CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 36

Chemistry

1. The number of structural isomers for C_6H_{14} is :

A. 6

B. 3

C. 4

D. 5

Answer: D

Watch Video Solution

2. When $20g$ of naphthoic acid $(C_{11}H_8O_2)$ is dissolved in $50g$ of benzene $\left(K_f = 1.72Kkgmol^{-1}\right)$, a freezing point depression of $2K$ is observed. The Van't Hoff factor (i) is

A. 1

B. 3

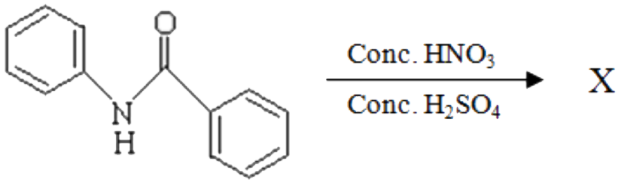
C. 0.5

D. 2

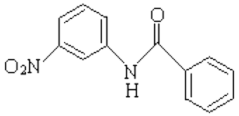
Answer: C

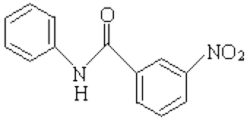
Watch Video Solution

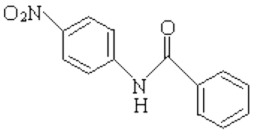
3. In the following reaction

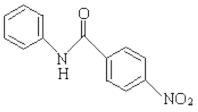


the structure of the major product 'X' is

A.


B.


C.


D.


Answer: C

Watch Video Solution

4. The value of $1log_{10}$ K for a reaction $A \Leftrightarrow B$ is:

(Given,

$\Delta_r H^{\circ}_{298K} = -54.07kJ \quad mol^{-1}, \Delta_r S^{\circ}_{298K} = 10JK^{-1} \quad mol^{-1}$ and $R =$ 8

)

A. 90

B. 100

C. 5

D. 10

Answer: D

Watch Video Solution

5. Among the following , the paramagnetic compound is :

A. O_3

B. N_2O

C. Na_2O_2

D. KO_2

Answer: D

Watch Video Solution

6. The percentage of p-character in the orbitals forming $p-p$ bonds in P_4 is

A. 25

B. 50

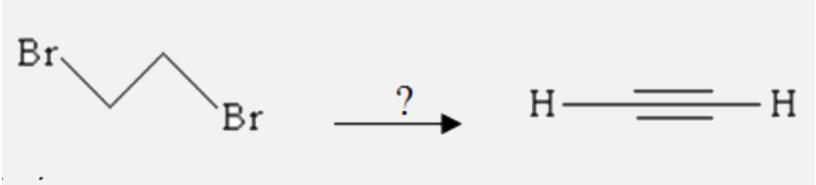
C. 33

D. 75

Answer: D

Watch Video Solution

7. The reagent (s) for the following conversion ,



is /are

A. Zn/CH_3OH

B. alcoholic KOH

C. alcoholic KOH followed by $NaNH_2$

D. aqueous KOH followed by $NaNH_2$

Answer: C

Watch Video Solution

8. Extraction of zinc from zinc blend is achieved by:

A. roasting followed by reduction with another metal

B. electrolytic reduction

C. roasting followed by reduction with carbon

D. roasting followed by self - reduction

Answer: C

Watch Video Solution

9. The pair of the compounds in which both the metals are in the highest possible oxidation state is

A. $[Fe(CN)]^{3-}$, $\left[Co(CN)_6\right]^{3-}$

B. $\left[Co(CN)_6\right]^{3-}$, MnO_2

C. TiO_3, MnO_2

D. CeO_2Cl_2, MnO_4^-

Answer: D

Watch Video Solution

10. The acid having O - O bond is

A. $H_2S_4O_6$

B. $H_2S_2O_6$

C. $H_2S_2O_3$

D. $H_2S_2O_8$

Answer: D

Watch Video Solution

11. $(NH_4)_2Cr_2O_7$ on heating liberates a gas. The same gas will be obtained by

A. heating NH_4NO_3

B. heating NH_4NO_2

C. treating H_2O_2 with $NaNO_2$

D. treating Mg_3N_2 with H_2O

Answer: B

Watch Video Solution

12. A 4.0 molar aqueous solution of NaCl is prepared and 500 mL of this solution is electrolysed . The leads to the evolution of chlorine gas at one the electrodes (atomic masses : Na = 23 , Hg = 200, 1 Faraday = 96500 coulombs). The total number of moles of chlorine gas evolved is

