propionic acid

Answer: A



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16. The IUPAC name of the compound :



- A. propyl benzoic acid
- B. 3 Benzene propanoic acid
- C. 3 phenyl propanoic acid
- D. 3 phenyl butanoic acid

Answer: C



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17. Which of the following acids occur in ants ?

- A. Formic acid
- B. Acetic acid
- C. Propionic acid
- D. Oxalic acid

Answer: A



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18. Most of the carboxylic acids exists as dimer in

A. acidic solution

B. basic solution

C. protic solvent

D. vapour phase

Answer: D



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19. Acetic acid can be separated from aqueous solution of acetic acid, at which of the following temperature ?

A. 298.5K

B. 373K

C. 289.5K

D. 273K

Answer: B



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20. Which of the following is isobutyric acid?

A. $CH_3CH_2CH_2COOH$

B. $(CH_3)_2CHCOOH$

C. $CH_3CH_2CH_2CH_2COOH$

D. 

Answer: B



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21. The IUPAC name of caproic acid is:

- A. pentanoic acid
- B. hexanoic acid
- C. heptanoic acid
- D. octanoic acid

Answer: B



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22. IUPAC name of iso-butyric acid is :

- A. 2-Methyl-propanoic acid
- B. Propanoic acid
- C. Pentanoic acid

D. butanoic acid

Answer: A



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23. Valeric acid has IUPAC Nomenclature as :

A. Pentanoic acid

B. Butyric acid

C. Propionic acid

D. Methanoic acid

Answer: A



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24. The IUPAC name of $CH_3CH_2COOCH(CH_3)_2$ is :

A. Iso-Propyl propionate

B. Iso-Propyl propanoate

C. Dimethyl propionate

D. Dimethyl acetate

Answer: B



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25. The suffix used in carboxylic acid is :

A. – *oic*

B. – *ane*

C. – *ene*

D. – *al*

Answer: A



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26. Lactic acid is:

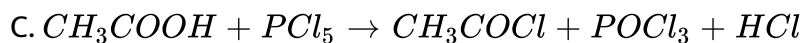
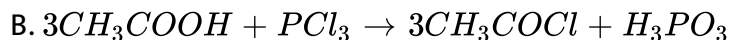
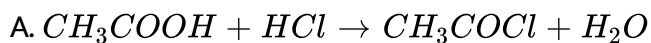
- A. α – hydroxy propionic acid
- B. β – hydroxy propionic acid
- C. propionic acid
- D. butyric acid

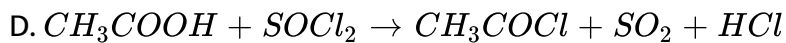
Answer: A



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27. Which of the following reaction cannot be used for the preparation of acetyl chloride ?



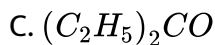
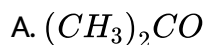
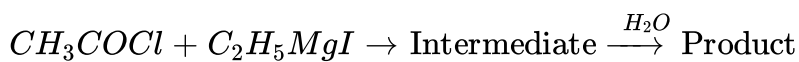


Answer: A



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28. Identify 'Product ' in the reaction :



Answer: B



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29. Acetic acid is obtained when:

- A. Methyl alcohol is oxidized with $KMnO_4$
- B. Calcium acetate is distilled in the presence of calcium formate
- C. Acetaldehyde is oxidized with $K_2Cr_2O_7$ and dil. H_2SO_4
- D. Glycerol is heated with H_2SO_4

Answer: C



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30. Which acid is strongest ?

- A. CH_3COOH
- B. $ClCH_2COOH$
- C. $Cl_2CHCOOH$
- D. Cl_3CCOOH

Answer: D



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31. Alkyl cyanides upon hydrolysis give :

A. Primary amines

B. Aldehydes

C. Carboxylic acid

D. Acid Amides

Answer: C



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32. Which of the following statement does not apply to carboxylic acids ?

A. There are polar molecules

- B. They show hydrogen bonding
- C. They have higher b.p. than alcohols
- D. They are strong acids than mineral acids

Answer: D



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33. Acetic acid is obtained when:

- A. methyl alcohol is oxidized with potassium permanganate
- B. Calcium acetate is distilled in the presence of calcium formate
- C. acetaldehyde is oxidized with potassium dichromate and sulphuric acid
- D. glycerol is heated with sulphuric acid

Answer: C



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34. Acid present in the lemon is :

- A. lactic acid
- B. acrylic acid
- C. citric acid
- D. Tartaric acid

Answer: C



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35. Which of the following reagents does not give acid chloride on treating with an acid ?

- A. thionyl chloride
- B. phosphorus trichloride
- C. phosphorus pentachloride

D. chlorine

Answer: D



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36. Hydrolysis of trichloro methane with aqueous KOH gives

A. formic acids

B. acetic acid

C. formaldehyde

D. acetaldehyde

Answer: B



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37. n-propyl alcohol on oxidation forms :

A. ethyl amine

B. ethanoic acid

C. propanoic acid

D. butyric acid

Answer: C



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38. Vinegar contains :

A. 1% acetic acid

B. 20% acetic acid

C. 8% acetic acid

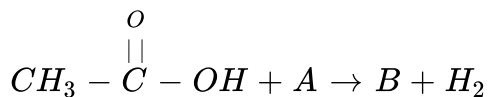
D. 100% acetic acid

Answer: C

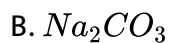
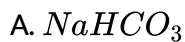


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39. In the reaction :



A is :



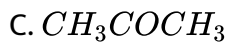
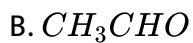
Answer: C



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40. Which one of the following on oxidation will not give a carboxylic acid with the same number of carbon atoms ?



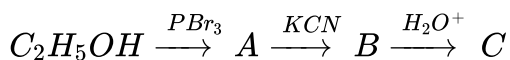


Answer: C



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41. In the reaction sequence :



C is :

A. Acetic acid

B. Acetamide

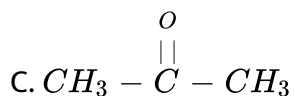
C. Propionic acid

D. Ethylamine

Answer: C

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42. Which one of the following on oxidation will not give a carboxylic acid with the same number of carbon atoms ?



D. Both (a) and (b)

Answer: D

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43. Sodium acetate and acetyl chloride react to give:

A. acetaic acid

B. acetone

C. acetic anhydride

D. sodium formate

Answer: C



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44. Which of the following orders is true regarding the acidic nature

A. formic acid $>$ acetic acid $>$ propionic acid

B. formic acid $<$ acetic acid $>$ propionic acid

C. formic acid $<$ acetic acid $<$ propionic acid

D. formic acid = acetic acid = propionic acid

Answer: A



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45. For carbonation of Grignard reagent, which of the following is used ?

- A. Solid CO_2
- B. alkyl group
- C. Ice
- D. Both (a) and (c)

Answer: A



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46. Vinegar , a food preservative is :

- A. $HCHO$
- B. $HCOOH$
- C. CH_3CHO
- D. CH_3COOH

Answer: D



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47. Alkyl cyanides on hydrolysis with mineral acids form :

- A. aldehydes
- B. ketones
- C. alcohols
- D. carboxylic acids

Answer: D



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48. When dry ice reacts with CH_3MgBr the product is hydrolysed to give :

- A. Formic acid
- B. Acetic acid
- C. Methyl alcohol
- D. Ethyl alcohol

Answer: B



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49. Hydrolysis of ethyl cyanide gives :

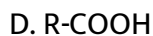
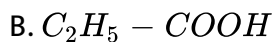
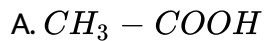
- A. Formic acid
- B. Acetic acid
- C. Propionic acid
- D. Acetaldehyde

Answer: C



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50. Which of the following is more acidic in nature ?



