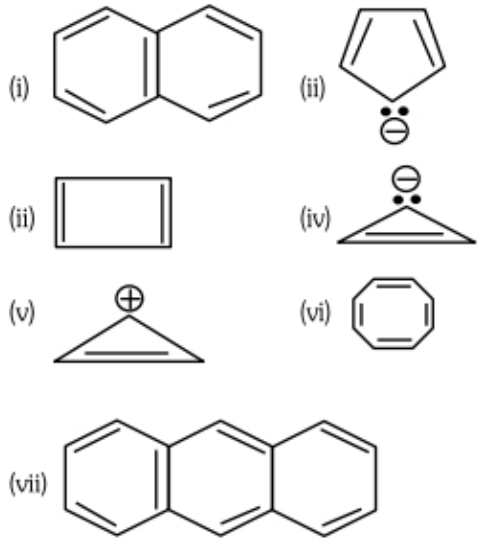
KD EDUCATION ACADEMY (9582701166)

Time : 5 Hour | STD 11 Science | Total Marks : 600

kd 700+ neet ch-9 hydrocarbon

*** Chemistry** [600]

1. Consider the following compounds/species:
The number of compounds/species which obey Huckel's rule is .....



(A) 6 (B) 4 (C) 5 (D) 2

2. Which compound amongst the following is not an aromatic compound?

(A) (B) (C) (D)



3. Compound X on reaction with O_3 followed by $Zn/\ H_2O$ gives formaldehyde and $2-$methyl propanal as products. The compound X is :

(A) $2-$Methylbut$-1-$ene (B) $2-$Methylbut$-2-$ene

(C) Pent$-2-$ene (D) $3-$Methylbut$-1-$ene

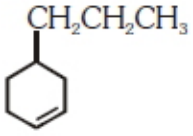
4. $CH_3CH_2COO^-Na^+ \xrightarrow[\text{Heat}]{NaOH,+?} CH_3CH_3 + Na_2CO_3.$

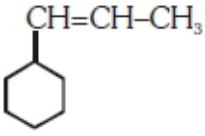
Consider the above reaction and identify the missing reagent/chemical.

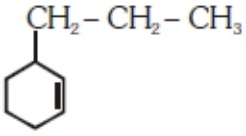
(A) B_2H_6 (B) Red Phosphorus (C) CaO (D) $DIBAL-H$

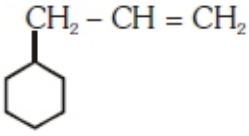
5. An alkene on ozonolysis gives methanal as one of the product. Its structure is

(A) (B) (C) (D)









6. Which of the following alkane cannot be made in good yield by Wurtz reaction?

(A) n−Butane (B) n−Hexane

(C) 2,3−Dimethylbutane (D) n−Heptane

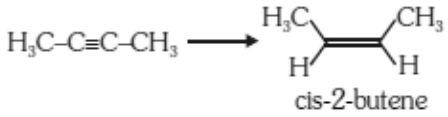
7. In the following reaction,

$$CH_3 - C \equiv CH \xrightarrow[873\ K]{\text{red hot iron tube}} A$$

the number of sigma(σ) bonds present in the product A is

(A) 21 (B) 9 (C) 24 (D) 18

8. The most suitable reagent for the following conversion is



cis-2-butene

(A) $Na/lquid\ NH_3$

(B) $H_2, Pd/C$, quinoline

(C) Zn/HCl

(D) $Hg^{2+}/H^+, H_2O$

9. Match the catalyst with the process

Catalyst	Process
(i) Na_2O	(a) The oxidation of ethyne to ethanal
(ii) $TiCl_4 + Al(CH_3)_3$	(b) Polymerisation of alkynes
(iii) $PdCl_2$	(c) Oxidation of SO_2 in the manufacture of H_2SO_4
(iv) Nickel complexes	(d) Polymerisation of ethylene

Which of the following is the correct option ?

(A) $i-c, ii-d, iii-a, iv-b$ (B) $i-a, ii-b, iii-c, iv-d$

(C) $i-a, ii-c, iii-b, iv-d$ (D) $i-c, ii-a, iii-d, iv-b$

10. Which one is the correct order of acidity ?

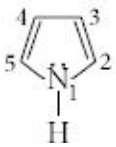
(A) $CH \equiv CH > CH_3 - C \equiv CH > CH_2 = CH_2 > CH_3 - CH_3$

(B) $CH \equiv CH > CH_2 = CH_2 > CH_3 - C \equiv CH > CH_3 - CH_3$

(C) $CH_3 - CH_3 > CH_2CH_2 > CH_3 - C \equiv CH > CH \equiv CH$

(D) $CH_2 = CH_2 > CH_3 - CH = CH_2 > CH_3 - C \equiv CH > CH \equiv CH$

11. In pyrrole the electron density is maximum on



(A) 2 and 3 (B) 3 and 4 (C) 2 and 4 (D) 2 and 5

12. Which of the following can be used as the halide component for Friedel-Crafts reaction ?

(A) Chlorobenzene (B) Bromobenzene

(C) Chloroethane (D) Isopropyl chloride

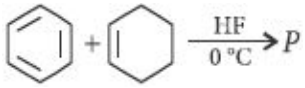
13. The pair of electrons in the given carbanion, $CH_3C \equiv C^-$, is present in which of the following orbitals ?

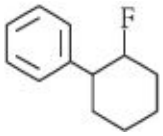
(A) sp^2 (B) sp (C) $2p$ (D) sp^3

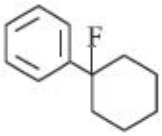
14. The compound that will react most readily with gaseous bromine has the formula

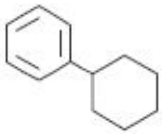
(A) C_3H_6 (B) C_2H_2 (C) C_4H_{10} (D) C_2H_4

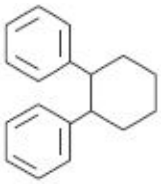
15. In the given reaction, the product P is



(A) 

(B) 

(C) 

(D) 

16. In the reaction

$$H-C\equiv CH \xrightarrow[(ii)\ CH_3CH_2Br]{(i)\ NaNH_2\ /\ liq.\ NH_3} X \xrightarrow[(ii)\ CH_3CH_2Br]{(i)\ NaNH_2\ /\ liq.\ NH_3} Y$$

X and Y are

(A) $X = 2-$Butyne, $Y = 2-$Hexyne

(B) $X = 1-$Butyne, $Y = 2-$Hexyne

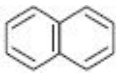
(C) $X = 1-$Butyne, $Y = 3-$Hexyne

(D) $X = 2-$Butyne, $Y = 3-$Hexyne.

17. The oxidation of benzene by V_2O_5 in the presence of air produces and high tempreture

(A) maleic anhydride (B) benzoic acid (C) phenol (D) benzoic anhydride.

