CHEMISTRY

BOOKS - NTA MOCK TESTS

NEET MOCK TEST 8

Chemistry Single Choice

1. Consider the following statements :

Roasting is carried out to :

1. Convert sulphide into oxide

2. Melt the ore

3. Remove moisture, water of hydration and expel organic matter

4. Remove sulphur and arsenic in the form of volatile oxides

Out of these statements :

A. 1, 3 and 4 are correct

B. 1, 2 and 3 are correct

C. 2, 3 and 4 are correct

D. 1, 2 and 4 are correct

Answer: A

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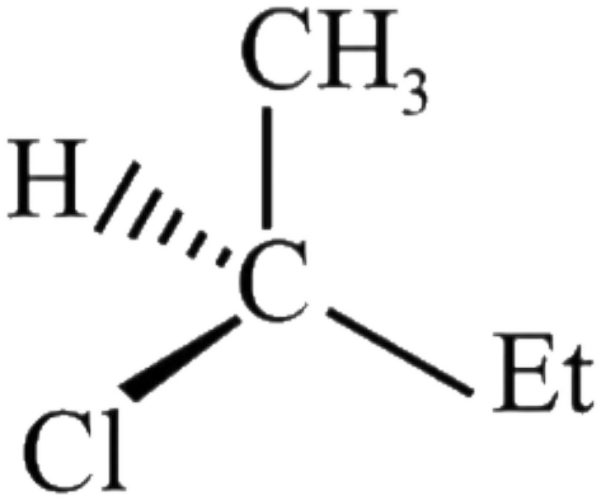
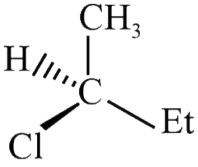
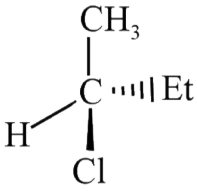
2. Which of the following is the enantiomer of the structure?

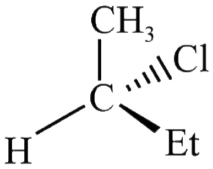


A.



B. 

C. all of these

D. 

Answer: D

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3. For adiabatic reversible expansion of an ideal gas the expression relating pressure and

volume of the gas is -

A. $P_1V_1 = P_2V_2$

B. $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$

C. $P_1V_1^{\gamma} = P_2V_2^{\gamma}$

D. $P = \frac{1}{v}$

Answer: C

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4. Copper sulphate solution does not react with

A. Zinc

B. Iron

C. Silver

D. All of these

Answer: C

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5. Neutral ferric chloride is added to the aqueous solution of acetate. The blood red colour is obtained, it is due to the compound

A. $Fe(OH)_2$

B. $Fe(OH)_3$

C. $\left[Fe_3(CH_3COO)_6(OH)_2\right]^+$

D. $Fe(OH)_2(CH_3COO)$

Answer: C

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6. Methane is quite stable, whereas silane is unstable? Because -

A. $C - C$ bond energy is much greater than $Si - Si$ bond energy

B. $Si - H$ bond energy is much lower than $C - H$ bond energy

C. Si has vacant p-orbitals which are more susceptible for nucleophilic attack

D. All of above reasons

Answer: B

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7. In a closed system : $A(s) \Leftrightarrow 2B(g) + 3C$, if the partial pressure of C is doubled, then partial pressure of B will be

A. two times the original pressure

B. one half of its original value

C. $\frac{1}{2\sqrt{2}}$ times to the original value

D. $2\sqrt{2}$ times to the original value

Answer: C

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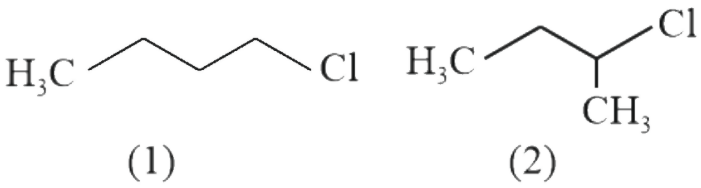
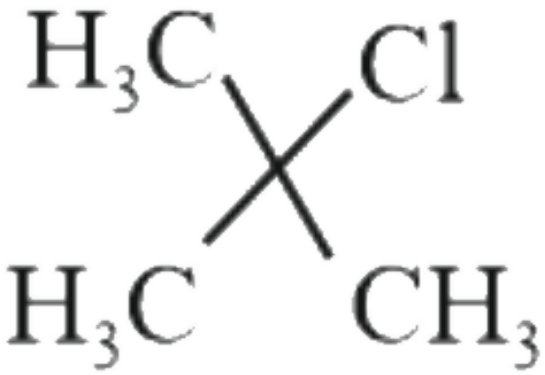
8. Ph_3SnH can be used to reduce



(1) (2)



(3)

A. I only

B. II only

C. III only

D. I, II and III

Answer: D

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9. Which represents alkali metals based on relative $(IE)_1$ and $(IE)_2$ values?