Answer: C



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51. Ethanoic acid is obtained from which of the following :

A. Ethanol

B. Methanol

C. Dry ice

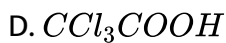
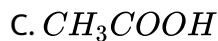
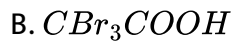
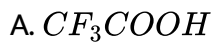
D. Both (a) and (c)

Answer: D



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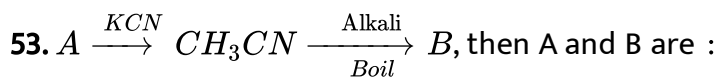
52. The strongest acid among the following :

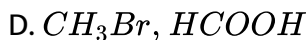
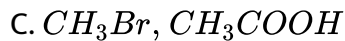
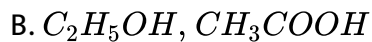
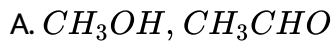


Answer: A



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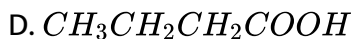
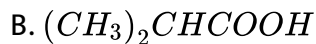
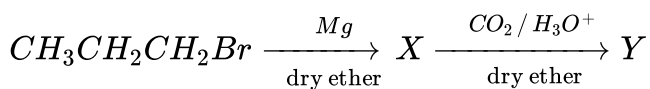


Answer: C



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54. Consider the following sequence of reactions and identify the final product (Y) :



Answer: D



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55. What is the main reason for the fact that carboxylic acids can undergo ionization

- A. absence of α – hydrogen
- B. Resonance stabilization of the carboxylate ion
- C. High reactivity of α – hydrogen
- D. Hydrogen bonding

Answer: B



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56. With the increase in molecular weight, the acidic character of fatty acids :

- A. increases
- B. decreases
- C. Both a and b
- D. remains same

Answer: B



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57. The pK_a values of stronger acids are :

- A. lower
- B. higher
- C. either lower or higher
- D. greater than 7

Answer: A



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58. 2-methyl propan nitrile on alkaline hydrolysis give :

- A. butyric acid
- B. isobutyric acid
- C. propionic acid
- D. pentanoic acid

Answer: B



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59. Identify 'Product ' in the reaction :



- A. CH_3COONH_4
- B. CH_3COONH_2
- C. CH_3CONH_2

D. $(CH_3CO)_2O$

Answer: C



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60. Which product distills over when a mixture of absolute alcohol and glacial acetic acid is heated in presence of conc. H_2SO_4 or dry hydrogen chloride gas ?

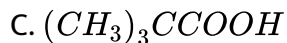
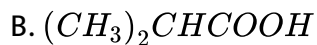
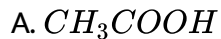
- A. Acetoacetic ester
- B. Ethyl acetate
- C. Ethyl acetoacetate
- D. Methyl acetoacetate

Answer: B



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61. Which of the following carboxylic acid can be esterified most readily ?



Answer: D



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62. The reaction between an alcohol and carboxylic acid is known as :

A. dehydration

B. Neutralisation

C. Saponification

D. Esterification

Answer: D



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63. When formic acid is treated with ammoniacal silver nitrate it forms :

- A. formaldehyde
- B. carbon dioxide
- C. nitrogen
- D. metallic silver

Answer: D



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64. The formula $(RCO)_2O$ represents:

- A. A ketone

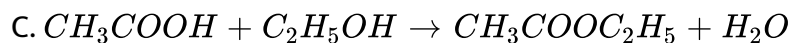
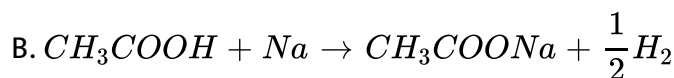
- B. An ester
- C. An acid anhydride
- D. A carboxylic acid

Answer: C



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65. Which of the reactions are due to H^+ ion of the $-COOH$ group :



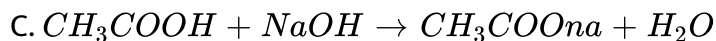
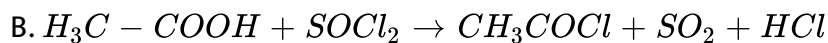
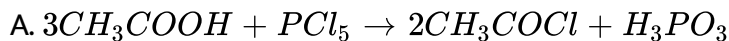
D. Both (a) and (b)

Answer: D



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66. Which of the following indicate the presence of -OH group in -COOH group of the acetic acid (CH_3COOH) :



D. Both (a) and (b)

Answer: D



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67. Formaldehyde and formic acid can be distinguished from each other by treating with :

A. Fehling solution

B. Tollen's reagent

C. Ferric chloride

D. Sodium bicarbonate

Answer: D



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68. Which of the following substance when boiled with NaOH will evolve NH_3 ?

A. ethylamine

B. aniline

C. acetamide

D. acetoxime

Answer: C



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69. Carboxylic acid can be converted into corresponding ketone by heating their :

A. Calcium salt

B. $LiAlH_4$

C. Zn/HCl

D. $Ni - CO/CO_2$

Answer: A



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70. Which of the following acid is optically active ?

A. Oxalic

B. Acetic

C. Lactic

D. propionic

Answer: C



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71. Sodium salt of formic acid upon acid hydrolysis gives :

- A. formic acid
- B. oxalic acid
- C. formaldehyde
- D. aceticacid

Answer: A



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72. On heating with P_2O_5 , acetic acid gives :

- A. acetone

B. acetic anhydride

C. acetaldehyde

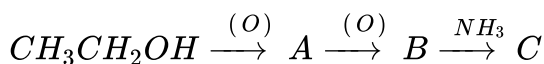
D. ethyl acetate

Answer: B



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73. In the reaction :



the product is :

A. CH_4

B. CH_3OH

C. CH_3COONH_4

D. CH_3CN

Answer: C



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74. The elimination of CO_2 from a carboxylic acid is known as :

- A. hydration
- B. dehydration
- C. carboxylation
- D. decarboxylation

Answer: D



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75. $COOH$ group of a compound react with active metal to liberate :

- A. N_2
- B. SO_2
- C. O_2

D. H_2

Answer: D



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76. Which of the following compound will react with $NaHCO_3$ solution and produces salt and carbon dioxide?

A. acetic acid

B. n-hexanol

C. phenol

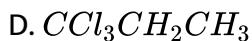
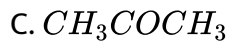
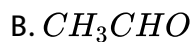
D. both (b) and (c)

Answer: A



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77. On oxidation which compound will not give a carboxylic acid with same number of carbon atoms ?



Answer: C



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78. The property by which acetic acid liberates hydrogen gas when treated with sodium is :

A. basic

B. amphoteric

C. acidic

D. neutral

Answer: C



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79. Carboxylic acids are acidic in nature because :

- A. it dissociates to give H^+ ions
- B. it dissolves in water to form protons
- C. the carboxylate ion is resonance unstablised
- D. both (a) and (b)

Answer: D



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80. Which of the following statement is incorrect ?

- A. Phenols are more acidic than carbonic acid
- B. Carboxylate ion is more stable than phenoxide ion
- C. Alcohols are neutral
- D. Alcohols are more acidic than phenols

Answer: D



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81. Which of the following compound is able to decompose soda-bicarb ?

- A. CH_3OH
- B. $HCHO$
- C. CH_3COOH
- D. CH_3CHO

Answer: C



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82. Which of the following does not give effervescence with $NaHCO_3$?

- A. Ethanoic acid
- B. formic acid
- C. methanoic acid
- D. picric acid

Answer: D



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83. Acetic acid \rightarrow Methane

This reaction is called as _____ reaction.