18. Which of the following chemical system is non aromatic ?

(A)  (B)  (C)  (D) 

19. Which of the following compounds will not undergo Friedal-Craft's reaction easily?

(A) Nitrobenzene (B) Toluene (C) Cumene (D) Xylene

20. Some $meta-$ directing substituents in aromatic substitution are given. Which one is most deactivating?

(A) $-COOH$ (B) $-NO_2$ (C) $-C \equiv N$ (D) $-SO_3H$

21. The bond length between the hybridised carbon atom and other carbon atom is minimum in

(A) Butane (B) Propyne (C) Propene (D) Propane

22. Ozonolysis of acetylene gives

(A) Glycol (B) Glyoxal,formic acid

(C) Formaldehyde (D) None

23. If acetylene is passed through an electric arc in the atmosphere of nitrogen, the compound formed is

(A) HCN (B) Pyrrole (C) Pyrazole (D) Pyridine

24. $KMnO_4$ will oxidise acetylene to

(A) Ethylene glycol (B) Ethyl alcohol (C) Oxalic acid (D) Acetic acid

25. Propyne on polymerisation gives

(A) Mesitylene (B) Benzene (C) Ethyl benzene (D) Propyl benzene

26. A gas decolourises bromine in CCl_4 and forms a precipitate with ammoniacal silver nitrate. The gas is

(A) C_2H_2 (B) C_2H_4 (C) C_2H_6 (D) CH_4

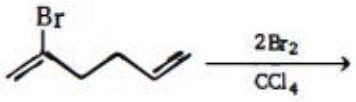
27. Which of the following reacts with sodium with the elimination of hydrogen

(A) CH_4 (B) C_2H_6 (C) C_2H_4 (D) C_2H_2

28. A salt producing hydrocarbon among these compounds is

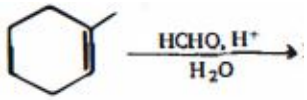
(A) Ethane (B) Methane (C) Ethene (D) Ethyne

29. How many stereoisomeric pentabrornides will be formed in the following reaction ?

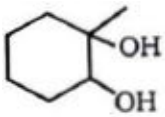


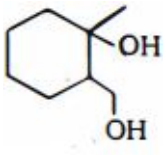
(A) 2 (B) 3 (C) 4 (D) None of these

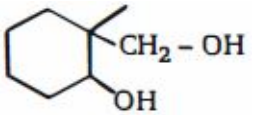
30. major product of this reaction is

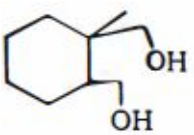


(A) (B) (C) (D)









31. An organiccompound C_4H_6 on ozonolysis give $HCHO, CO_2, CH_3CHO$. Compound will be

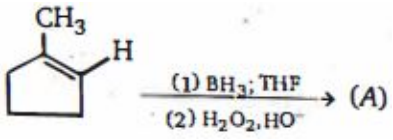
(A) $H_2C = CH - CH = CH_2$

(B) $CH_3 - CH = C = CH_2$

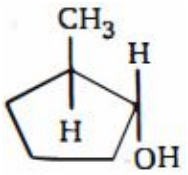
(C) $CH_3 - C \equiv C - CH_3$

(D)

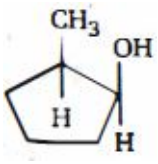
32. Product of the reaction is



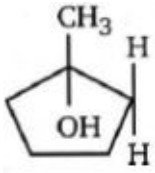
(A)



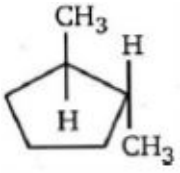
(B)



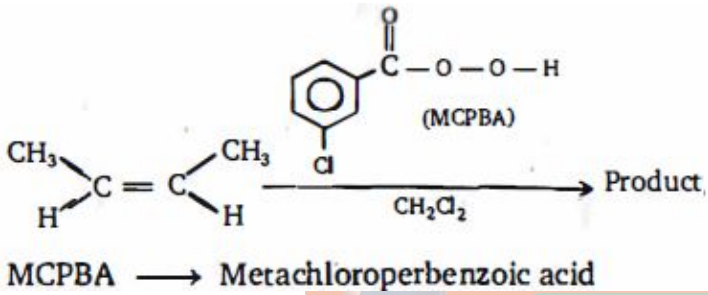
(C)



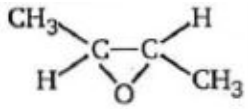
(D)



33. Product is



(A)



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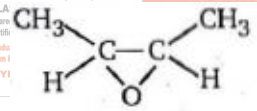
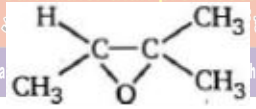
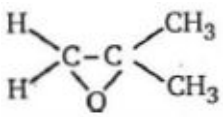


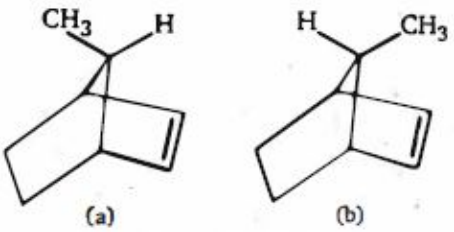
(C)



(D)



34. Rate of reaction towards reduction using (H_2/Pt)



(A) $a > b$

(B) $a = b$

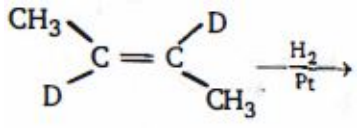
(C) $b > a$

(D) Reduction of given molecule is not possible

35. cis- 2 -butene $\xrightarrow[Peroxide]{HBr}$ product ; Product of the reaction is

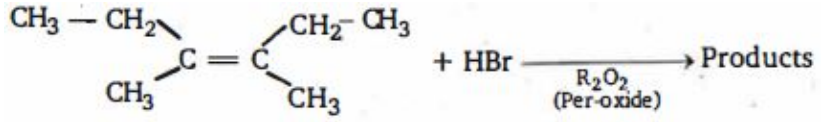
(A) Racemic (B) Diastereomer (C) Meso (D) E anq Z isomer

36. Product of the reacion is



(A) Racemic
(B) Diastereomers
(C) Meso
(D) Pure enantiomers

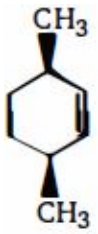
37. How many products will be formed in above reaction ?



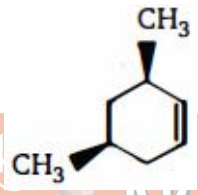
(A) 2 (B) 4 (C) 3 (D) 6

38. An optically active compound A with molecular formula C_8H_{14} undergoes catalytic hydrogenation to give mesa compound, the structure of (A) is

(A)



(B)



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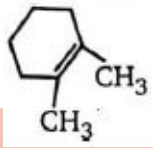
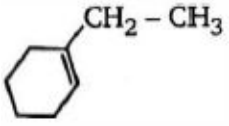
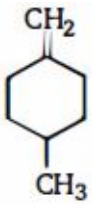


(D)

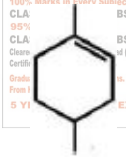


39. Which of the following will give a mixture of cis and trans- $1,4$ -dimethyl cyclohexane, when undergo catalytic hydrogenation ?

