CHEMISTRY

AAKASH INSTITUTE ENGLISH

TEST 7

Exercise

1. Ethylamine is soluble in water whereas aniline is almost insoluble. Why?

A. 

B. 

C. 

D. 

Answer:

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2. How many gram of H_3PO_4 would be needed to neutralise 98 gm of $Mg(OH)_2$?

A. 130g

B. 110.4

C. 111g

D. 58g

Answer:

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3. The number of atom in 5.25g of NH_3 is approx:

A. 1×10^{23}

B. 1.5×10^{23}

C. 6×10^{23}

D. 7.4×10^{23}

Answer:

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4. Which among the following is not a green house gas?

A. Methane

B. Water vapour

C. Oxygen

D. Ozone

Answer:

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5. How many gram of H_3PO_4 would be needed to neutralise 5.8 gm of $Mg(OH)_2$?

A. 5.8g

B. 7.8g

C. 6.5g

D. 10g

Answer:

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6. Give three factors affecting adsorption

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7. The number of atom in 5.69g of NH_3 is approx:

A. 1 x 10^{23}

B. 5 x 10^{23}

C. 8 x 10^{23}

D. 3 x 10^{23}

Answer:

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8. Which among the following is not a nucleophile?

A. H_2O

B. RNH_2

C. $ALCL_3$

D. CH_3O^-

Answer:

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9. Consider the following free radicals. (I)- $CH_3 - CH_2$, (II)- $Ph - CH_2$ (III)- $Ph - CH - CH_3$ The decreasing order of stability of the given free radicals is

A. $(II) > (I) > (III)$

B. $(I) > (II) > (III)$

C. $(III) > (II) > (I)$

D. $(II) > (III) > (I)$

Answer:

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10. Highest positive charge density is observed in which of the following underlined carbon atoms?

A. $I(\underline{C})H_2COOH$

B. $F(\underline{C})H_2COOH$

C. $CI(\underline{C})H_2COOH$

D. $Br(\underline{C})H_2COOH$

Answer:

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11. In Kjeldahl's method for quantitative estimation of nitrogen in an organic compound, ammonia obtained from 1.25 g of the compound was neutralised by 40 ml of 0.5 M H_2SO_4 The percentage of nitrogen in the organic compound is

A. 64.2

B. 44.8

C. 32.5

D. 54.4

Answer:

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12. Mention three properties of yellow phosphorous

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13. Use Hund's rule to derive the electronic configuration of Ce^{3+} ion, and calculate its

magnetic moment on the basis of 'spin-only' formula.

A. 

B. 

C. 

D. 

Answer:

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14. Correct IUPAC name of the given compound is 

A. 3,3-dimethyl-1-propylcyclopentane

B. 4,4-dimethyl-1-propylcyclopentane

C. 1,1- dimethyl-4-propylcyclopentane

D. 1,1- dimethyl-3-propylcyclopentane

Answer:

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15. Permissible level of nitrate ions in the drinking water is

A. 200 ppm

B. 100 ppm

C. 75 ppm

D. 50 ppm

Answer:

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16. Aqueous solution of sodium succinate on electrolysis gives mainly

A. Ethane

B. Ethene

C. Ethyne

D. 2-Butene

Answer:

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17. Most stable carbanion among the following is

A. 

B. 

C. 

D. 

Answer:

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18. What is nuclear reactor? Discuss the role of heavy water as moderator

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19. Total number of monochloro derivatives obtained by monochlorination of 2-methylepentane is

A. 4

B. 5

C. 6

D. 3

Answer:

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20. Which among the following will boil at highest temperature?

A. Butane

B. Pentane

C. 2-Methylbutane

D. 2,2-Dimethylpropane

Answer:

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21. Give the monomer units of Teflon, Bakelite and Nylon 66.

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22. (a) What is meant by the term coordination number ? ltbRgt (b) What is the co-ordination number of atoms

(i) in a cubic close packed structure

(ii) in a body centred cubic structure ?