- A. Decarboxylation
- B. dehydration
- C. hydration

D. dehalogenation

Answer: A



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84. –OH group in alcohol is neutral, while it is acidic in carboxylic acid because:

- A. Alcohol has alkyl group with + 1 effect
- B. carboxylic acid is an electrovalent compound
- C. alcohol is a covalent compound
- D. in carboxylic acid-OH group is joined to electron withdrawing carbonyl group

Answer: D



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85. Acetic acid does not form acetyl chloride with :

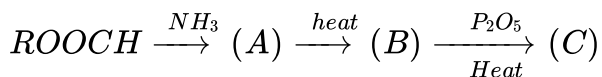


Answer: D



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86. The product (C) in the following reaction is :

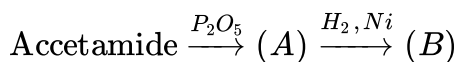


Answer: B



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87. The end product in the following sequence is:



- A. Ethyl amine
- B. methyl amine
- C. methyl cyanide
- D. ammonium acetate

Answer: A



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88. Two molecules of carboxylic acids lose H_2O in presence of P_2O_5 to form

- A. Acid chlorides
- B. acid phosphate
- C. Potassium salt of acids
- D. Acid anhydrides

Answer: D



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89. In the reaction between carboxylic acids and sodium carbonate the effervescence is due to the liberation of

- A. O_2
- B. H_2
- C. CO_2
- D. CO

Answer: C



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90. A colourless water soluble organic liquid decomposes sodium carbonate and liberates carbon dioxide. It produces black precipitate with Tollen's reagent. The liquid is :

- A. acetaldehyde
- B. acetic acid
- C. formaldehyde
- D. formic acid

Answer: D



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91. What is 'A' in the following reactions ?



A. Sn / HCl

B. Zn / HCl

C. $\text{Na} / \text{C}_2\text{H}_5\text{OH}$

D. LiAlH_4

Answer: D



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92. When acetic acid is heated with phosphorus pentaoxide to give its anhydride, the reaction is called

A. Hydrogenation

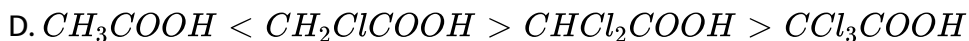
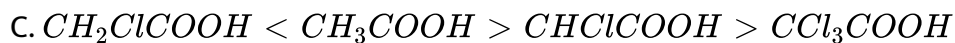
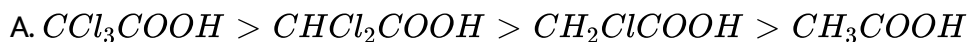
B. dehydration

C. Oxidation

D. Reduction

Answer: B

93. The correct order of decrease acidity in the following organic compounds is



Answer: A

94. Place the following in the correct order of acidity



A. $1 > 2 > 3$

B. $3 > 2 > 1$

C. $2 > 1 > 3$

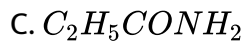
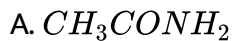
D. $1 > 2 > 2$

Answer: A



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95. When propionic acid is heated with ammonia give



Answer: C



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96. Carboxylic acid can be converted into corresponding ketone by heating their :

- A. decompose carbonate
- B. reacts with metal forming H_2O
- C. neutralize the ammonium hydroxide form salt.
- D. both (a) and (b).

Answer: C



View Text Solution

97. An anhydride contains

- A. two unsymmetrical RCO groups
- B. two symmetrical RCO groups
- C. one symmetrical and one unsymmetrical group

D. $-COOR'$ groups

Answer: B



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98. If acetic acid reacts with methyl alcohol containing labelled oxygen atom in presence of dry HCl. The labeled oxygen atom, at the complete reaction will be found in

A. Methyl acetate

B. water

C. Methyl alcohol

D. acetic acid

Answer: A



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99. Carboxyl acid reacts with potassium metal. The amount of potassium used up and hydrogen liberated are in the molar ratio of

A. 2 : 1

B. 1 : 1

C. 3 : 2

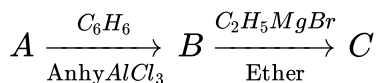
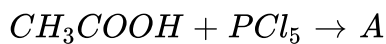
D. 2 : 3

Answer: A

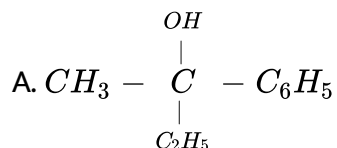


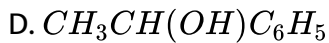
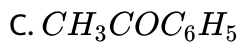
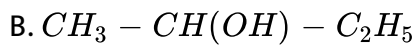
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100. In a set of the given reactions, acetic acid yields a product C.



Product C would be





Answer: A



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101. Which one of the following acid is monobasic ?

A. sulphuric acid

B. phosphoric acid

C. Both (a) and (b)

D. acetic acid

Answer: D



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102. Formic acid contains the following functional groups :

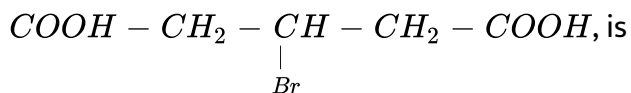
- A. Carboxylic
- B. Carbonyl
- C. hydroxylamine
- D. All of these

Answer: D



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103. The I.U.P.A.C. name of the compound



- A. 3-bromopentan-1,5-dioic acid
- B. α - bromo glutaric acid
- C. 1-bromo-1,3-propan dicarboxylic acid

D. α -romo propan -1,5 dicarboxylic acid

Answer: A



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104. IUPAC name of adipic acid



A. 1,6 Hexanoic acid

B. 1,6 Hexadioci acid

C. Hexane-1,6-dioic acid

D. Hex-1,6-dioic acid

Answer: C



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105. The following acids can be prepared from butter :

- A. Formic
- B. Acetic
- C. Butyric
- D. Carbolic

Answer: C



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106. The compound, $CH_3 - C(C_2H_5)_2COOH$ is named as follows, according to IUPAC system :

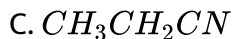
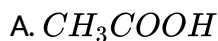
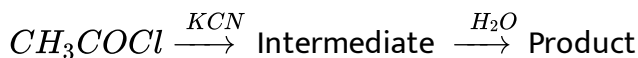
- A. 2,2-Diethyl butanoic acid
- B. 2-Ethyl -2-methyl butanoic acid
- C. 3-Ethyl-2-methyl butanoic acid
- D. Diethyl butyric acid

Answer: B



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107. Identify 'Product' in the reaction :



Answer: D



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108. A compound (A) has a molecular formula C_2Cl_3OH . It reduces Fehling's solution and on oxidation gives a monocarboxylic acid (B). It

can be obtained by the action of chlorine on ethyl alcohol, (A) is:

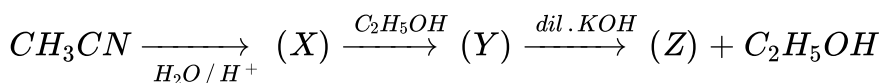
- A. chloral
- B. chloroform
- C. methyl chloride
- D. monochloro acetic acid

Answer: A



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109. The product (Z) in the following sequence of reaction is



- A. $CH_3 - COOH$, $CH_3 - COOCH_3$, CH_3COONa
- B. $C_2H_5 - COOH$, $CH_3 - COOC_2H_5$, $COONa$
- C. $CH_3 - COOH$, $CH_3 - COOC_2H_5$, $CH_3 - COONa$
- D. CH_3COOH , $CH_3COOC_2H_5$, CH_3OH

Answer: C



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110. Which of the following is true ?