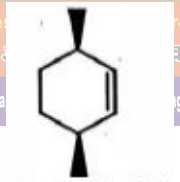
(A)



(B)



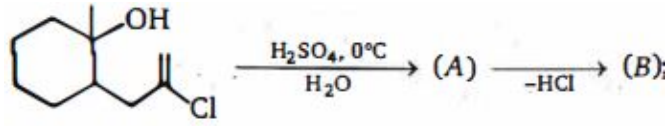
(C)



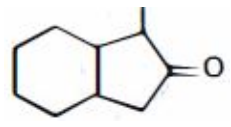
Cis-3-6 dimethyl cyclohexene

(D) both (a) & (b)

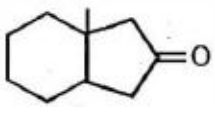
40. Product (B) of the reaction is



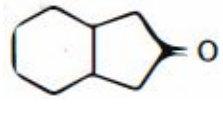
(A)



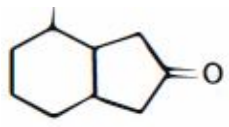
(B)



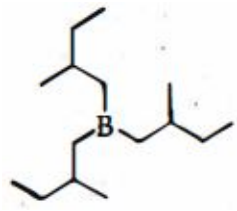
(C)



(D)



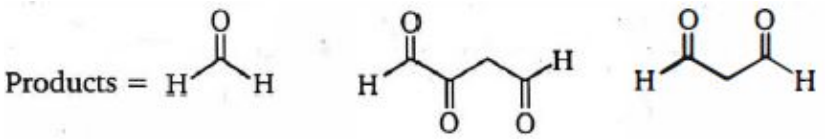
41. Which of the following compound would yield trialkylborane shown below when treated with BH_3/THF?



(A) 2 -methylbut- 1 -ene (B) 2 -methylbut- 2 -ene

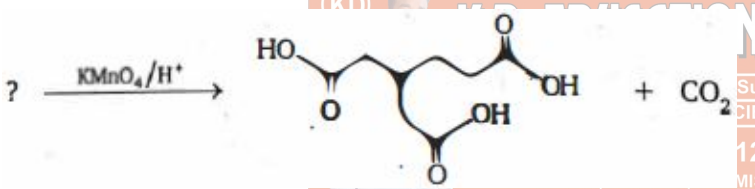
(C) 3 -methylbut- 1 -ene (D) 3 -methylbut- 1 -yne

42. A triene is treated with ozone followed by zinc in acetic acid to give the following three products. What is the structure of the triene ?



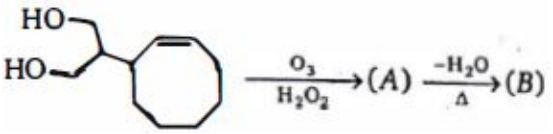
(A) (B) (C) (D)

43. Which of the following compound was the starting material for the oxidation shown below ?

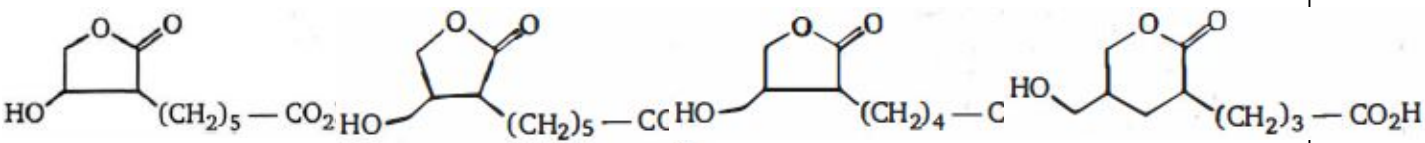


(A) (B) (C) (D)

44. Identify (B)



(A) (B) (C) (D)

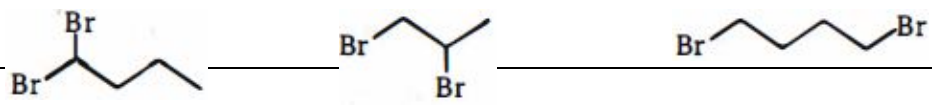


45. Addition of Br_2 to cis- 2 -butene would give a product which is

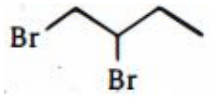
(A) achiral (B) racemic (C) meso (D) optically active

46. Which compound is a possible product from addition of Br_2 to 1 -butene ?

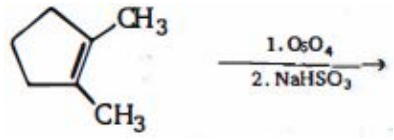
(A) (B) (C)



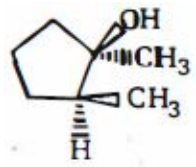
(D)



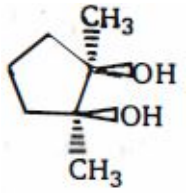
47. Product of the reaction is



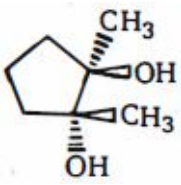
(A)



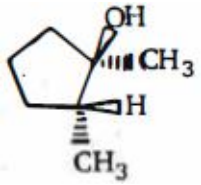
(B)



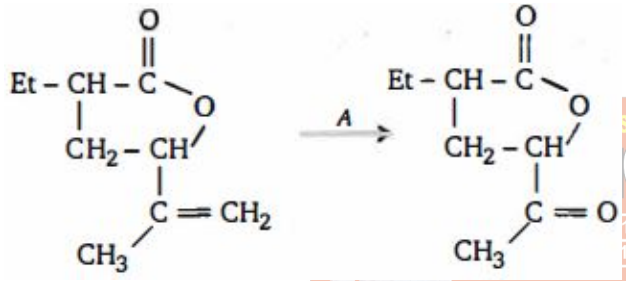
(C)



(D)

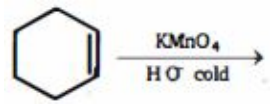


48. Reagent (A) in the reaction is

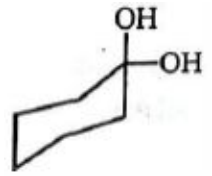


(A) $O_3/Zn(H_2O)$ (B) HIO_4 (C) CrO_3 (D) Cold dil. $KMnO_4$

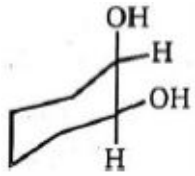
49. What is the major product expected from the following reaction ?



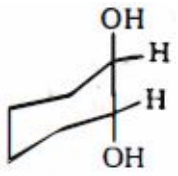
(A)



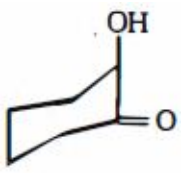
(B)



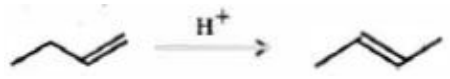
(C)



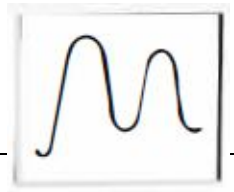
(D)



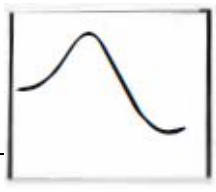
50. Consider the following reaction in which the intermediate carbocation loses H^+ to give the final product ?
Which of the following energy profiles best represents the overall reaction ?