A. 0.5

B. 1.0

C. 2.0

D. 3.0

Answer: B

Watch Video Solution

13. Argon is used in arc welding because

A. low reactivity with metal

B. ability to lower the melting point of metal

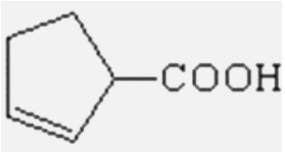
C. flammability

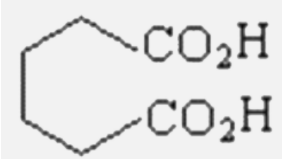
D. high calorific value

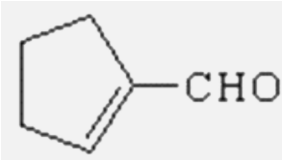
Answer: A

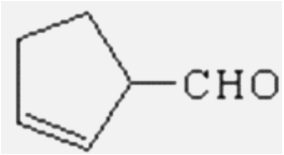
Watch Video Solution

14. Cyclohexene on ozonolysis followed by reaction with zinc dust and water gives compound E. Compound E on further treatment with aqueous KOH yields compound F. Compound F is

A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

15. Benzamide on reaction with $POCl_3$ gives

A. aniline

B. Chlorobenzene

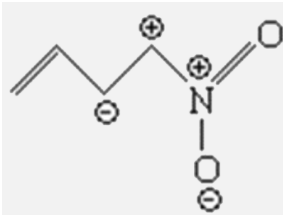
C. benzylamine

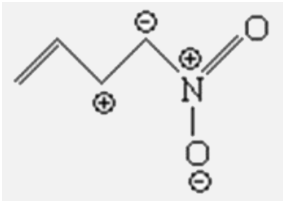
D. benzonitrile

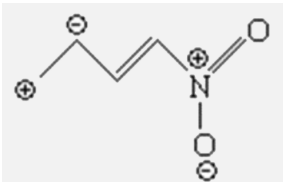
Answer: D

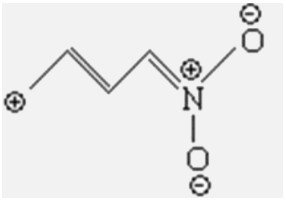
Watch Video Solution

16. Among the following, the least stable resonance structure is :

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

17. Consider a titration of potassium dichromate solution with acidified Mohr's salt solution using diphenylamine as indicator. The number of moles of Mohr's salt required per mole of dichromate is:

A. 3

B. 4

C. 5

D. 6

Answer: D

Watch Video Solution

18. For the process $H_2O(l)(1\text{bar}, 373K) \rightarrow H_2O(g)(1\text{bar}, 373K)$ the correct set of thermodynamic parameters is

A. $\Delta G = 0, \Delta S = +ve$

B. $\Delta G = 0, \Delta S = -ve$

C. $\Delta G = +ve, \Delta S = 0$

D. $\Delta G = -ve, \Delta S = +ve$

Answer: A

Watch Video Solution

19. A solution of a metal ion when treated with KI gives a red precipitate which dissolves in excess KI to give a colourless solution. Moreover, the solution of metal ion on treatment with a solution of cobalt (II) thiocyanate gives rise to a deep blue crystalline precipitate. The metal ion is

A. Pb^{2+}

B. Hg^{2+}

C. Cu^{2+}

D. Co^{2+}

Answer: B

Watch Video Solution

20. Consider a reaction $aG + bH \rightarrow$ Products. When concentration of both the reactants G and H is doubled, the rate increases eight times. However, when the concentration of G is doubled, keeping the concentration of H fixed, the rate is doubled. The overall order of reaction is