A. HCOOH is weaker acid than $\text{CH}_3 - \text{COOH}$

B. HCOOH is oxidizing agent

C. $\text{CH}_3 - \text{COOH}$ is reducing agent

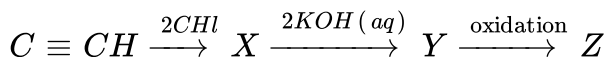
D. HCOOH is reducing agent

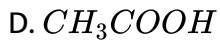
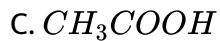
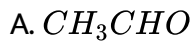
Answer: D



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111. What is (Z) is the following reaction ?



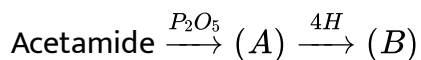


Answer: C



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112. The end product in the following sequence is:



A. Methyl amine

B. Ethyl amine

C. Methyl cyanide

D. Ammonium cyanate

Answer: B

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113. The pK_a value of acids A,B,C and D are 2.3,3.2,4 and 5 respectively .

The strongest acid amongst them is

A. A

B. B

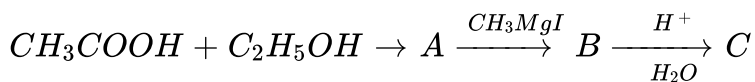
C. C

D. D

Answer: A

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114. In the reaction :



A. Ammonium acetate

B. Acetonitrile

C. Acetamide

D. Acetone

Answer: D



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115. Formic acid and acetic acid are distinguished by

A. the help of litmus paper

B. caustic soda

C. $NaHCO_3$

D. ammonical $AgNO_3$

Answer: D



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116. Which of the following is highly acidic in nature ?

A. 

B. 

C. 

D. 

Answer: D



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117. Consider the following acids :

1. HCN 2. HCOOH

3. CH_3COOH 4. $\text{Cl} - \text{CH}_2 - \text{COOH}$

The acid strength of these acids are such that :

A. $4 > 2 > 3 > 1$

B. $2 > 3 > 1 > 4$

C. $4 > 2 > 1 > 3$

D. $2 > 3 > 4 > 1$

Answer: A



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118. Formic acid is stronger acid than acetic acid. Explain.

A. formic acid is reducing agent

B. formic acid molecule is of smaller size

C. there is no alkyl group on α — carbon in formic acid

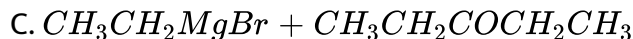
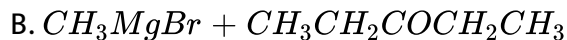
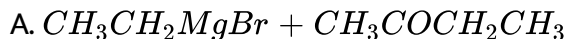
D. formic acid does not undergo association .

Answer: C



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119. To prepare 3-ethylpentan-3-ol, the reactants needed are



Answer: C



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120. Carboxylic acid reacts with calcium metal. The amount of calcium used up and hydrogen liberated are in the molar ratio of :

A. 2 : 1

B. 1 : 1

C. 3 : 2

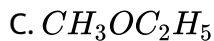
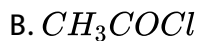
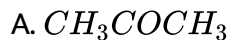
D. 2 : 3

Answer: B



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121. When the following compounds is treated with butan-1-ol, it gives the odour of banana



Answer: B



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122. Lactic acid has the following number of optical isomers

A. 5

B. 4

C. 3

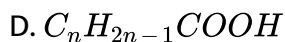
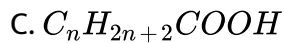
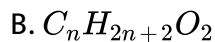
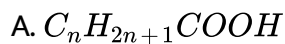
D. 2

Answer: D



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123. What is the formula of a saturated fatty acid ?

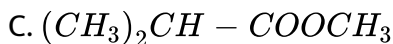


Answer: A



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124. The structure of methyl-2-methyl propanoate is

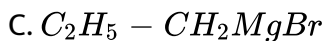
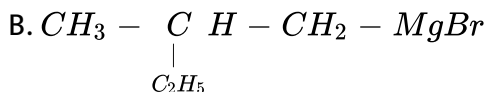
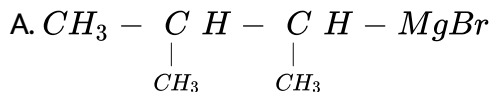


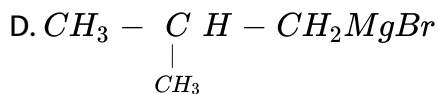
Answer: C



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125. 2,3-dimethyl butanoic acid can be obtained from dry ice using

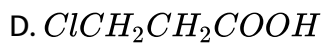
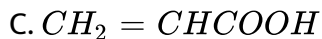
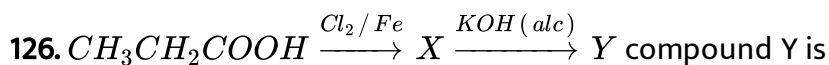




Answer: A



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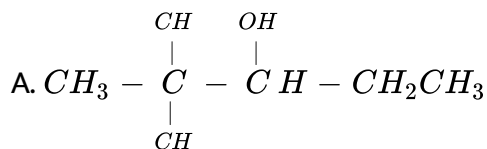
Answer: C



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127. On vigorous oxidation by permanganate solution

$(CH_3)_2C = CHCH_2CHO$ gives



B. 

C. 

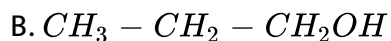
D. 

Answer: B



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128. When $CH_2 = CH - COOH$ is reduced with $LiAlH_4$ the compound obtained will be



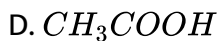
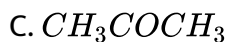
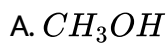


Answer: A



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129. A liquid was mixed with ethanol and a drop of concentrated H_2SO_4 was added. A compound with a fruity smell was formed. The liquid was



Answer: D



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130. Hydrogenation of benzoyl chloride in the presence of Pd on $BaSO_4$ gives

- A. Benzyl alcohol
- B. Benzaldehyde
- C. Benzoic acid
- D. Phenol

Answer: B



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131. The correct statement about the compounds A,B, and C is



- A. A and B are identical
- B. A and B are diastereomers
- C. A and C are enantiomers

D. A and B are enantiomers

Answer: D



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132. The product of acid hydrolysis of P and Q can be distinguished by



A. Lucas reagent

B. 2,4-DNP

C. Fehling's solution

D. $NaHSO_3$

Answer: C



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133. Ethylester $\xrightarrow[\text{excess}]{CH_3CH_2MgBr}$ *P*. The product P will be

A. 

B. 

C. 

D. 

Answer: A



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134. An enantiomerically pure acid is treated with racemic mixture of an alcohol having one chiral carbon. The ester formed will be :

A. optically active mixture

B. pure enantiomer

C. meso compound

D. racemic mixture

Answer: A



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135. 4-Methyl benzene sulphoic acid reacts with sodium acetate to give :

A. 

B. 

C. 

D. 

Answer: A



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136. In the following reaction sequence, the correct structures of E, F and G are



(* implies ^{13}C labelled carbon)

A.

B.

C.

D.

Answer: C



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137. A tribasic acid is

A. Oxalic acid

B. Tartaric acid

C. Lactic acid

D. Citric acid

Answer: D



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138. Which of the following acids is isomeric with phthalic acid?