(A)

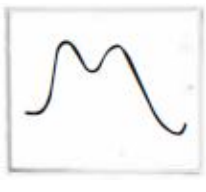


(B)

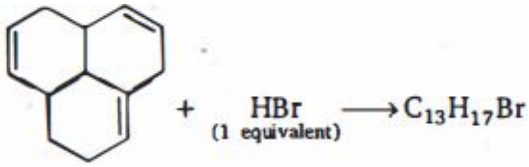


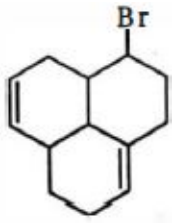
(C)

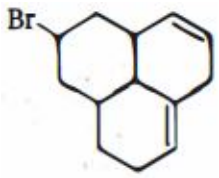
(D)

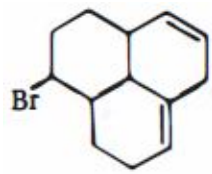


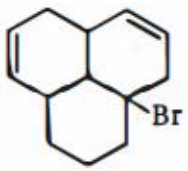
51. Which of the following bromides is the major product of the reaction shown below, assuming that there are no carbocation rearrangement ?



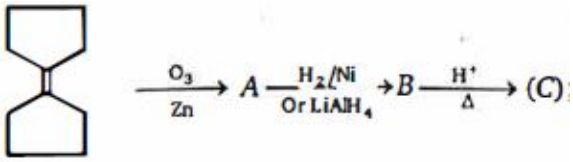
(A) 

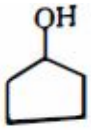
(B) 

(C) 

(D) 

52. Product (C) of the reaction is



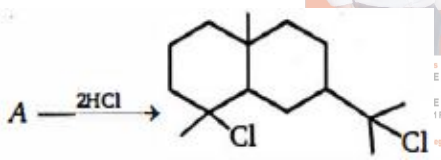
(A) 

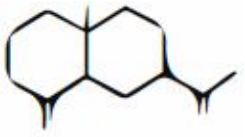
(B) 

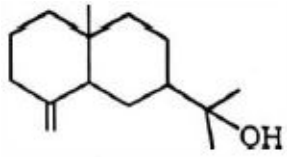
(C) 

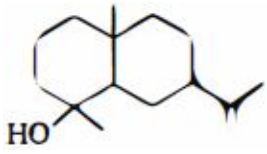
(D) 

53. Reactant (A) can be



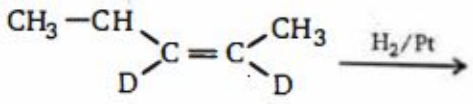
(A) 

(B) 

(C) 

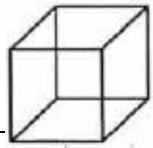
(D) All of these

54. Product of the above reaction will be



(A) Racemic mixture
(B) Diastereomers
(C) Meso
(D) Constitutional isomers

55. Double bond equivalent of cubane is



Cubane

(A) 4 (B) 5 (C) 6 (D) 7

56. $n-$pentane and iso pentane can be distinguished by

(A) Br_2 (B) O_3 (C) conc. H_2SO_4 (D) $KMnO_4$

57. Which kind of isomerism will butene-2 show

(A) Geometrical (B) Optical (C) Position (D) None of these

58. The reaction $CH_3CH=CH_2 \xrightarrow[H^+]{(CO+H_2)} CH_3-\underset{\underset{COOH}{|}}{CH}-CH_3$ is known as

(A) Wurtz reaction

(B) Koch reaction

(C) Clemmensen reduction

(D) Kolbe's reaction

59. Which of the following aliphatic compounds will discharge red colour of bromine

(A) C_2H_4 (B) C_3H_6 (C) C_4H_8 (D) All of these

60. Which one of the following reactions would be the best for the formation of $2-$ bromobutane

(1) $CH_3CH=CHCH_2CH_3 \xrightarrow{HBr}$

(2) $CH_3CH_2CH=CH_2 \xrightarrow{HBr}$

(3) $CH_3CH=CHCH_3 \xrightarrow{Br_2}$

(4) $CH_3CH_2CH=CH_2 \xrightarrow[Proxide]{HBr}$

(A) 1 (B) 2 (C) 3 (D) 4

61. The order of increasing reactivity towards HCl of the following compounds will be

(1) $CH_2=CH_2$

(2) $(CH_3)_2C=CH_2$

(3) $CH_3CH=CHCH_3$

(A) $1<2<3$ (B) $1<3<2$ (C) $3<2<1$ (D) $2<1<3$

62. Ethylene is a member of..... series

(A) Alkyne (B) Olefin (C) Paraffin (D) Amine

63. Ethyl alcohol on heating with conc. H_2SO_4 gives

(A) $CH_3COOC_2H_5$ (B) C_2H_6 (C) C_2H_4 (D) C_2H_2

64. The final product formed by the ozonolysis of compound $RCH=CR_2$ is

(A) $RCHO$ (B) R_2CO (C) Both (a) and (b) (D) None of these

65. $2-$chlorobutane is heated with alcoholic $NaOH$, the product formed in larger amount is

(A) $1-$Butene (B) $1-$Butyne (C) $2-$Butene (D) All of these

66. Alkene can be prepared from alkyl halide by the following reagent $R-X+Nu^- \rightarrow \text{Alkene}+NuH$

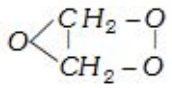
(A) Alc. KOH + heat (B) Aq. KOH + cold water

(C) $NaOH$ (D) $LiOH$

67. Bond length between carbon-carbon in ethylene molecule is.....$\overset{o}{A}$

(A) 1.54 (B) 1.35 (C) 1.19 (D) 2.4

68. Ethylene reacts with ozone gas to form the compound

(A) $HCHO$ (B) C_2H_5OH (C)  (D) CH_3CHO

69. Ozonolysis of which one of the following will give two molecules of acetaldehyde

(A) $1-$butene (B) $2-$butene (C) $1-$pentene (D) $2-$pentene

70. Which of the following compounds represents acrylonitrile

(A) Vinyl cyanide (B) Cyanoethene

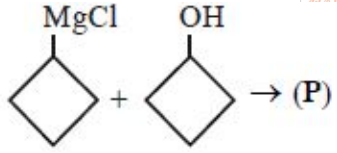
(C) Prop$-2-$ene nitrile (D) All of them

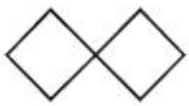
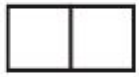
71. Which of the following has highest knocking

(A) Olefins (B) Branched chain olefins

(C) Straight chain olefins (D) Aromatic hydrocarbons

72. Compound (P) is



(A)  (B)  (C)  (D) 

73. $cis-3$ -hexene $\xrightarrow{(a)}$ meso $3,4-$ hexanediol

$trans-3$ -hexene $\xrightarrow{(b)}$ meso $3,4-$ hexanediol

Choose pair of reagent (a,b) for above conversions

(A) Cold $KMnO_4, OsO_4$

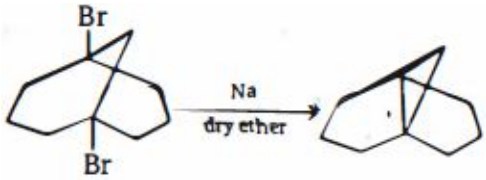
(B) Cold $KMnO_4, RCO_3H/H_3O^{\oplus}$

(C) $RCO_3H/H_3O^{\oplus}$, cold $KMnO_4$

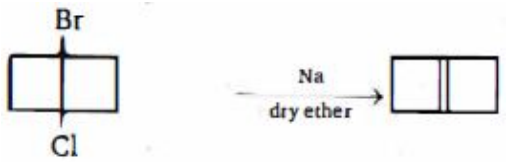
(D) None of these

74. Which of the following does not represent major product of that reaction ?

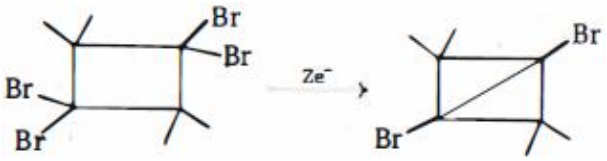
(A)