A. 3

B. 4

C. 2

D. 6

Answer:

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23. The element which cannot be detected by Lassaigne's test is

A. Sulphur

B. Chlorine

C. Boron

D. Phosphorus

Answer:

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24. The number of atom in 6.69g of NH_3 is approx:

A. 5 x 10^{23}

B. 4 x 10^{23}

C. 9.5 x 10^{23}

D. 8.5 x 10^{23}

Answer:

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25. What is Van't Hoff's factor?

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26. The most stable conformation of Butane is

A.

$$(\forall K_T S T_{07} \_ N \exists T_{19} \_ C H E_E 02_{026} \_ A01)$$

B.

$$(\forall K_T S T_{07} \_ N \exists T_{19} \_ C H E_E 02_{026} \_ A02)$$

C.

$$(\forall K_T ST_{07} \_ N \exists T_{19} \_ CHE_E 02_{026} \_ A03)$$

D.

$$(\forall K_T ST_{07} \_ N \exists T_{19} \_ CHE_E 02_{026} \_ A04)$$

Answer:

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27. When acetylene is passed through red hot iron tube the product formed is

A. Cyclohexane

B. Benzene.

C. Toluene

D. 1,4 Cyclohexadiene"

Answer:

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28. What is a spontaneous reaction? Write differences between rate of reaction and rate constant of reaction.

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29. The compound which will react with alkaline silver nitrate solution is

A. $CH_3 - C - CH$

B. $CH_3 - C = C - CH_3$

C. `CH_2 - CH = CH_2

D. $CH_3 - C - CH = CH - CH_3$

Answer:

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30. Define dispersed phase and the dispersion medium

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31. Write the composition of a composite rocket propellant

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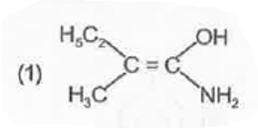
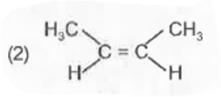
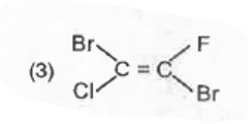
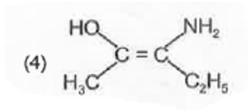
32. The compound having E configuration is

A. 

B. 

C. 

D. 

Answer:

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33. Which among the following is not an aromatic species?

A. 

B. 

C. 

D. 

Answer:

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34. Total number of sp hybridised atoms present in the given compound is

$CH_2 = CH - C \equiv C - CN$

A. 2

B. 3

C. 4

D. 6

Answer:

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35. Which one of the following will not decolourize bromine solution?

A. C_2H_2

B. C_2H_4

C. C_3H_4

D. C_2H_6

Answer:

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36. In the quantitative estimation of sulphur, 0.25 g of an organic compound gives 0.466 g of $BaSO_4$, The percentage of sulphur in the compound is (Atomic mass of Ba = 137 u)

A. 0.355

B. 0.422

C. 0.155

D. 0.256

Answer:

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37. The colour of the solution obtained when sodium fusion extract of urea is boiled with ferrous sulphate followed by acidification with concentrated sulphuric acid will be

A. Blood red

B. Prussian blue

C. Magenta

D. Apple green

Answer:

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38. Which among the following is a three dimensional molecule?

A. $CH_2 = CH - CH = CH_2$

B. $CH_2 = CH - CN$

C. $CH_2 = C - (CN)_2$

D. $CH_2 = C = CH_2$

Answer:

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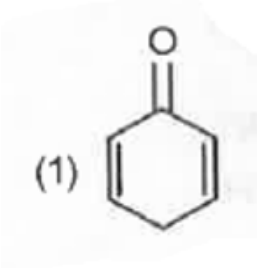
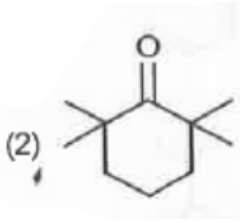
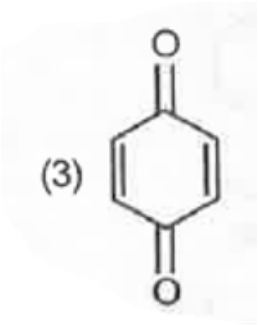
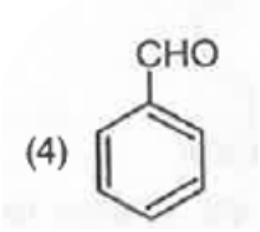
39. The compound which will show keto-enol tautomerism is

A. 