A.

	$(IE)_1$	$(IE)_2$
X	100	110

B.

	$(IE)_1$	$(IE)_2$
Y	800	120

C.

	$(IE)_1$	$(IE)_2$
Z	195	800

D.

	$(IE)_1$	$(IE)_2$
M	200	250

Answer: C

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10. Which of the following pair of salts produce odourless gas with dil H_2SO_4?

A. HCO_3^- and HSO_3^-

B. HCO_3^- and CO_3^{2-}

C. $S_2O_3^{2-}$ and $CH_3CO_2^-$

D. CO_3^{2-} and $CH_3CO_2^-$

Answer: B

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11. Isopropyl alcohol on oxidation forms :

A. Acetone

B. Ether

C. Ethylene

D. Acetaldehyde

Answer: A

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12. Among the following, the formula of saturated fatty acids is

A. $C_{17}H_{29}COOH$

B. $C_{17}H_{35}COOH$

C. $C_{17}H_{31}COOH$

D. $C_{17}H_{33}COOH$

Answer: B

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13. Rate of reaction depends upon

A. temperature

B. catalyst

C. concentration

D. All of these

Answer: D

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14. The total number of atomic orbitals in fourth energy level of an atom is.

A. 8

B. 16

C. 32

D. 4

Answer: B

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15. A reaction is 50% complete in 2 hours and 75% complete in 4 hours. What is the order of reaction?

A. 0

B. 1

C. 2

D. 3

Answer: B

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16. For the following equilibrium

$NH_3 + H_2O \Leftrightarrow NH_4^+ + OH^-$

calculate the equilibrium constant, if for the equilibrium,

$NH_4^+ + H_2O \Leftrightarrow NH_4OH + H^+$

the equilibrium constant is 5.5×10^{-10}

A. 1.8×10^{-4}

B. 1.8×10^{-5}

C. 1.8×10^{-6}

D. 1.8×10^{-7}

Answer: B

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17. Which of the following is not a straight chain organic compound?

A. Propane

B. Butane

C. Isobutane

D. Ethane

Answer: C

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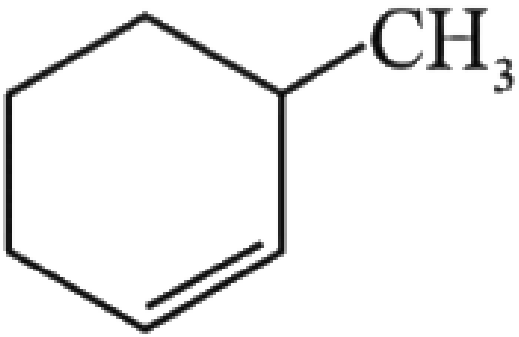
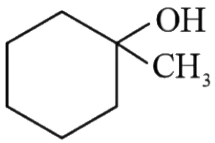
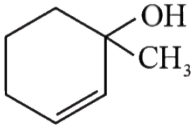
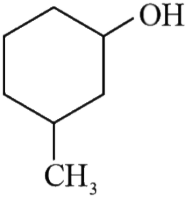
18. The major product formed by the acid catalysed hydration of

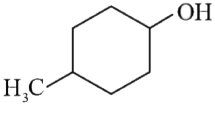


is

A. 

B. 

C. 

D. 

Answer: A

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19. Containers A and B have same gases. Pressure, volume and temperature of A are all twice that of B, then the ratio of number of molecules of A and B are

A. $1:2$

B. $1:4$

C. $4:1$

D. $2:1$

Answer: D

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20. Which of the following ion is expected to have highest value of molar conductivity at infinity at infinite dilution is the aqueous solution ?

