QB365 Question Bank Software Study Materials

Hydrocarbons 50 Important 1 Marks Questions With Answers (Book Back and Creative)

11th Standard

Chemistry

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

1) The correct statement regarding the comparison of staggered and eclipsed conformations of ethane is (NEET)_____

(a) the eclipsed conformation of ethane is more stable than staggered conformation even though the eclipsed conformation has torsional strain

(b) the staggered conformation of ethane is more stable than eclipsed conformation, because staggered conformation has no torsional strain

(c) the staggered conformation of ethane is less stable than eclipsed conformation, because staggered conformation has torsional strain

(d) the staggered conformation of ethane is less stable than eclipsed conformation, because staggered conformation has no torsional strain

2) $C_2H_5Br + 2Na \xrightarrow{dry}_{\longrightarrow}^{ether} C_4H_{10} + 2NaBr$ The above reaction is an example of which of the following

(a) Reimer Tiemann reaction **(b) Wurtz reaction** (c) Aldol condensation (d) Hoffmann reaction

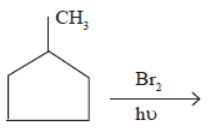
3) An alkyl bromide (A) reacts with sodium in ether to form 4, 5– diethyloctane, the compound (A) is _____

(a) $CH_3\ (CH_2)_3\ Br$ (b) $CH_3(CH_2)_5\ Br$ (c) $CH_3(CH_2)_3\ CH(Br)CH_3$ **(d)** $CH_3 - (CH_2)_2 - CH(Br) - \underset{\displaystyle CH_3}{\underset{|}{CH_2}}$

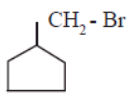
4) The C – H bond and C – C bond in ethane are formed by which of the following types of overlap _____

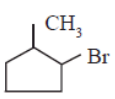
(a) sp^3 – s and sp^3 – sp^3 (b) sp^2 – s and sp^2 – Sp^2 (c) sp – sp and sp – sp (d) p – s and p – p

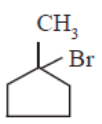
5) In the following reaction,

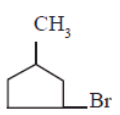


The major product obtained is _____

(a) 

(b) 

(c) 

(d) 

6) Which of the following is optically active _____

(a) 2 – methyl pentane (b) citric acid (c) Glycerol **(d) none of these**

7) The compounds formed at anode in the electrolysis of an aquous solution of potassium acetate are _____

(a) CH_4 and H_2 (b) CH_4 and CO_2 **(c) C_2H_6 and CO_2** (d) C_2H_4 and Cl_2

8) The compound that will react most readily with gaseous bromine has the formula (NEET)_____

(a) C_3H_6 (b) C_2H_2 (c) C_4H_{10} (d) C_2H_4

9) Which of the following compounds shall not produce propene by reaction with HBr followed by elemination (or) only direct elimination reaction (NEET)_____

(a)  (b) $CH_3 – CH_2 – CH_2 – OH$ **(c) $H_2C = C = 0$** (d) $CH_3 – CH_2 – CH_2Br$

10) Which among the following alkenes on reductive ozonolysis produces only propanone?

(a) 2 – Methyl propene (b) 2 – Methyl but – 2 - ene (c) 2, 3 – Dimethyl but – 1 – ene **(d) 2, 3 – Dimethyl but – 2 – ene**

11) The major product formed when 2 – bromo – 2 – methyl butane is refluxed with ethanolic KOH is _____

(a) 2 – methylbut – 2 – ene (b) 2 – methyl butan – 1 – ol (c) 2 – methyl but – 1 – ene (d) 2 – methyl butan – 2 – ol

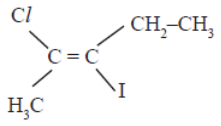
12) Major product of the below mentioned reaction is _____

$(CH_3)_2C = CH_2 \xrightarrow{ICl}$

(a) 2–chloro –1– iodo – 2 – methyl propane (b) 1–chloro–2–iodo–2–methylpropane

(c) 1,2 – dichloro – 2 – methyl propane (d) 1, 2 – diiodo – 2 – methyl propane

13) The IUPAC name of the following compound is _____



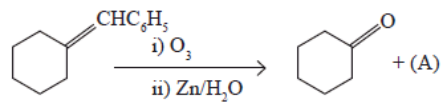
(a) trans–2–chloro–3–iodo – 2 – pentane (b) cis–3 – iodo – 4 – chloro – 3 – pentane