A. 0

B. 1

C. 2

D. 3

Answer: D

Watch Video Solution

21. The reaction given below is known as

$C_2H_5ONa + IC_2H_5 \rightarrow C_2H_5OC_2H_5 + NaI$

A. Kolbe's synthesis

B. Wurtz's synthesis

C. Williamson's synthesis

D. Grignard's synthesis

Answer: C

Watch Video Solution

22. The half life of radium is 1600 years. After how much time will 1 g radium be reduced to 125 mg ?

A. 4800 years

B. 4500 years

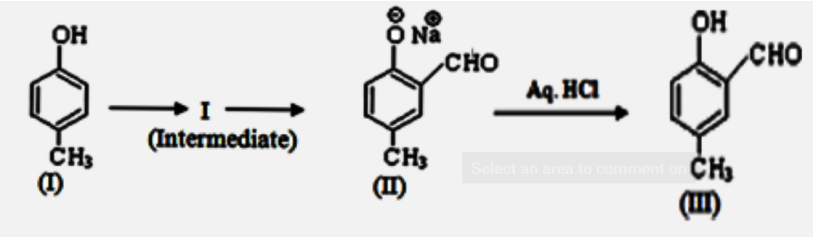
C. 5000 years

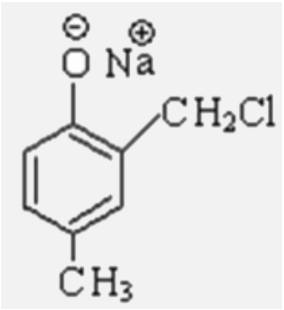
D. 4750 years

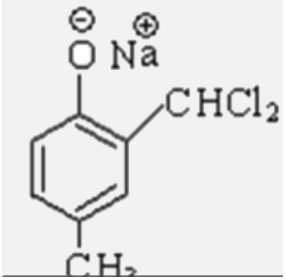
Answer: A

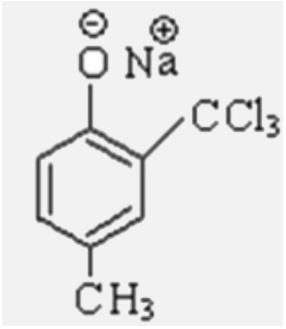
Watch Video Solution

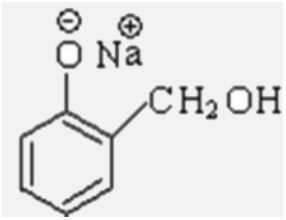
23. In the given reaction mechanisms identify I ?



A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

24. Total number of lone pair of electrons in $XeOF_4$ is :

A. 0

B. 1

C. 2

D. 3

Answer: B

Watch Video Solution

25. The correct order of reactivity of PhMgBr with

$Ph-\underset{(I)}{\overset{\overset{O}{||}}{\underset{C}{C}}}-Ph$ $\quad CH_3-\underset{(II)}{\overset{\overset{O}{||}}{C}}-H$ $\quad CH_3-\underset{(III)}{\overset{\overset{O}{||}}{C}}-CH_3$ is

A. $I > II > III$

B. $III > II > I$

C. $II > III > I$

D. $I > III > II$

Answer: C

Watch Video Solution

26. The spin magnetic moment of cobalt in the compound $Hg[Co(SCN)_4]$ is

A. $\sqrt{3}$

B. $\sqrt{8}$

C. $\sqrt{15}$

D. $\sqrt{24}$

Answer: C

Watch Video Solution

27. A sodium salt on treatment with $MgCl_2$ gives white precipitate only on heating. The anion of the sodium salt is :

A. CO_3^{2-}

B. SO_4^{2-}

C. NO_3^-

D. HCO_3^-

Answer: D

Watch Video Solution

28. The product of oxidation of I^- with MnO_4^- in alkaline medium is:

A. IO_3^-

B. I_2

C. IO_4^-

D. IO^-

Answer: A

Watch Video Solution

29. If $E^{\circ}_{Fe^{2+}/Fe} = -0.440V$ and $E^{\circ}_{Fe^{3+}/Fe^{2+}} = 0.770V$, then $E^{\circ}_{Fe^{3+}/Fe}$ is -

A. 0.33 V

B. $-0.0367V$

C. 0.11 V

D. $-0.11V$

Answer: B

Watch Video Solution

30. Which of the following compounds give positive test with Tollen's reagent ?

A. glucose and sucrose

B. fructose and sucrose

C. acetophenone and hexanal

D. glucose and fructose

Answer: D

Watch Video Solution

31. A $0.004M$ solution of Na_2SO_4 is isotonic with a $0.010M$ solution of glucose at same temperature. The apparent degree of dissociation of Na_2SO_4 is

A. $25\ \%$

B. $50\ \%$

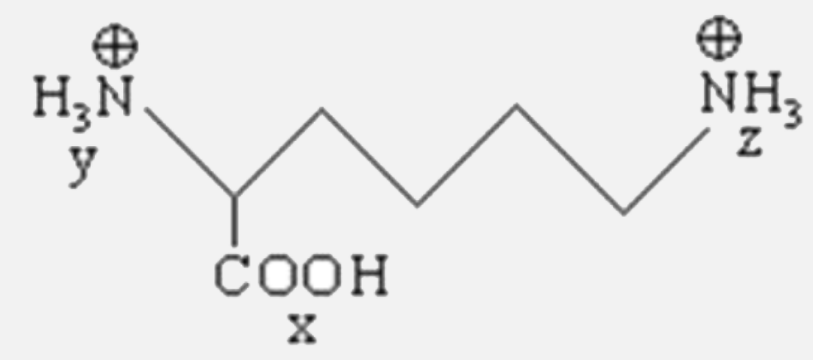
C. $75\ \%$

D. $85\ \%$

Answer: C

Watch Video Solution

32. In the compound given below



The correct order of acidity of the positions (X),(Y) and (Z) is

A. $X > Y > Z$

B. $Y > X > Z$

C. $Z > X > Y$

D. $X > Z > Y$

Answer: A

Watch Video Solution

33. The root mean square speed of one mole of a monoatomic gas having molecular mass M is u_{rms} The relation between the average kinetic

energy (E) of the gas and u_{rms} is .