B. 

C. 

D. 

Answer: D

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40. How osmotic pressure depend upon the temperature?

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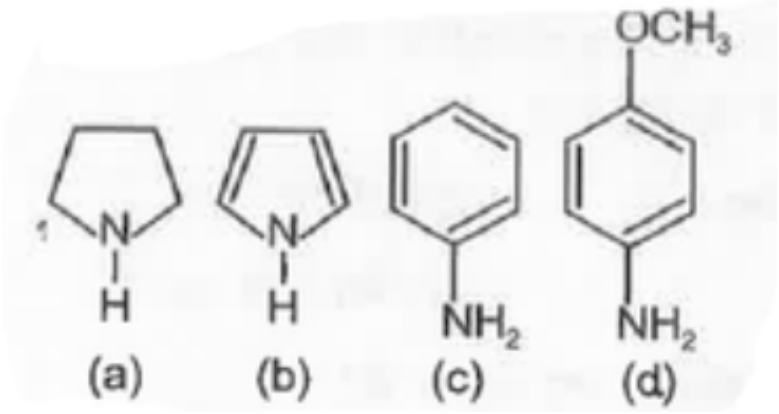
41. Consider the following compounds



The correct order of basic strength is

A. a > b > c > d

B. $(b) > (a) > (c) > (d)$

C. $(a) > (d) > (c) > (b)$

D. $(a) > (c) > (d) > (b)$

Answer:

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42. The most acidic compound among the following is

A. 

B. 

C. 

D. 

Answer:

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43. Define following:(ii) Critical micellization concentration (CMC)

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44. Hyperconjugation is absent in which species?

A. $\left[(CH_3)_2CH - CH_2^{\oplus}\right]$

B. $C_6H_5 - CH_3$

C. $\left[(CH_3)_3C - CH_2^{\oplus}\right]$

D. $\left[(CH_3) - CH_2^{\oplus}\right]$

Answer:

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45. Which order does radioactive decay follow?

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46. Volume occupied by 1 mole water $\left(density = 1gcm^{-3}\right)$ is

A. 10 mL

B. 18 mL

C. 18000 mL

D. 54 mL

Answer:

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47. Maximum number of orbitals in a subshell of a atom is determined by

A. $2l + 1$

B. $2l - 1$

C. $2l + 2$

D. $2(2l + 1)$

Answer:

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48. If uncertainty in position is twice the uncertainty in momentum then uncertainty in velocity is

A. $\left[\left(\frac{1}{m}\right)\left\{\sqrt{\frac{h}{\pi}}\right]\right.$

B. $\left[\left(\frac{1}{m}\right)\left\{\sqrt{\frac{h}{8}\pi}\right]\right.$

C. $\left[\left(\frac{1}{m}\right)\left\{\sqrt{\frac{h}{4}\pi}\right]\right.$

D. $\left[\left(\frac{1}{m}\right)\left\{\sqrt{8\frac{\pi}{h}}\right]\right.$

Answer:

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49. Which of the following ions is largest in size?

A. Li^+

B. $Na+$

C. Mg^2+

D. Al^3+

Answer:

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50. Electron deficient species among the following is

A. $B(OH)_3$

B. CH_4

C. PCL_3

D. H_2O

Answer:

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51. A certain gas takes four times as long as to out as to effuse helium. Its molecular mass will be

A. 8u

B. 16u

C. 32 u

D. 64 u

Answer:

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52. Four moles of an ideal gas expanded spontaneously in vacuum. The work done will be

A. 4 J

B. Zero

C. 9 J

D. 8 J

Answer:

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53. If at 77°C, enthalpy of fusion of a compound is 140 kJ/mol then the entropy change (in J/K-mol) during the fusion will be

A. 200

B. 400

C. 600

D. 800

Answer:

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54. $\left(\frac{K_p}{K_c}\right)$ for the given equilibrium is $[PCl_5(g) \Leftrightarrow PCl_3(g) + Cl_2(g)]$

A. $(RT)^3$

B. $(RT)^2$

C. $(RT)^{-1}$

D. (RT)

Answer:

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55. Which of the following equimolar aqueous solution of hydroxides will have the highest pH?