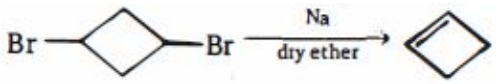
(B)



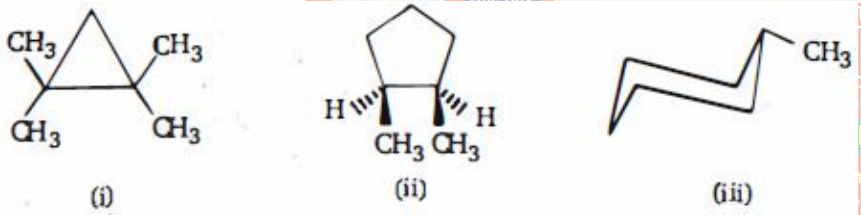
(C)



(D)



75. Arrange the following compounds in decreasing order of their heats of combustion

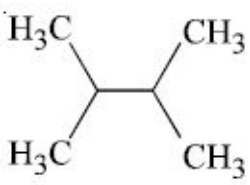


(A) $(iii) > (ii) > (i)$ (B) $(ii) > (i) > (iii)$ (C) $(iii) > (i) > (ii)$ (D) $(i) > (ii) > (iii)$

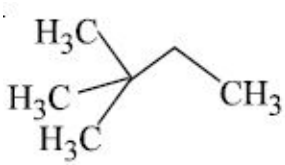
76. Which has maximum $B.P.$?

(A)

(B)



(C)



(D)

77. The poisonous gas that comes out with petrol burning in a car is

(A) CH_4 (B) C_2H_6 (C) CO_2 (D) CO

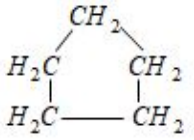
78. An alkane (molecular weight 72) forms only one monochlorinated product. Its formula is

(A) $(CH_3)_4C$

(B) $CH_3(CH_2)_3CH_3$

(C) $(CH_3)_2CHCH_2CH_3$

(D)



79. Cetane is a compound which has very good ignition property. Chemically it is

(A) $CH_3(CH_2)_{14}CH_3$ (B) $(CH_3)_3C(CH_2)_{11}CH_3$

(C) $C_{17}H_{34}$ (D) None of these

80. Aromatisation of $n-$ heptane by passing over $(Al_2O_3 + Cr_2O_3)$ catalyst at $773\,K$ gives

(A) Benzene (B) Toluene (C) Mixture of both (D) Heptylene

81. Which of the following has highest knocking property

(A) Aromatic hydrocarbons

(B) Olefins

(C) Branched chain paraffins

(D) Straight chain paraffins

82. When ethylene bromide is treated with Zn, we get

(A) Alkane (B) Alkene (C) Alkyne (D) All

83. CH_3MgI will give methane with

(A) C_2H_5OH (B) $CH_3 - CH_2 - NH_2$

(C) $CH_3 - CO - CH_3$ (D) Both (a) and (b)

84. Which of the following is not linked with methane

(A) Marsh gas (B) Natural gas (C) Producer gas (D) Coal gas

85. Natural gas is a mixture of

(A) $CO + CO_2$ (B) $CO + N_2$

(C) $CO + H_2 + CH_4$ (D) $CH_4 + C_2H_6 + C_3H_8$

86. How many types of carbon atoms are present in $2,2,3-$ trimethylpentane

(A) 1 (B) 2 (C) 3 (D) 4

87. Which one of the following compounds cannot be prepared by Wurtz reaction

(A) CH_4 (B) C_2H_6 (C) C_3H_8 (D) C_4H_{10}

88. Fischer Tropsch process is used for the manufacture of

(A) Synthetic petrol (B) Thermosetting plastics

(C) Ethanol (D) Benzene

89. Which statement is not true concerning alkanes

(A) Large number alkanes are soluble in water

(B) All alkanes have a lower density than water

(C) At room temperature some alkanes are liquids, some solids and some gases

(D) All alkanes burn

90. Formation of alkane by the action of Zn on alkyl halide is called

(A) Frankland's reaction (B) Wurtz reaction

(C) Cannizzaro reaction (D) Kolbe's reaction

91. Which of the following is not an endothermic reaction

(A) Dehydrogenation

(B) Ethane to ethene

(C) Combustion of propane

(D) Change of chlorine molecule into chlorine atoms.

92. A sample of gasoline contains 81% iso-octane and 19% $n-$ heptane. Its octane number will be

(A) 19 (B) 81 (C) 100 (D) 62

93. Water gas is

(A) $CO + CO_2$ (B) $CO + N_2$ (C) $CO + H_2$ (D) $CO + N_2 + H_2$

94. Which of the following does not decolourise bromine solution in carbon disulphide

(A) Acetylene (B) Propene (C) Ethane (D) Propyne

95. Knocking sound occurs in engine when fuel

(A) Ignites slowly

(B) Ignites rapidly

(C) Contains water

(D) Is mixed with machine oil

96. Carbon black, which is used in making printer's ink, is obtained by decomposition of

(A) Acetylene (B) Benzene

(C) Carbon tetrachloride (D) Methane

97. Gasoline is obtained from crude petroleum oil by its

(A) Fractional distillation

(B) Vacuum distillation

(C) Steam distillation

(D) Pyrolysis

98. In catalytic reduction of hydrocarbons which catalyst is mostly used

(A) Pt/Ni (B) Pd (C) SiO_2 (D) Misch Metal

99. The organic compound used as antiknock agent in petroleum is

(A) $(C_2H_5)_4Pb$ (B) TNT (C) CH_3MgBr (D) $(C_2H_5)_2Hg$

100. Natural gas contains mainly

(A) Methane (B) $n-$ butane

(C) $n-$ octane (D) Mixture of octane

101. Tetraethyl lead is used as

(A) Fire extinguisher (B) Pain reliever

(C) Petroleum additive (D) Mosquito repellent

102. Kerosene is a mixture of

(A) Alkanes

(B) Aromatic compounds

(C) Alcohols

(D) Aliphatic acids

103. Petroleum ether can be used as

(A) Solvent for fat, oil, varnish and rubber

(B) As a fuel

(C) Both (a) and (b)