A. $U_{\text{rms}} = \sqrt{(3E/2M)}$

B. $U_{\text{rms}} = \sqrt{(2E/3M)}$

C. $U_{\text{rms}} = \sqrt{(2E/M)}$

D. $U_{\text{rms}} = \sqrt{(E/3M)}$

Answer: C

Watch Video Solution

34. Methylene blue, from its aqueous solution is adsorbed on activated charcoal at $25^\circ C$. For this process, the correct statement is

A. The adsorption requires activation at $25^\circ C$

B. The adsorption is accompanied by a decrease in enthalpy.

C. The adsorption increases with increase of temperature.

D. The adsorption is irreversible.

Answer: B

Watch Video Solution

35. The K_{sp} of Ag_2CrO_4 is 1.1×10^{-12} at $298K$. The solubility (in mol/L) of Ag_2CrO_4 in a $0.1MAgNO_3$ solution is

A. 1.1×10^{-11}

B. 1.1×10^{-10}

C. 1.1×10^{-12}

D. 1.1×10^{-9}

Answer: B

Watch Video Solution

36. The number of sp^2 hybridised carbons present in "Aspartame" is _____.

A. 6

B. 7

C. 9

D. 10

Answer: C

Watch Video Solution

37. The radius of which of the following orbit is same as that of the first Bohr's orbit of hydrogen atom.

A. $Be^{3+}(n=2)$

B. $Li^{2+}(n=2)$

C. $He^{+}(n=2)$

D. $Li^{2+}(n=3)$

Answer: A

Watch Video Solution

38. The reaction $X \rightarrow Y$ (Product) follows first order kinetics. In 40 minutes, the concentration of X changes from 0.1M to 0.025 M , then rate of reaction when concentration of X is 0.01M is :

A. $3.47 \times 10^{-5} M / \text{ min}$

B. $1.73 \times 10^{-4} M / \text{ min}$

C. $1.73 \times 10^{-5} M / \text{ min}$

D. $3.47 \times 10^{-4} M / \text{ min}$

Answer: D

Watch Video Solution

39. The enthalpy of vaporisation of a liquid is $30 kJ mol^{-1}$ and entropy of vaporisation is $75 J mol^{-1} K^{-1}$. The boiling point of the liquid at $1 atm$ is :

A. 600 K

B. 250 K

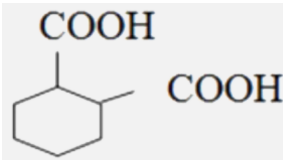
C. 400 K

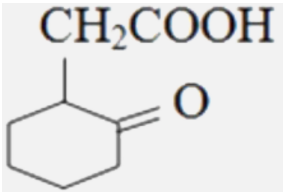
D. 450 K

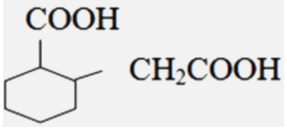
Answer: C

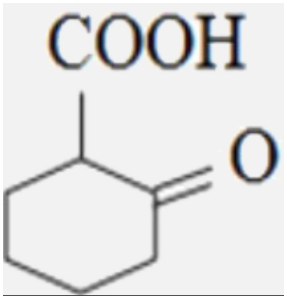
Watch Video Solution

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

A. 

B. 

C. 

D. 

Answer: D

Watch Video Solution

41. $Fe(OH)_3$ can be separated from $Al(OH)_3$ by addition of:

A. NaOH solution

B. NaCl solution

C. Dil. HCl solution

D. NH_4Cl & NH_4OH

Answer: D

Watch Video Solution

42. Which of the following materials exhibits sublimation ?

A. Ice

B. Ethyl alcohol

C. Wax

D. Camphor

Answer: D

Watch Video Solution

43. If a is the length of the side of a cube, the distance between the body centred atom and one corner atom in the cube will be:

A. $\frac{\sqrt{3}}{4}a$

B. $\frac{2}{\sqrt{3}}a$

C. $\frac{4}{\sqrt{3}}a$

D. $\frac{\sqrt{3}}{2}a$

Answer: D

Watch Video Solution

44. Poly $-\beta$ - hydroxybutyrate - co$-\beta-$ hydroxyvalerate (PHBV) is a copolymer of _____.

A. 3 - hydroxybutanoic acid and 4- hydroxpentanoic acid

B. 2 - hydroxybutanoic acid and 3-hydroxpentanoic acid

C. 3 - hydroxybutanoic acid and 2-hydroxpentanoic acid

D. 3 - hydroxybutanoic acid and 3 -hydroxpentanoic acid

Answer: D

Watch Video Solution

45. Two monomers in maltose are :

A. middle of its active region

B. middle of its saturation region

C. middle of its cut - off region

D. between the cut - off and active region

Answer: A

Watch Video Solution