A. Na^+

B. K^+

C. Ca^{2+}

D. H^+

Answer: D

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21. The enthalpy and entropy change for the reaction,

$Br_2(l) + Cl_2(g) \rightarrow 2BrCl(g)$

are $30KJmol^{-1}$ and $105JK^{-1}mol^{-1}$ respectively. The temperature at which the reaction will be in equilibrium is:

A. 285.7 K

B. 273 K

C. 450 K

D. 300 K

Answer: A

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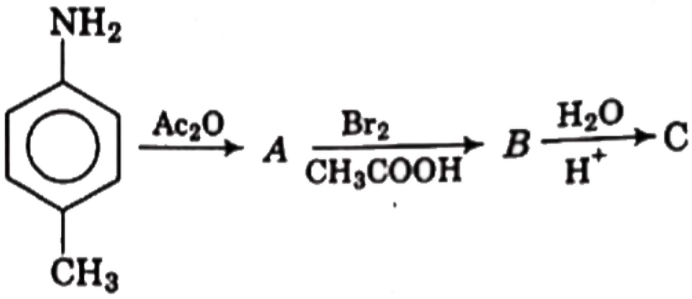
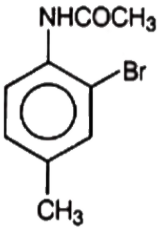


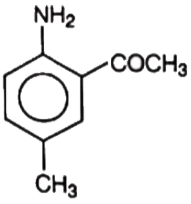
22.

The final product 'C' in the above reaction is

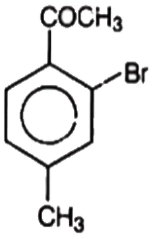
A.



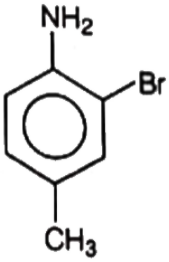
B.



C.



D.



Answer: D

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23. The hypothetical complex triaminediaquachloridocobalt(III) chloride

can be represented as :

A. $\left[Co(NH_3)_3(H_2O)_2Cl\right]Cl_2$

B. $\left[Co(NH_3)_3 \cdot (H_2O)Cl_3\right]$

C. $\left[Co(NH_3)_3(H_2O)_2Cl\right]$

D. $\left[Co(NH_3)_3(H_2O)_3\right]Cl_3$

Answer: A

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24. A solution of glucose $\left(\text{molar mass} = 180 gmol^{-1}\right)$ in water is labelled as 10% (by mass). What would be the molarity and molality of the solution? Given that the density of the solution is $1.2 gmL^{-1}$.

A. 0.17 M

B. 0.67 M

C. 0.6 M

D. 0.76 M

Answer: B

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25. $A + B \Leftrightarrow C + D$. If finally the concentrations of A an d B are both equal but at equilibrium concentration of D will be twice of that of A then what will be the equilibrium constant of reaction.

A. $\frac{4}{9}$

B. $\frac{9}{4}$

C. $\frac{1}{9}$

D. 4

Answer: D

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26. Aqueous ammonia is used as a precipitating reagent for Al^{3+} ions as $Al(OH)_3$ rather than aqueous $NaOH$, because:

A. NH_4^+ is a weak base

B. $NaOH$ is a very strong base

C. $NaOH$ forms $\left[Al(OH)_4\right]^-$ ions

D. $NaOH$ forms $\left[Al(OH)_2\right]^+$ ions.

Answer: C

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27. Cellulose is a polymer of

A. glucose

B. fructose

C. ribose

D. sucrose

Answer: A

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28. Henry's law constant for the molality of methane in benzene at 298 K is $4.27 \times 10^5 mm$ Hg. Calculate the solubility of methane in benzene at 298 K under 760 mm Hg.

A. 2.56×10^{-4}

B. 1.78×10^{-3}

C. 3.78×10^{-2}

D. 4.13×10^{-1}

Answer: A

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29. Choose the incorrect statement

A. The shape of an atomic orbital depends upon the azimuthal quantum number

B. The orientation of an atomic orbital depends upon the magnetic quantum number

C. The energy of an electron in an atomic orbital of multi-electron atom depends only on principal quantum number

D. The number of degenerate atomic orbitals of one type depends on the

value of azimuthal and magnetic quantum numbers

Answer: C

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30. Required amount of crystalline oxalic acid (eq. wt. = 63) to prepare $\frac{N}{10}$, 250 ml oxalic acid solution is

A. 0.158g

B. 1.575 g

C. 15.75g

D. 6.3g

Answer: B

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31. Which of the following two are isostructural ?