(D) None of these

104. Petroleum consists mainly of

(A) Aliphatic hydrocarbons (B) Aromatic hydrocarbons

(C) Aliphatic alcohols (D) None of these

105. Methane and ethane both can be obtained in single step from

(A) CH_3I (B) C_2H_5I (C) CH_3OH (D) C_2H_5OH

106. A reaction between methyl magnesium bromide and ethyl alcohol gives

(A) Methane (B) Ethane (C) Propane (D) Butane

107. In Wurtz reaction, the reagent used is

(A) Na (B) Na / liquid NH_3 (C) Na / Dry ether (D) Na / Dry alcohol

108. The most volatile compound is

(A) $2,2-$ dimethyl propane

(B) $2-$ methyl butane

(C) Isobutane

(D) $n-$ pentane

109. Iodoethane reacts with sodium in the presence of dry ether. The product is

(A) Pentane (B) Propane (C) Butene (D) Butane

110. Which of petroleum corresponds to kerosene oil

(A) $C_{15}-C_{18}$ (B) $C_{10}-C_{12}$ (C) C_5-C_9 (D) C_1-C_9

111. Which of the following compounds is used in antiknock compositions to prevent the deposition of oxides of lead on spark plug, combustion chamber and exhaust pipe

(A) Glycerol (B) Glycol

(C) $1,2-$ dibromoethane (D) Benzene

112. The decreasing order of boiling points is

(A) $n-$ Pentane > iso-Pentane > neo-Pentane

(B) iso-Pentane > $n-$ Pentane > neo-Pentane

(C) neo-Pentane > iso-Pentane >$n-$ Pentane

(D) $n-$ Pentane > neo-Pentane > iso-Pentane

113. Cycloalkane has the formula

(A) C_nH_{2n+2} (B) C_nH_{2n-2} (C) C_nH_{2n} (D) $C_{2n}H_2$

114. The most important method of preparation of hydrocarbons of lower carbon number is

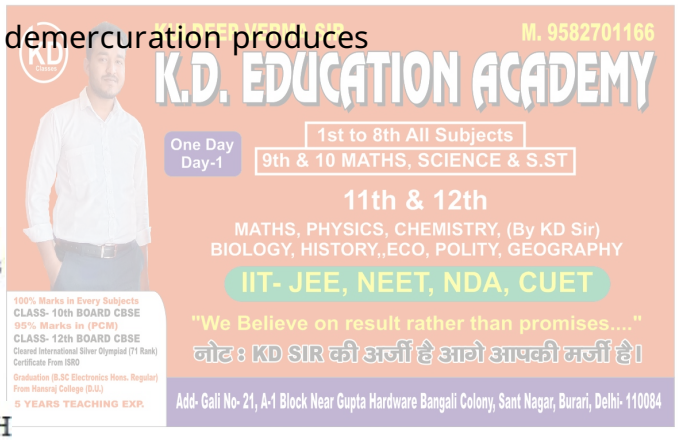
(A) Pyrolysis of higher carbon number of hydrocarbons

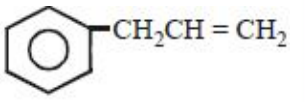
(B) Electrolysis of salts of fatty acids

(C) Sabatier and Senderen's reaction

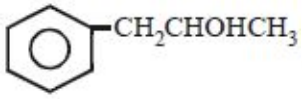
(D) Direct synthesis

115. on mercuration and demercuration produces

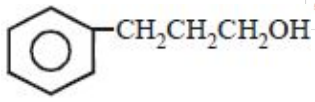




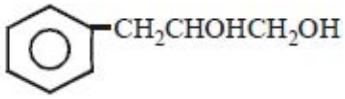
(A)



(B)



(C)



(D) none of these

116. Below, some catalysts and corresponding proceses/reactions are matched. The mismatch is

(A) $[RhCl(PPh_3)_2]$: Hydrogenation

(B) $TiCl_4 + Al(C_2H_5)_3$: Polymerization

(C) V_2O_5 : Haber-Bosch process

(D) Nickel-Hydrogenation

117. Pyridine is less basic than triethylamine because

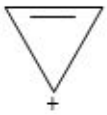
(A) Pyridine has aromatic character

(B) Nitrogen in pyridine is sp^2 hybridized

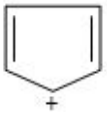
(C) Pyridine is a cyclic system

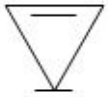
(D) In pyridine, lone pair of nitrogen is delocalized

118. Among the following the aromatic compound is

(A) 

(B) 

(C) 

(D) 

119. If ethylene, carbon monoxide and water is heated at high temperature, which of the following is formed

(A) $C_4H_8O_2$ (B) C_2H_5COOH

(C) CH_3COOH (D) $CH_2 = CH - COOH$

120. Catalytic hydrogenation of benzene gives

(A) Xylene (B) Cyclohexane (C) Benzoic acid (D) Toluene

121. Olefins can be hydrogenated by

(A) Zinc and HCl (B) Nascent hydrogen

(C) Raney Ni and H_2 (D) Lithium hydride in ether

122. A compound 'X' on ozonolysis forms two molecules of $HCHO$. Compound 'X' is

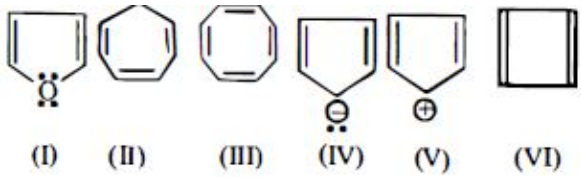
(A) C_2H_4 (B) C_2H_2 (C) C_2H_6 (D) C_6H_6

123. Which branched chain isomer of the hydrocarbon with molecular mass $72\,u$ gives only one isomer of mono substituted alkyl halide ?

(A) Tertiary butyl chloride (B) Neopentane

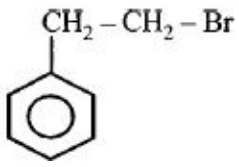
(C) Isohexane (D) Neohexane

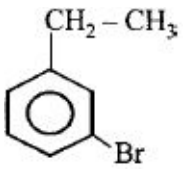
124. Which of the following compounds are antiaromatic

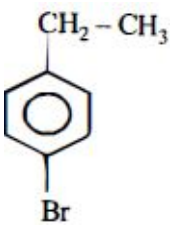


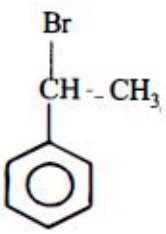
(A) (I) and (V) (B) (II) and (V) (C) (I) and (IV) (D) (V) and (VI)

125. The product of the reaction between ethyl benzene and $N-$ bromosuccinamide is

(A) 

(B) 

(C) 

(D) 

126. $2-$ Hexyne gives trans $-2-$ Hexene on treatment with :

(A) Pt/H_2 (B) Li/NH_3 (C) $Pd/BaSO_4$ (D) $LiAlH_4$

127. 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

128. One mole of a symmetrical alkene on ozonolysis gives two moles of an aldehyde having a molecular mass of $44\,u$. The alkene is

(A) propene (B) $1-$ butene (C) $2-$ butene (D) ethene

129. The reaction of toluene with Cl_2 in presence of $FeCl_3$ gives predominantly

(A) $m-$chlorobenzene (B) benzoyl chloride

(C) benzyl chloride (D) $o-$ and $p-$ chlorotoluene.