- A. Succinic acid
- B. Salicyclic acid
- C. 1,4-benzene dicarboxylic acid
- D. Methyl benzoic acid

Answer: C



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139. The carboxylic acid of least acidic strength among the following is

- A. p-Nitrobenzoic acid

B. p-Methylbenzoic acid

C. p-Chlorobenzoic acid

D. p-Methoxybenzoic acid

Answer: D



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140. The carboxylic functional group (-COOH) is present in :

A. Picric acid

B. Barbituric acid

C. Ascorbic acid

D. Aspirin

Answer: D



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141. Acetic acid is manufactured by the fermentation of :

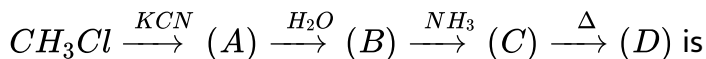
- A. Ethanol
- B. Methanol
- C. Ethanal
- D. Methanal

Answer: A



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142. The product D of the reaction



- A. $CH_3CH_2NH_2$
- B. CH_3CN
- C. $HCONH_2$
- D. CH_3CONH_2

Answer: D



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143. Glacial acetic acid is

- A. Distilling vinegar
- B. Crystallizing, separating and melting acetic acid
- C. Treating vinegar with dehydrating agent
- D. Chemically separating acetic acid

Answer: B



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144. Ammonium acetate reacts with acetic acid at $110^{\circ}C$ to form

- A. Acetamide

B. Formamide

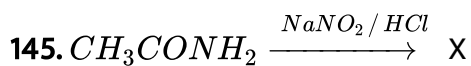
C. Ammonium cyanate

D. Urea

Answer: A



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A. CH_3COOH

B. $CH_3CON^+H_3Cl^-$

C. CH_3NH_2

D. CH_3CHO

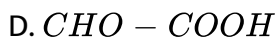
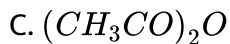
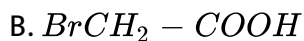
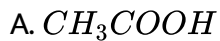
Answer: A



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146. 

The compound (X) is



Answer: C



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147. Which of the following acids has the smallest dissociation constant-



Answer: C



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148. Which of the following aromatic acids is most acidic?

A. 

B. 

C. 

D. 

Answer: B



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149. What will happen if $LiAlH_4$ is added to an ester :

A. Two units of alcohol are obtained

- B. One unit of alcohol and one unit of acid is obtained
- C. Two units of acids are obtained
- D. None of these

Answer: A



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150. Which of the following will produce only one product on reduction with $LiAlH_4$?

- A. $CH_3OCOCH_2CH_3$
- B. $CH_3CH_2OCOCH_2CH_3$
- C. $CH_3CH_2OCOCH_3$
- D. $CH_3CH_2OCOCH_2CH_2CH_3$

Answer: A



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151. In the following sequence of reactions, what is D ?



- A. Primary amines
- B. An amide
- C. Phenyl isocyanate
- D. A chain lengthened hydrocarbon

Answer: C



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152. Acetic acid dissolved in benzene shows a molecular mass of:

- A. 30
- B. 40
- C. 120

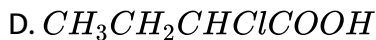
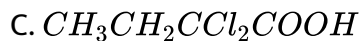
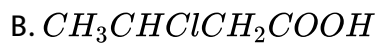
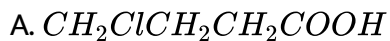
D. 240

Answer: C



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153. What of the following is expected to be most highly ionised in water ?

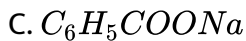
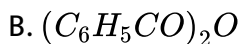
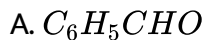


Answer: C



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154. Oxidation of toluene with CrO_3 in the presence of $(CH_3CO)_2O$ gives a product A which on treatment with aq. NaOH produce

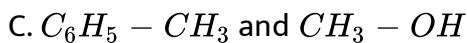
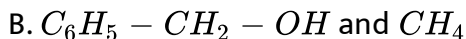
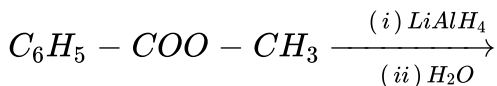


Answer: C



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155. What are the organic product formed in the following reaction ?



D. $C_6H_5 - CH_2 - OH$ and $CH_3 - OH$

Answer: D



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156. Benzoic acid gives benzene on being heated with 'X' and phenol gives benzene on being heated with 'Y'. Therefore 'X' and 'Y' are respectively

A. Sodalime and Copper

B. Zn dust and NaOH

C. Zn dust and Sodalime

D. Sodalime and Zn dust

Answer: D



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157. Benzoic acid is less acidic than salicylic acid because of

- A. Hydrogen bond
- B. Inductive effect
- C. Resonance
- D. All of these

Answer: A



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158. Consider the acidity of the carboxylic acids:

(1) $PhCOOH$

(2) $o - NO_2C_6H_4COOH$

(3) $p - NO_2C_6H_4COOH$

(4) $m - NO_2C_6H_4COOH$

Which of the following order is correct?

- A. $2 > 4 > 1 > 3$

B. $2 > 4 > 3 > 1$

C. $1 > 2 > 3 > 4$

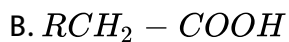
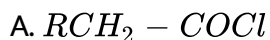
D. $2 > 3 > 4 > 1$

Answer: D



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159. RCOOH after treatment with PCl_5 and KCN is subjected to hydrolysis followed by Clemmenson's reduction, product obtained as `:



Answer: B



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160. The ortho/para directing group among the following is

A. COOH

B. CN

C. COCH_3

D. NHCOCH_3

Answer: D



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161. Methyl acetate and ethyl acetate can be distinguished by

A. Hot alkaline KMnO_4

B. Neutral FeCl_3

C. Iodoform test

D. None of these


Answer: C



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162. The correct order of increasing acid strength of the compounds is

A. CH_3CO_2H B. $MeOCH_2CO_2H$

C. CF_3CO_2H D. 

A. $B < D < A < C$

B. $D < A < C < B$

C. $D < A < B < C$

D. $A < D < C < B$

Answer: C



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163. In a set of reaction m-bromonzoic acid gave a product D. Identify the product D.



A.

B.

C.

D.

Answer: D



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164. The compound that undergoes decarboxylation most readily under mild condition is

A.

B.

C. 

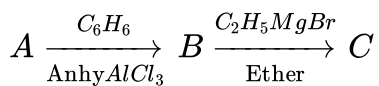
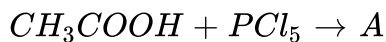
D. 

Answer: B

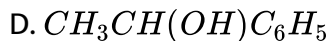
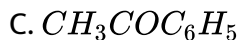
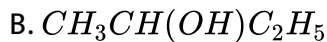
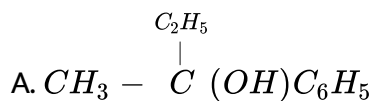


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165. In a set of the given reactions, acetic acid yields a product C.



Product C would be



Answer: A

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166. Identify the correct order of boiling points of the following compounds: $CH_3CH_2CH_2CH_2OH$, $CH_3CH_2CH_2CHO$
 $CH_3CH_2CH_2COOH$

A. $1 > 2 > 3$

B. $3 > 1 > 2$

C. $1 > 3 > 2$

D. $3 > 2 > 1$

Answer: B

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167. For the reduction of a carboxylic acid to get an alcohol, the best reducing agent used

A. $Na + \text{alcohol}$

B. $Na - Hg/H_2O$

C. $LiAlH_4$

D. $Sn + HCl$

Answer: C



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168. Which of the following is a fatty acid ?