A. $\left[Mg(OH)_2\right]$

B. $\left[Ca(OH)_2\right]$

C. $\left[Be(OH)_2\right]$

D. $\left[Ba(OH)_2\right]$

Answer:

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56. Compound which cannot act as a reducing agent is

A. $HClO_4$

B. $HClO_3$

C. $HClO_2$

D. HClO

Answer:

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57. The volume of oxygen gas liberated at NTP from 30 mL of 20 (VH_2O_2), solution is

A. 0.6 L

B. 0.3 L

C. 0.2 L

D. 1.2 L

Answer:

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58. Among given ions, maximum mobility in aqueous solution is of

A. $Be^2 +$

B. $Mg^2 +$

C. $Ca^2 +$

D. $Sr^2 +$

Answer:

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59. Which of the following is a neutral oxide?

A. CO

B. SnO

C. SnO_3

D. Al_2O_3

Answer:

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60. Which amongst the following is the most stable carbocation?

A. CH_3

B. $CH_3 - C(\oplus)H - CH_3$

C.

$$(\forall K_T ST_{07} \_ N \exists T_{20} \_ CHE_E 02_{015} \_ A01)$$

D. $CH_3C^{\oplus}H_2$

Answer:

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61. In case of bromination to benzene in the presence of $FeBr_3$, the electrophile is

A. Br

B. $[FeBr_4]^-$

C. Br^+

D. Br^-

Answer:

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62. The gas leaked from a storage tank of the Union Carbide plant in Bhopal gas tragedy was

A. CH_3CN

B. CH_3CH_2CN

C. CH_3NC

D. CH_3NCO

Answer:

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63. $(3.011x10^{23})$ molecules of sugar are present in 200 mL of its solution. The molarity of solution is

A. 1.5 M

B. 2 M

C. 2.5 M

D. 5 M

Answer:

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64. The orbital angular momentum of an electron which is present in p orbital is

A. 0 h

B. $\sqrt{6}h$

C. $\sqrt{2}h$

D. $2\sqrt{3}h$

Answer:

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65. What is the maximum number of orbital(s) that can be associated with the following quantum numbers? $(n = 4, l = 1, m_1 = 0)$

A. 1

B. 2

C. 3

D. 0

Answer:

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66. Correct order of electron affinity of elements F. O, N and Be is

A. $F > O > N > Be$

B. $F > O > Be > N$

C. $F > Be > O > N$

D. $N > O > Be > F$

Answer:

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67. Which of the following molecules has maximum dipole moment?

A. CH_4

B. XeF_4

C. NH_3

D. PCl_3F_2

Answer:

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68. In which of the following species central atom is not sp^3 hybridized?

A. $B(OH)_4$

B. XeO_4

C. H_2O

D. XeF_2

Answer:

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69. Bond order 2.5 is not observed in

A. O_2^+

B. NO

C. C_2

D. N_2^+

Answer:

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70. Density of air (in g/L) at 307°C and 2 atm pressure is (Average molar mass of air is 29 g mol-1)

A. 0.821

B. $\frac{1}{0.821}$

C. $2 \cdot 0.821$

D. $\frac{2}{0.821}$

Answer:

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71. If for the reaction $[2A(I) \rightarrow 4B(g)]$ δU and δS respectively are 1.2 kcal and 10 cal K^{-1} at 300 K then δG for the reaction is

A. 600 cal

B. 6 kcal

C. 800 cal

D. 8 kcal

Answer:

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72. For a sample of n mole of a perfect gas at constant temperature T (K) when its volume is changed from V_1 to V_2 the entropy change is given by

A. $\left[\delta S = nRTIn\left(\frac{V_2}{V_1}\right)\right]$

B. $\left[\delta S = nRTIn\left(\frac{V_1}{V_2}\right)\right]$

C. $\left[\delta S = nR\left(\frac{V_2}{V_1}\right)\right]$

D. $\left[\delta S = nRIn\left(\frac{V_2}{V_1}\right)\right]$

Answer:

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73. Which one of the following pairs of solution is not an acidic buffer?