130. Of the five isomeric hexanes, the isomer which can give two monochlorinated compounds is

(A) $n-$hexane

(B) $2,3-$dimethylbutane

(C) $2,2-$dimethylbutane

(D) $2-$methylpentane

131. $2-$Methylbutane on reacting with bromine in the presence of sunlight gives mainly

(A) $1-$bromo$-2-$methylbutane

(B) $2-$bromo$-2-$methylbutane

(C) $2-$bromo$-3-$methylbutane

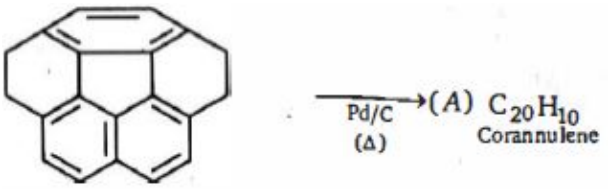
(D) $1-$bromo$-3-$methylbutane

132. Which of these does not follow Anti-Markownikoff's rule

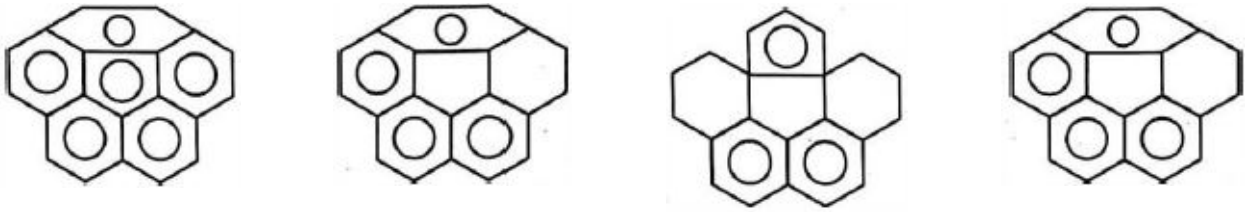
(A) $2-$butene (B) $1-$butene (C) $2-$pentene (D) $2-$hexene

133. The step shown below is a recent synthesis of corannulene.

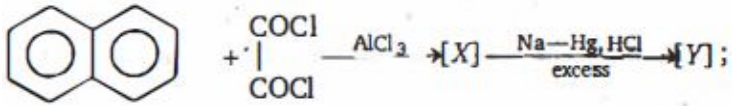
Product (A) is



(A) (B) (C) (D)



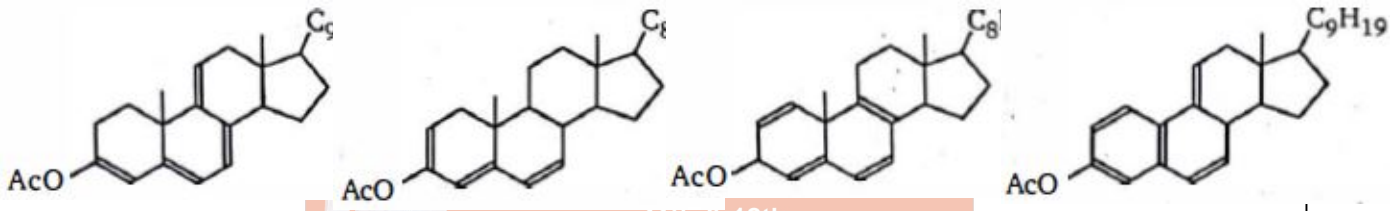
134. Product Y is



(A) (B) (C) (D)

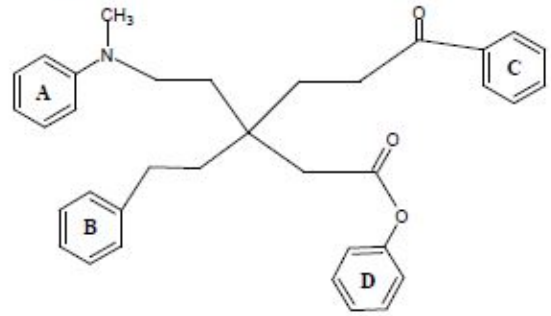
135. Which of the following compound is most stable ?

(A) (B) (C) (D)



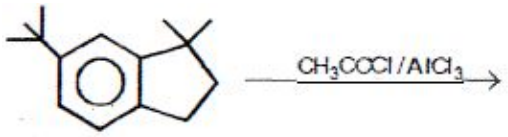
136. The following compound has four aromatic rings marked as A, B, C and D. Rank them in terms of increasing reactivity towards electrophilic aromatic substitution?

Compound is

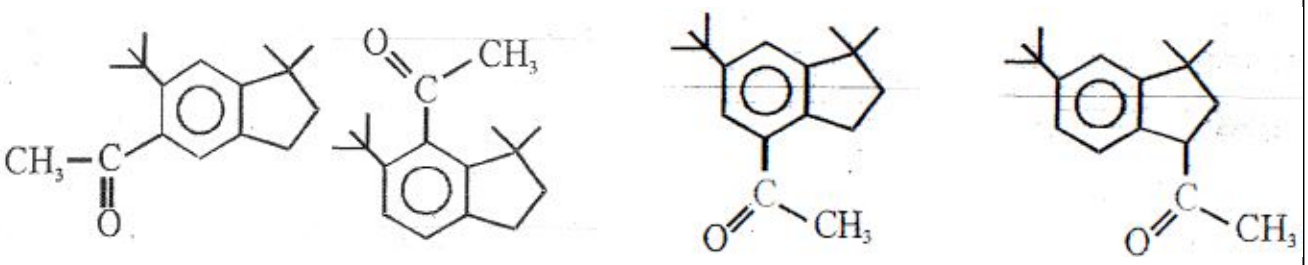


(A) $C < D < A < B$ (B) $C < B < D < A$ (C) $C < B < A < D$ (D) $B < C < D < A$

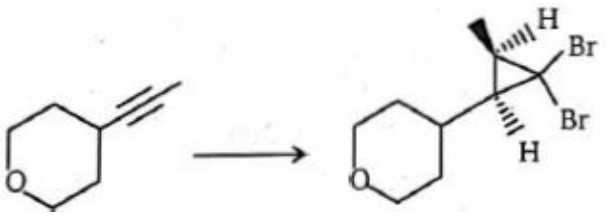
137. The major product of the reaction is



(A) (B) (C) (D)



138. To carry out above conversion reagent used in decreasing order.



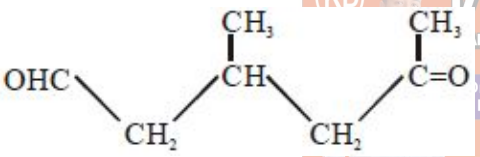
(A) $Na/liq.NH_3, CHBr_3/NaOH(\Delta)$

(B) $H_2/Pd-CaCO_3, CHBr_3/NaOH(\Delta)$

(C) $Na/liq.NH_3, CHCl_3/NaOH$

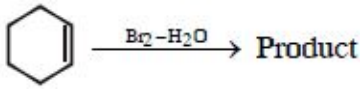
(D) $H_2/Pd-CaCO_3, CHCl_3/NaOH$

139. Ozonolysis of which compound gives

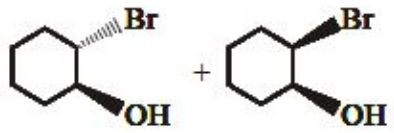


(A) (B) (C) (D)

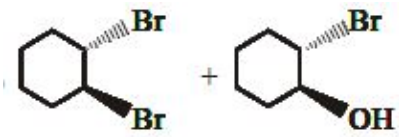
140. The product of following reaction will be