A. Benzoic acid

B. Citric acid

C. stearic acid

D. butyric acid

Answer: C



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169. The carbon atom of carboxylic group is

- A. sp^3 – hybridized
- B. sp^3d -hybridized
- C. sp^2 – hybridized
- D. sp -hybridized

Answer: C



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170. The isomers of carboxylic acids are

- A. alcohols
- B. acid amines
- C. aldehydes

D. esters

Answer: D



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171. When a carboxylic acid is converted into its anhydride, the dehydrating agent used will be

A. P_2O_5

B. conc. H_2SO_4

C. silica gel

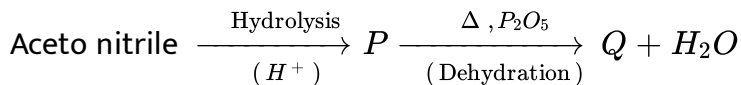
D. fused $CaCl_2$

Answer: A



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172. In the following reaction, Q will be



A. acetica acid

B. acetic anhydride

C. acetamide

D. acetaldehyde

Answer: B



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173. Ethylacetate is formed by the action of silver salt with

A. iodomethane

B. ethanol

C. iodoethane

D. ethanal

Answer: D



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174. Octyle acetate has

A. apple flavour

B. banana flavour

C. pineapple flavour

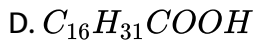
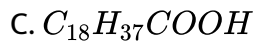
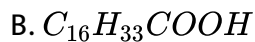
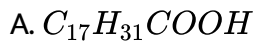
D. orange flavour

Answer: A



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175. Linoleic acid is

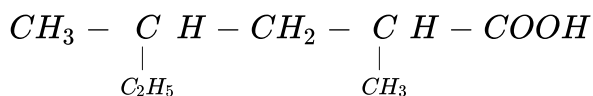


Answer: B



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176. The IUPAC name of the following compound is



A. 4-ethyl-2-methyl pentanoic acid

B. 2,4-dimethyl hexanoic acid

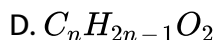
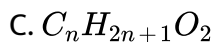
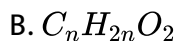
C. 2,2-dimethyl pentanoic acid

D. 2,3-diethyl pentanoic acid

Answer: B

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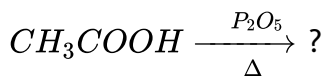
177. The general formula of the ester is



Answer: B

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178. In the following reaction, the question mark (?) is



A. aldehyde

B. ketone

C. acetic anhydride

D. ester

Answer: C



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179. Acetonitrile $\xrightarrow{\text{Hydrolysis}}$ P, then the compound P is

A. acetic acid

B. propanic acid

C. formic acid

D. butyric acid

Answer: A



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180. Fruity smell is given by

- A. alcohols
- B. acid anhydrides
- C. esters
- D. chloroform

Answer: C



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181. Which of the following reagents is not useful to replace OH group from a COOH group by a Cl atoms ?

- A. HCl
- B. $SOCl_2$
- C. PCl_3
- D. PCl_5

Answer: A



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182. Acetic acid cannot be obtained by the oxidation of

- A. acetonitrile
- B. isopropyl alcohol
- C. acetone
- D. all of these

Answer: A



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183. Acid nature of carboxylic acid can be explained on the basis of

- A. Lowry Bronsted concept and resonance

B. Conjugation

C. Inductive effect

D. Lewis concept and resonance

Answer: A



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184. Vinegar is an aqueous solution of

A. ethanol

B. vitamin E

C. formic acid

D. acetic acid

Answer: D



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185. $CH_3CH_2Br \xrightarrow{alc. KCN} CH_3CH_2CN \xrightarrow[HOH(hydrolysis)]{(KOH)} X$, then X is :

- A. propionic acid
- B. Butyric acid
- C. acetic acid
- D. formic acid

Answer: A



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186. What is the name of $CH_3COC_2H_5$?

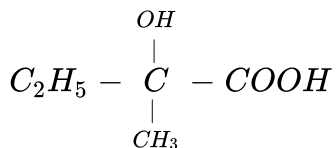
- A. Ethyl methyl ketone
- B. Ethyl ethanoate
- C. Methyl propionate
- D. Ethyl propanoate

Answer: A



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187. Compound A on reaction with HCN and on further hydrolysis gives



Hence the compound A is :

- A. ethanol
- B. propanal
- C. propanone
- D. butanone

Answer: D



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188. Which of the following pairs are used to prepare methyl ethanoate ?

- A. $CH_3O\text{Na}$ and C_2H_5OH
- B. $(CH_3CO)_2O$ and C_2H_5OH
- C. $(CH_3CO)_2O$ and CH_3OH
- D. $(CH_3CO)_2$ and C_2H_5Cl

Answer: C



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189. C_2H_5MgBr on caronation and further hydrolysis gives

- A. Acetic acid
- B. Propionic acid
- C. Butyric acid
- D. Carbolic acid

Answer: B



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190. Formic acid can not be obtained from

- A. Hydrolysis of cyanide
- B. Oxidation of aldehyde
- C. Oxidation of alcohol
- D. Carbonation of CH_3MgI

Answer: D



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191. Silver salt of carboxylic acid on reaction with R-X gives

- A. Ether

B. Esters

C. Acids

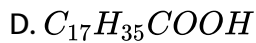
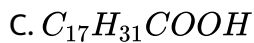
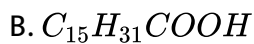
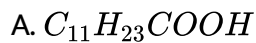
D. Alcohol

Answer: B



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192. Which of the following is unsaturated fatty acid ?



Answer: C



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193. Propionic acid and ethyl alcohol gives a products, same product can be obtained from which reaction ?

- A. Acetic anhydride + Ethanol
- B. Propionic anhydride + Ethanol
- C. Acetic anhydride + C_2H_5ONa
- D. Propionic anhydride + C_2H_5ONa

Answer: B



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194. Common name of lower fatty acid is derived from

- A. source from which they are obtained
- B. Aldehyde
- C. Ketones reduce Fehling's solution and give cuprous oxide
- D. Ethers

Answer: A



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195. A fatty acid reacts with an alcohol in the presence of concentrated H_2SO_4 to give

- A. Ether
- B. Esters
- C. Alkene
- D. Alkane

Answer: B



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196. Which one of the following is called ethanoic acid ?

A. HCOOH

B. CH_3COOH

C. $\text{CH}_3\text{CH}_2\text{COOH}$

D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$

Answer: B



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197. When carbon dioxide is passed through an ethereal solution of CH_3MgBr and the product is treated with mineral acid, we get

A. Ethanal

B. Ethanol

C. Ethanoic acid

D. Propanone

Answer: C

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198. Which of the following carboxylic acids is a tricarboxylic acid?

- A. Oxalic acid
- B. Citric acid
- C. Succinic acid
- D. Adipic acid

Answer: B

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TEST YOUR GRASP : ALDEHYDES AND KETONES

1. Give IUPAC name of Acetone

- A. Propanone

B. Butanone

C. Dimethyl ketone

D. Both (a) and (c)

Answer: A



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2. 1,1-dichloroethane on boiling with KOH yield

A. formaldehyde ammonia

B. Acetaldehyde

C. Acetone

D. Ethyl alcohol

Answer: B



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3. Which of the following compound gives Cannizaro's reaction ?

A. HCHO

B. $\text{C}_6\text{H}_5\text{CHO}$

C. CH_3CHO

D. Both (a) and (b)

Answer: D



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4. Aldehyde is obtained by reaction of HCN with

A. $\text{CH}_3\text{CH}_2\text{I}$

B. $\text{C}_2\text{H}_5\text{MgBr}$

C. $\text{C}_2\text{H}_5\text{ONa}$

D. Both (a) and (b)

Answer: B



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5. C_2H_5MgI reacts with $HCOOC_2H_5$ in the presence of dry ether to give

- A. Ethanol
- B. Ethanoic acid
- C. Propanal
- D. Ethyl ethanoate

Answer: C



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6. Which of the following gives silver mirror test with Tollen's reagent ?