A. NH_3, BF_3

B. PCl_5, ICl_5

C. XeF_2, IF_2^-

D. CO_3^{-2}, SO_3^{-2}

Answer: C

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32. The correct statement regarding defects is solids in solids is

A. Frenkel defect is favoured by a very small difference in the size of cation and anion.

B. Frenkel defect is not a dislocation defect.

C. Trapping of e^- in lattice leads to the formation of F - center.

D. Schottky defects have no effect on the physial properties of solid.

Answer: C

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33. In a normal spinel types structure, the oxide ions are arranged in ccp whereas 1/8 tetrahedral holes are occupied by Zn^{2+} ions and $50\,\%$ of octahedral holes are occupied by Fe^{3+} ions. The formula of the compound is -

A. $Zn_2Fe_2O_4$

B. $ZnFe_2O_3$

C. $ZnFe_2O_4$

D. $ZnFe_2O_2$

Answer: C

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34. Which of the following processes requires maximum energy

A. $Mg(g) \rightarrow Mg^{+}(g) + e^{-}$

B. $Mg^{+}(g) \rightarrow Mg^{+2}(g) + e^{-}$

C. $Na(g) \rightarrow Na^{+}(g) + e^{-}$

D. $Na^{+}(g) \rightarrow Na^{2+}(g) + e^{-}$

Answer: D

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35. The correct order of decreasing second ionisation enthalpy of $Ti(22), V(23), Cr(24)$ and $Mn(25)$ is

A. $Mn > Cr > Ti > V$

B. $Ti > V > Cr > Mn$

C. $Cr > Mn > V > Ti$

D. $V > Mn > Cr > Ti$

Answer: C

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36. Cetyl trimethyl ammonium chloride is which type of detergent ?

A. Anionic

B. Cationic

C. Non - ionic

D. Biosoft

Answer: B

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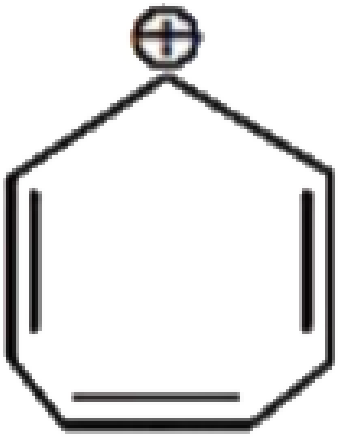
37. Decreasing order of stability of given carbocations is ?

(1) 

(2) $CH_2 = CH - \overset{\oplus}{C}H_2$

(3) $C_6H_5 - \overset{\oplus}{C}H_2$

(4) $CH_3 - \overset{\oplus}{C}H - CH_3$

A. $3 > 2 > 4 > 1$

B. $1 > 3 > 4 > 2$

C. $1 > 3 > 2 > 4$

D. $3 > 2 > 1 > 4$

Answer: C

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38. The paramagnetic species is

A. SiO_2

B. TiO_2

C. BaO_2

D. KO_2

Answer: D

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39. In which of the following compounds, nitrogen exhibits highest oxidation state?

A. N_2H_5

B. NH_3

C. N_3H

D. NH_2OH

Answer: C

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40. The fluoride for which the dipole moment is not equal to zero, is :

A. XeF_4

B. CF_4

C. SF_4

D. PF_5

Answer: C

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41. A solution is prepared by mixing 8.5g of CH_2Cl_2 and 11.95g of $CHCl_3$. If vapour pressure of CH_2Cl_2 and $CHCl_3$ at 298 K are 415 and 200 mm Hg respectively, the mole fraction of $CHCl_3$ in vapour form is :

$\left(\text{Molar mass of Cl} = 35.5\ \text{g mol}^{-1}\right)$

A. 0.162

B. 0.675

C. 0.325

D. 0.486

Answer: C

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42. Which of the following amine does not react with Hinsberg reagent-

A. Neopentyl amine

B. Isopropyl amine

C. Triethyl amine

D. Ethyl methyl amine

Answer: C

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43. Nitrating mixture is

A. Fuming nitric acid

B. mixture of conc. H_2SO_4 and conc. HNO_3

C. Mixture of nitric acid and anhydrous zinc chloride

D. None of these

Answer: B

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44. Calcium cyanamide on treatement with steam produces :

A. $CaCO_3 + NH_3$

B. $CaHCO_3 + NH_3$

C. $CaO + NH_3$

D. $Ca(OH)_2 + NH_3$

Answer: A

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45. The steady decreases in the ionic radius from La^{3+} to Lu^{3+} is termed as

A. lanthanoid contraction

B. actionids contraction

C. Both of these

D. None of these

Answer: A

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