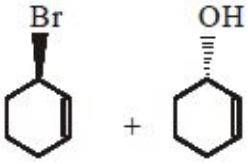
(A)



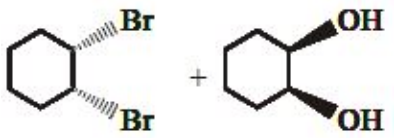
(B)



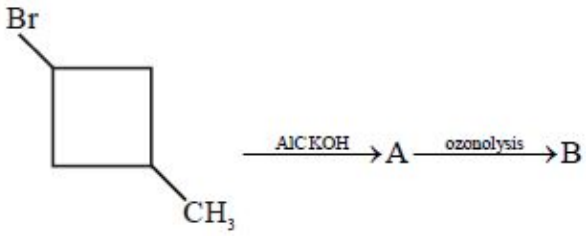
(C)



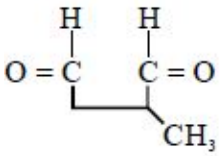
(D)



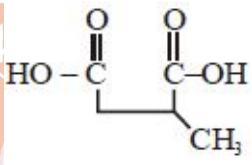
141. Identify the final product (B).



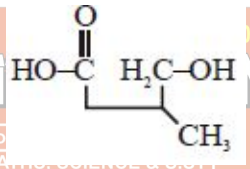
(A)



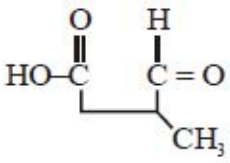
(B)



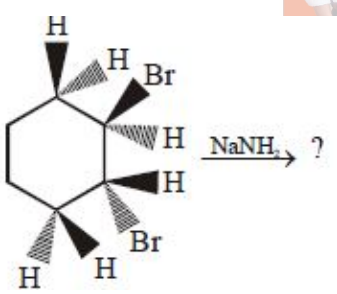
(C)



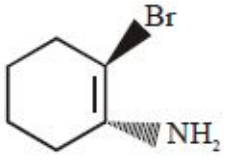
(D)



142.

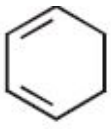


(A)



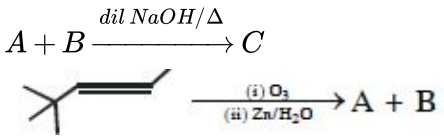
(B)

(C)

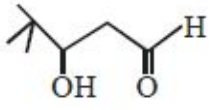


(D)

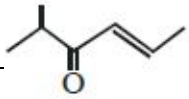
143. Consider reaction sequence and identify $'C'$?



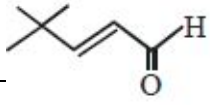
(A)



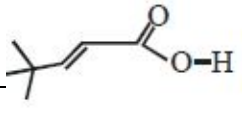
(B)



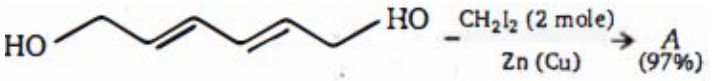
(C)

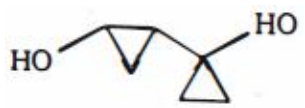


(D)



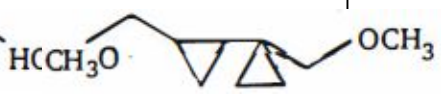
144. Product (A) will be



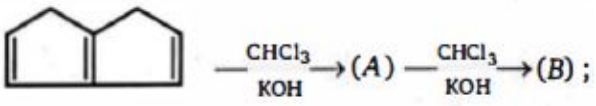
(A) 

(B) 

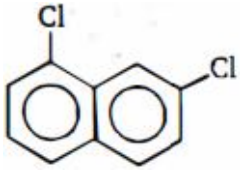
(C) 

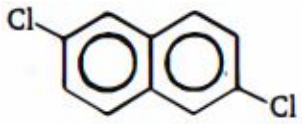
(D) 

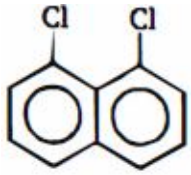
145. Product (B) is



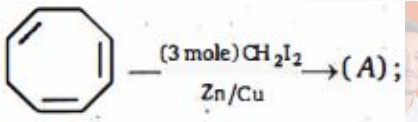
(A) 

(B) 

(C) 

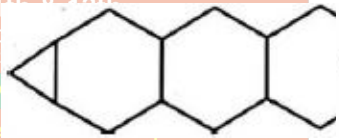
(D) 

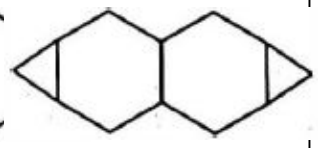
146. Compound (A) is



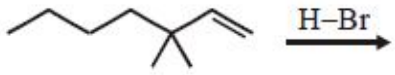
(A) 

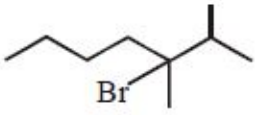
(B) 

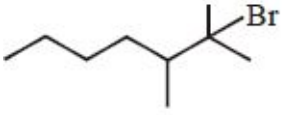
(C) 

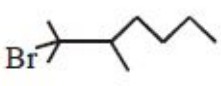
(D) 

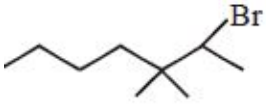
147. Give the major product of the reaction



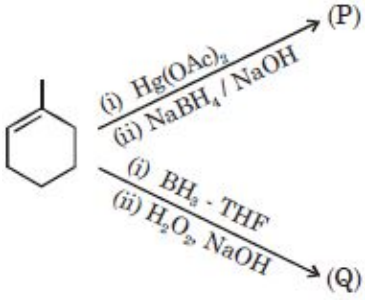
(A) 

(B) 

(C) 

(D) 

148. Major products of following reactions are related as :

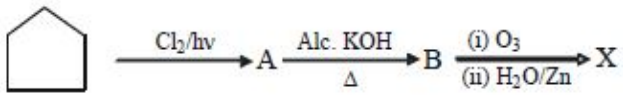


(A) Position isomers

(B) Chain isomers

(C) Functional isomers (D) Identical

149. X is -



(A) $CHO-(CH_2)_3-CHO$ (B) $CHO-(CH_2)_2-CHO$

(C) $CHO-(CH_2)_3-CH_3$ (D) $CHO-CHO$

150. Match the column and find correct answer

Column $-I$	Column $-II$
(i) $n-$ Butane $\rightarrow 2-$ methyl propane	(A) Free redical substitution
(ii) $CH_4+Cl_2 \xrightarrow{hv} CH_3+Cl$	(B) Wurtz reaction
(iii) $R-COONa \xrightarrow{soda-lime} R-H$	(C) Isomerism
(iv) $R-X+Na \xrightarrow{Ether} R-R$	(D) De-carboxylation

(A) $I-C, II-A, III-D, IV-B$ (B) $I-A, II-C, III-D, IV-B$

(C) $I-C, II-A, III-B, IV-D$ (D) $I-B, II-A, III-D, IV-C$

----- Being the richest man in the cemetery doesn't matter to me. Going to bed at night saying we've done something wonderful . . . that's what matters to me. -----