A. CH_3CHO

B. CH_3COCH_3

C. $CH_3COC_2H_5$

D. Both (a) and (c)

Answer: A



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7. Calcium acetate on dry distillation gives

A. Ethanal

B. Propanal

C. Propanone

D. Acetic acid

Answer: C



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8. Acetaldehyde reacts with ammonia to form a

- A. Urotropine
- B. Pinacols
- C. Ammonium acetate
- D. Acetaldehyde ammonia

Answer: D



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9. Condition for aldol condensation is

- A. presence of β – hydrogen
- B. presence of α – carbon
- C. presence of α – hydrogen

D. either (b) or (c)

Answer: C



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10. Which of the following cannot act as reducing agent ?

A. CH_3CHO

B. $HCHO$

C. CH_3COCH_3

D. Both (a) and (b)

Answer: C



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11. A dilute solution of p-resoniline hydrochloride in water whose pink colour has been discharged by passing sulphur dioxide , does not restore its colour by

A. HCHO

B. CH_3CHO

C. $(\text{CH}_3)_2\text{COCH}_3$

D. CCl_3CHO

Answer: C



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12. The IUPAC name of $(\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{COCH}_3$ is

A. 4-Hydroxy-4-methylpentan-2-one

B. 2-Hydroxy-2-methyl pentan-4-one

C. Diacetone alcohol

D. 4-Hydroxy-4-methyl-2-oxopentane

Answer: A



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13. The reagent with which both acetaldehyde and acetone react easily is

A. Fehling's solution

B. Tollens reagent

C. Grignard reagent

D. Schiff's reagent

Answer: C



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14. The number of C-C bonds in Hexamethylene tetramine $(CH_2)_6N_4$ are

A. 12

B. 10

C. 8

D. 0

Answer: D



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15. Isopropyl methyl ketone when treated with Zn-Hg and concentrated hydrochloric acid give

A. iso-butane

B. iso-pentane

C. n-pentane

D. neo-pentane

Answer: B

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16. When acetaldehyde is heated with Fehling's solution, it gives a red precipitate of :

A. CuO

B. Cu_2O

C. CuO_2

D. Both (a) and (b)

Answer: B

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17. Formaldehyde is very reactive than other carbonyl compounds because of

A. absence of α – hydrogen

B. absence of α — carbon

C. absence of electron releasing alkyl group of carbonyl carbon atom

D. both (a) and (c)

Answer: C



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18. Ethanal can be reduced to ethane by using

A. Na-Hg and water

B. Zn-Hg and HCl

C. Na-alcohol

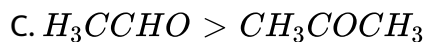
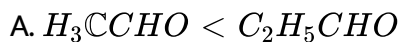
D. Na and H_2O

Answer: B



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19. Which of the following is correct order about reactivity ?

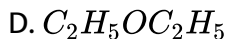
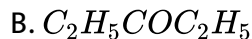


Answer: C



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20. Structure of 2-pentanone is

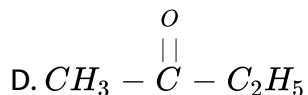
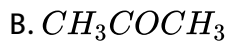
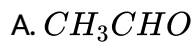


Answer: C



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21. Mesityl oxide is obtained by the condensation of

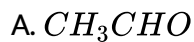


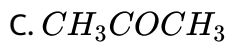
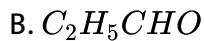
Answer: B



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22. Which is most difficult to oxidise-





Answer: C



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23. Acetaldehyde and acetone can be distinguished by



Answer: D



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24. Schiff's reagent is

- A. aniline hydrochloride
- B. phenyl hydrochloride
- C. para rosa aniline hydrochloride
- D. aniline

Answer: C



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25. Strong oxidising agent oxidised propanone to give

- A. Propanoic acid
- B. Ethanoic acid
- C. Ethanol
- D. both (b) and (c)

Answer: B



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26. Which of the following are functional isomers ?

A. CH_3CHO and CH_3COCH_3

B. CH_3COCH_3 and C_2H_5CHO

C. $HCHO$ and $CH_3 - OH$

D. CH_3COCH_3 and CH_3OCH_3

Answer: B



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27. Reduction of aldehyde in the presence of amalgamated zinc and conc.

HCl is known as

- A. Cannizaro's reaction
- B. Aldol condensation
- C. Clemmenson's reduction
- D. Wurtz reaction

Answer: C



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28. Which of the following does not form additon compound with ammonia ?

- A. HCHO
- B. CH_3COCH_3
- C. CH_3CHO
- D. Both (b) and (c)

Answer: A

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29. Acetaldol on heating undergo dehydration to produce

A. Crotonaldehyde

B. Aldol

C. Cumene

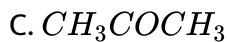
D. Both (a) and (b)

Answer: A

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30. An organic compound A and B combines with $NaHSO_3$. Compound A combines with Fehling's solution but compound B does not combine. What could be B ?

A. CH_3CHO



Answer: C



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31. The formation of cyanohydrin from ketone is an example of :

A. Nucleophilic addition

B. Nucleophilic substitution

C. Electrophilic addition

D. electrophilic substitution

Answer: A



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32. Fehling solution is

- A. $CuSO_4$ solution
- B. $CaSO_4$ solution
- C. NaOH solution
- D. Sodium potassium tartarate solution

Answer: A



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33. Acetone is prepared by oxidation of

- A. Acetic acid
- B. Methyl alcohol
- C. Propan-1-ol
- D. Propan-2-ol

Answer: D



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34. Calcium propionate on dry distillation gives

- A. Acetone
- B. Acetaldehyde
- C. Propionaldehyde
- D. Diethyl ketone

Answer: D



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35. The compound 'X' upon alkaline hydrolysis gives a product which reacts with phenylhydrazine but does not reduce ammoniacal silver nitrate solution. A possible structure for 'X' is



Answer: B



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36. The reaction of an aldehyde with hydroxylamine gives a product which is called

A. Amino hydroxide

B. Oxime

C. Hydrazone

D. Semicarbazone

Answer: B

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37. Formaldehyde does not contain α – hydrogen . Hence it can give

- A. Aldol condensation
- B. Cannizaro's reaction
- C. Both A & B
- D. None

Answer: B

 [Watch Video Solution](#)

38. Acetone on reduction with Mg-metal in the presence of benzene gives

- A. Pinacol
- B. Urotropine
- C. 2-propanol

D. Girgnard reagent

Answer: A



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39. Aldehydes are carbonyl compound having carbonyl carbon attached with

- A. at least one alkyl group
- B. at least one hydrogen
- C. two alkyl groups
- D. both (a) and (b)

Answer: B



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40. Aldol condensation takes place in

- A. acidic medium
- B. basic medium
- C. neutral medium
- D. Both (a) and (b)

Answer: D



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TEST YOUR GRASP : CARBOXYLIC ACIDS

1. IUPAC name of propionic acid is

- A. Ethanoic acid
- B. Butanoic acid
- C. Propanoic acid

D. Butyric acid

Answer: C



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2. Two moles of acetic acid are heated with P_2O_5 . The product formed is

A. Acetamide

B. Ethyl acetate

C. Acetic anhydride

D. Ammonium acetate

Answer: C



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3. $HCOOH$ is obtained when

- A. ethyl alcohol is oxidised
- B. methyl alcohol is oxidised by $K_2Cr_2O_7$
- C. calcium acetate is dry distilled
- D. methyl alcohol is reduced

Answer: B

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4. The common name of carboxylic fatty acids is derived from

- A. the name of parent alkanes
- B. the name of corresponding aldehydes
- C. from their original sources
- D. the name of alkyl group present in them

Answer: C

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5. The IUPAC name of α - methylpropionic acid is

- A. Propanoic acid
- B. Butanoic acid
- C. 2-Methylpropanoic acid
- D. 2-Methylbutanoic acid

Answer: C



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6. Which of the following is used in artificial flavour ?