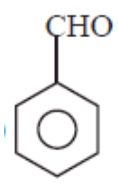
(c) trans–3–iodo–4–chloro – 3 – pentene (d) cis–2 – chloro – 3 – iodo – 2 – pentene

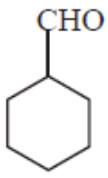
14) Cis – 2 – butene and trans – 2 – butene are _____

(a) conformational isomers (b) structural isomers **(c) configurational isomers** (d) optical isomers

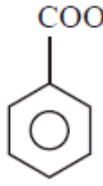
15) Identify the compound (A) in the following reaction _____



(a) 

(b) 

(c) 

(d) 

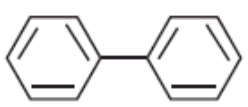
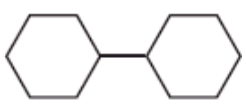
16) $CH_2(Br) - CH_2(Br) \xrightarrow{(A)} CH \equiv CH$, where A is _____

(a) Zn (b) Conc H_2SO_4 **(c) alc. KOH** (d) dil H_2SO_4

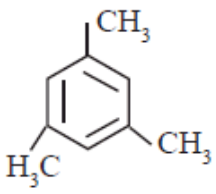
17) Consider the nitration of benzene using mixed con H_2SO_4 and HNO_3 if a large quantity of $KHSO_4$ is added to the mixture, the rate of nitration will be _____

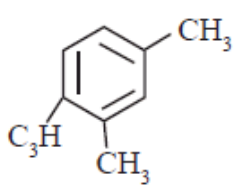
(a) unchanged (b) doubled (c) faster **(d) slower**

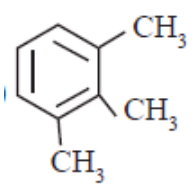
18) In which of the following molecules, all atoms are co-planar _____

(a)  (b)  (c)  **(d) both (a) and (b)**

19) Propyne on passing through red hot iron tube gives _____

(a) 

(b) 

(c) 

(d) none of these

20) Which of the following compounds will not undergo Friedal – crafts reaction easily?(NEET)

(a) Nitro benzene (b) Toluene (c) Cumene (d) Xylene

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

(a) – COOH **(b) – NO_2** (c) – C ≡ N (d) – SO_3H

22) An alkane is obtained by decarboxylation of sodium propionate. Same alkane can be prepared by _____

(a) Catalytic hydrogenation of propene **(b) action of sodium metal on iodomethane** (c) reduction of 1 – chloro propane

(d) reduction of bromomethane

23) Which of the following is aliphatic saturated hydrocarbon?

(a) C_8H_{18} (b) C_9H_{18} (c) C_8H_{14} (d) All of these

24) Identify the compound 'Z' in the following reaction

$$C_2H_6O \xrightarrow[623\ K]{Al_2O_3} X \xrightarrow{O_3} Y \xrightarrow{Zn/H_2O} (Z)$$

(a) Formaldehyde (b) Acetaldehyde (c) Formic acid (d) none of these

25) Peroxide effect (Kharasch effect) can be studied in case of _____

(a) Oct – 4 – ene (b) hex – 3 – ene **(c) pent – 1 – ene** (d) but – 2 – ene

26) The difference in potential energy between eclipsed and staggered form of ethane is _____

(a) 4 kJ/mol **(b) 12.55 kJ/mol** (c) 2 kJ/mol (d) 44 kJ/mol

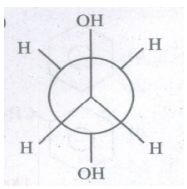
27) $C_6H_5CH_2CH_2CH_3$ is when oxidised in the presence of alke $kMnO_4$, the product obtained is _____

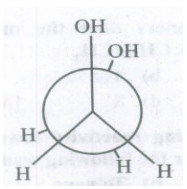
(a) C_6H_5CHO **(b) C_6H_5COOH** (c) $C_6H_5CH_2CH_2CHO$ (d) $C_6H_5COCH_3$

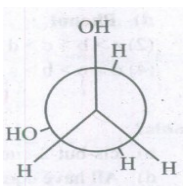
28) The number of axial hydrogen atoms in chair form of cyclohexane is _____

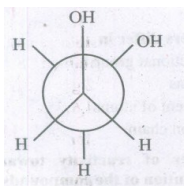
(a) 3 **(b) 6** (c) 12 (d) 2

29) Which of the following conformers for ethylene glycol is most stable?