A. HCN and NaCN

B. H_3PO_4 and Na_3PO_4

C. H_2SO_4 and Na_2SO_4

D. CH_3COOH and CH_3COONa

Answer:

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74. The number of atom in 8g of CH_4 is approx:

A. 1.5 x 10^{23}

B. 15 x 10^{23}

C. 10 x 10^{23}

D. 12 x 10^{23}

Answer:

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75. Standard oxidation potential for the following half-cell reactions are

$\left[Fe(s) \rightarrow Fe^{2+}(aq) + 2e^{-}\, E^{3} = +0.44V\right]$

$\left[Co(s) \rightarrow Co^{3+}(aq) + 3e^{-}\, E^{0} = -1.81V\right.$

The standard emf of the cell reaction

$\left[3Fe(s) + 2Co^{3+}(aq) \rightarrow 3Fe^{2+}(aq) + 2Co(s)\right]$

, will be

A. 1.37 V

B. $-1.37V$

C. $-2.25V$

D. 2.25 V

Answer:

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76. The most acidic compound among the following is

A. 

B. 

C. 

D. `(

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Answer:

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77. Which one of the following is present as an active ingredient in bleaching powder for bleaching action ?

A. Ca^{2+} only

B. Cl^{-} only

C. OCI^{-} only

D. Both Ca^{2+} and Cl^{-}

Answer:

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78. is Graphite isostructural with diamond?

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79. General formula unit of cyclic silicates is

A. SiO_2^-

B. $Si_2O_7^{6-}$

C. $\left[SiO^{2-}\right]_m$

D. $\left[Si_2O_5^{2-}\right]_m$

Answer:

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80. Define following: (i) Micelle

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81. The number of atom in 16g of CH_4 is approx:

A. 1.5 x 10^{23}

B. 15 x 10^{23}

C. 30 x 10^{23}

D. 13 x 10^{23}

Answer:

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82. The least stable conformation of n-butane is

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83. Weight of CO required to react with $[5gRe_2O_7]$ to form $\left[Re_2(CO)_{10}\right]$, according to the given reaction is

$\left[Re_2O_7 + 17CO \rightarrow Re_2(CO)_{10} + 7CO_2\right]$

(Atomic mass of Re is 186 u)

A. 1.46 g

B. 4.92 g

C. 19.7 g

D. 14.6 g

Answer:

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84. wavelength of transition from $(4 \rightarrow 2)$ in He^{+} is equal as wavelength of transition from $(n \rightarrow 4)$ in $Be^{3}+$ then value of n is

A. 5

B. 6

C. 7

D. 8

Answer:

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85. If lattice energy of solid XY is 700 kcal/mol then enthalpy of solution of XY(s) will be (Given: Enthalpy of hydrations of $X^+(g)$ and $Y^-(g)$ respectively are -700 kcal/mol and 600 kcal/mol)

A. 700 kcal/mol

B. - 700 kcal/mol

C. 600 kcal/mol

D. - 600 kcal/mol

Answer:

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86. In the Carius method of estimation of halogen. 0.25 g of an organic compound gave 0.188 g of AgBr. The percentage of bromine in the compound is (Molar mass of AgBr = 188 g mol^{-1})

A. 0.25

B. 0.2

C. 0.32

D. 0.38

Answer:

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87. The number of atom in 1.6g of CH_4 is approx:

A. 1.5 x 10^{23}

B. 1 x 10^{23}

C. 2 x 10^{23}

D. 3×10^{23}

Answer:

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88. Blue-baby syndrome is due to

A. Sulphate

B. Nitrate

C. Lead

D. Arsenic

Answer:

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89. The number of atom in 3.2g of CH_4 is approx:

A. 1.5 x 10^{23}

B. 15 x 10^{23}

C. 3 x 10^{23}

D. 6 x 10^{23}

Answer:

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90. How many moles of Helium gas occupy 22.4L at 0C and 1atm pressure

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