- A. Acetic acid
- B. Ethyl acetate
- C. Formic acid

D. Vinegar

Answer: B



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7. Acidic character of fatty acids depends on

A. solvent used

B. reaction with alcohol

C. presence of electron releasing or attracting group on carbonyl carbon atom

D. Both (a) and (c)

Answer: D



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8. Propionic acid can be prepared by the

- A. action of propyl magnesium chloride on dry ice
- B. alkaline hydrolysis of propyl cyanide
- C. acid hydrolysis of ethyl cyanide
- D. oxidation of Propanone

Answer: C



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9. The intermediate compound formed during hydrolysis of acetonitrile to acetic acid is

- A. acetone
- B. acetamide
- C. ammonium acetate
- D. ethyl ammonium chloride

Answer: B



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10. Carbonation of CH_3MgI gives organic compound. The same compound can also be obtained by

- A. oxidation of Methanol
- B. oxidation of Methanal
- C. acid hydrolysis of acetonitrile
- D. alkaline hydrolysis of ethyl cyanide

Answer: C



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11. Ethyl magnesium bromide reacts with solid CO_2 to give

- A. Ethanoic acid
- B. Methanoic acid
- C. Propanoic acid
- D. butanoic acid

Answer: C



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12. Which of the following is the correct order of acidity ?

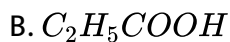
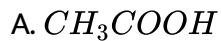
- A. $HCOOH < CH_3COOH < C_2H_5COOH$
- B. $HCOOH < CH_3COOH > C_2H_5COOH$
- C. $HCOOH > CH_3COOH > C_2H_5COOH$
- D. $C_2H_5 - COOH > HCOOH > CH_3COOH$

Answer: C



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13. The compound which reacts with Fehling's solution is :



D. Both (a) and (b)

Answer: C



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14. Formic acid is reducing agent because

A. it contains $-\text{COOH}$ group

B. it contains $-\text{OH}$ group

C. it contains $-\text{CHO}$ group

D. both (b) and (c)

Answer: C



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15. The acid that cannot be prepared by the action of Grignard reagent on dry ice is

A. Methanoic acid

B. Ethanoic acid

C. Propanoic acid

D. butanoic acid

Answer: A



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16. A carboxylic acid resembles an alcohol with respect to its reaction with

A. acidified $K_2Cr_2O_7$

B. washing soda

C. caustic soda

D. sodium metal

Answer: D



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17. Acetic acid can be converted into acetic anhydride on heating

A. $POCl_3$

B. PCl_3

C. PCl_5

D. P_2O_5

Answer: D



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18. Silver salt of acetic acid heated with ethyl iodide gives

A. Methyl acetate

B. Ethyl formate

C. Ethyl acetate

D. Methyl formate

Answer: C



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19. Carboxylic acid is neutralised with NH_3 and product is heated . Then it gives

- A. Acetamide
- B. Acid amide
- C. Acetic anhydride
- D. Ammonium acetate

Answer: B



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20. Esters are called as

- A. alkyl derivatives of acids
- B. alkyl derivatives of amides
- C. artificial flavouring agent
- D. both (a) and (c)

Answer: D



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21. Acetyl chloride reacts with ammonia to give

- A. Ammonium acetate
- B. ethylammonium chloride
- C. ethylamine
- D. acetamide

Answer: D



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22. The reagent that reacts with acetic acid to give sodium acetate with liberation of carbon dioxide gas is

- A. sodium metal
- B. caustic soda
- C. caustic potash

D. baking soda

Answer: D



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23. The trivial name of $CH_3OOC C_2H_5$ is

A. ethyl acetate

B. methyl acetate

C. ethyl propionate

D. methyl propionate

Answer: D



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24. Compounds 'A' and 'B' are the isomers of each other. 'A' gives effervescence due to a colourless gas on treatment with washing soda, while 'B' reacts with Grignard reagent to give an aldehyde. The compounds 'A' and 'B' are respectively.

- A. n-butyric acid and ethyl acetate
- B. isobutyric acid and methyl propionate
- C. propionic acid and methyl formate
- D. acetic acid and methyl formate

Answer: D



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25. Ethyl ethanoate is obtained by reaction of ethanol with

- A. Acetyl chloride
- B. Acetaldehyde

C. Ethyl amine

D. Methyl chloride

Answer: A



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26. Alkaline hydrolysis of ester to give mixture of alkali metal of acid and alcohol is called

A. Hydrolysis

B. Saponification of ester

C. Oxidation

D. Reduction

Answer: B



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27. Ethyl acetate cannot be prepared by the reaction of ethyl alcohol with

- A. acetic acid
- B. acetyl chloride
- C. acetic anhydride
- D. silver acetate

Answer: D



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28. Isopropyl acetate can be prepared from

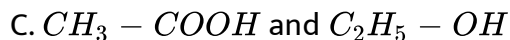
- A. $(CH_3)_2CH - COOAg$ and $C_2H_5 - Br$
- B. $C_2H_5 - COOAg$ and $(CH_3)_2CH - Br$
- C. $CH_3 - COOH$ and $(CH_3)_2CH - OH$
- D. $(CH_3)_2 - COOH$ and $CH_3 - OH$

Answer: C



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29. Both the compounds 'A' and 'B' react with sodium metal to liberate hydrogen gas and react with each other to give Methyl ethanoate. The compound 'A' and 'B' are



Answer: D



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30. Ammonium acetate on heating at 473K gives

A. Acetic anhydride

B. Acetic chloride

C. Acetamide

D. Soda lime

Answer: C



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31. With which of the following ethyl alcohol reacts to give ethanoic acid ?

A. $\text{Na-Hg} + \text{Water}$

B. Acidified $\text{K}_2\text{Cr}_2\text{O}_7$

C. $\text{Zn-Hg} + \text{HCl}$

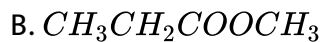
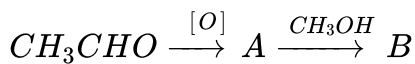
D. $\text{Na} + \text{alcohol}$

Answer: B



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32. Identify B in the following reaction :

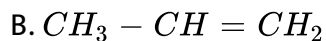
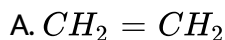


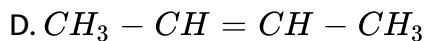
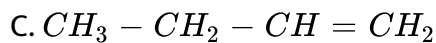
Answer: A



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33. An alkene on hydration gives a compound, which reacts with propionic acid to produce isopropyl propionate. The alkene is



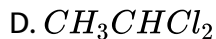
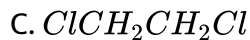


Answer: B



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34. The compound which on acid hydrolysis followed by oxidation gives acetic acid is

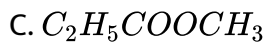
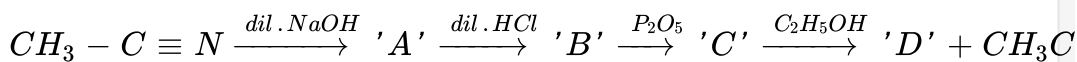


Answer: D



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35. Identify the product 'D' in the following series of reactions.



Answer: B



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