(a) 

(b) 

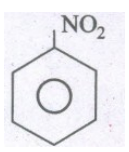
(c) 

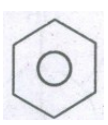
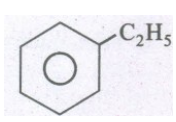
(d) 

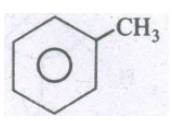
30) Total number of conformations possible in cyclohexane is _____

(a) Zero **(b) Infinite** (c) Four (d) Two

31) Which of the following is the most reactive towards electrophilic substitution reaction?

(a) 

(b) 
(c) 

(d) 

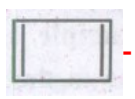
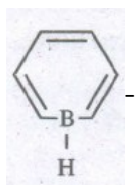
32) In the commercial gasonlines, the type of hydrocarbons which are more desirable is _____

(a) Linear unsaturated hydrocarbon (b) Toluene **(c) Branched hydrocarbon** (d) Straight-chain hydrocarbon

33) Dihedral angle in staggered form of ethane is _____

(a) 0° (b) 120° (c) 60° (d) 180°

34) The incorrect match is _____

(a)  **- Anti Aromatic** (b) 

- Anti-aromatic (c)  - Non-aromatic (d)  -Aromatic

35) Which one of the following has garlic odour?

(a) Ethane (b) Ethene **(c) Ethyne** (d) Ethanol

36) Which one of the following is not an ortho-para director?

(a) $-NO_2$ (b) $-CH_3$ (c) -OH (d) $-C_2H_5$

37) Methane clathrates are _____.

(a) methane + ethane (b) methane + propane **(c) water + methane** (d) water + propane

38) $CH_3COONa + NaOH \xrightarrow{CaO} \Delta CH_4 + Na_2CO_3$ is an example for _____.

(a) Reducation (b) Redox **(c) decarboxylation** (d) None

39) Wurtz reaction is _____.

(a) $CH_3Br + 2Na + Br - CH_3 \xrightarrow[ether]{dry} CH_3 - CH_3 + NaBr$ (b) $CH_3CH = CH_2 \underset{\rightarrow}{250^\circ C} \longrightarrow CH3 - CH - CH_3$

(c) $nCH_2 = CH_2 \longrightarrow (CH_2 - CH_2)_n$ (d) $CH_3mgCl + H_2O \longrightarrow CH_4 + Mg(OH)Cl$

40) Presence of double bond in alkene provides the possibility of _____ isomerism.

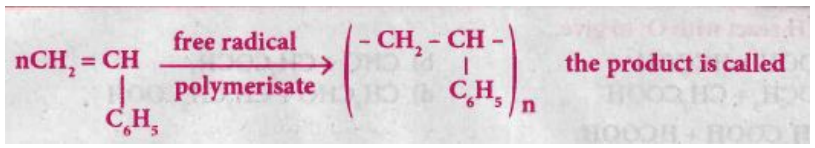
(a) structural (b) geometrical **(c) Both (a) & (b)** (d) None

41) Which one is the weakest bond?

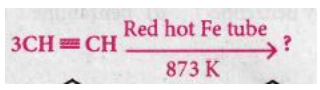
(a) π (b) σ (c) ionic bond (d) none

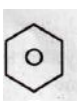
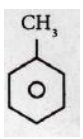
42) _____ bond is weaker than H - Cl bond.

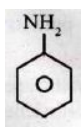
(a) HBr (b) H_2S **(c) HI** (d) H_2O

43) 

(a) poly propylene **(b) poly styrene** (c) poly Benzeline (d) Benzamine

44) 

(a)  **(b)**  (c) 

(d) 

45) According to Huckel's rule presence of _____ electrons in the ring, which is explained by Aromaticity.

(a) (4n+2) (b) (4n+3)σ **(c) (4n+2)π** (d) (2n+1)π

46) In spectroscopic measurements, C - C bonds are having a length of _____.

(a) 1.50 A^o (b) 2.40 A^o **(c) 1.40 A^o** (d) 2.50 A^o

47) All the bonds in benzene lie in one plane with the bond angle _____.

(a) 120^o (b) 150^o (c) 110^o (d) 180^o

48) _____ shaped polynuclear hydrocarbon are much more toxic & carcinogenic.

(a) T (b) H (c) A **(d) L**

49) The modern theory of aromaticity was introduced by _____.

(a) Faraday **(b) Huckel** (c) Hofmann (d) Berthlot

50) Sandwich bags contain _____

(a) LDPE (b) EPDE (c) PET (d) PS