Model Test

71. The coefficient of mutual inductance of two coils is 0.5 H. If current increases from 2A to 3A in 0.01s in the primary coil, the induced emf in secondary coil is
(2 marks)

- 25 V
- 50 V
- 75 V
- 100 V

72. In series circuit of $R = 300\Omega$, L = 0.9H and $C = 2\mu F$ & W = 1000 rad/s the impedance of circuit will be
(2 marks)

- 1300Ω
- 900Ω
- 500Ω
- 400Ω

73. The wavelength of photon is λ when electron jump from 2E to E. The wavelength of photon when electron jump from $\frac{4E}{3}$ to E is
(2 marks)

- $\frac{\lambda}{3}$
- $\frac{3\lambda}{4}$
- $\frac{4\lambda}{3}$
- 3λ

74. The percentage of radioactive nucleus that remain undecayed after 5 half lives is
(2 marks)

- 3%
- 5%

- 10%
- 20%

75. The ratio by volume of Cl_2 gas evolved at NTP by passing 96.5 amp current for 1000 seconds during the electrocysis of molten NaCl, $CaCl_2$ and $AlCl_3$ respectively is
(2 marks)

- 1 : 2 : 3
- 6 : 3 : 2
- 3 : 2 : 1
- 1 : 1 : 1

76. When excess of NH_4Cl is treated with 10 ml of dil. $Ca(OH)_2$ solution, 112 ml of NH_3 gas is evolved at NTP, find the normality of $Ca(OH)_2$
(2 marks)

- 0.1 N
- 0.2 N
- 0.4 N
- 0.5 N

77. The solubility product of CaF_2 is $4 \times 10^{-12} mole/L$ find the solubility of CaF_2 in 0.1 M NaF solution.
(2 marks)

- $4 \times 10^{-12} mole/L$
- $1 \times 10^{-4} mole/L$
- $4 \times 10^{-13} mole/L$
- $4 \times 10^{-14} mole/L$

78. If 6.023×10^{22} atoms of carbon is obtained in the form of CO_2 by heating $CaCO_3$ then find the no. of atoms of Ca present in the $CaCO_3$.
(2 marks)

- 6.023×10^{23} atoms of Ca
- 6.023×10^{22} atoms of Ca

- 6.023×10^{24} atoms of Ca
- 6.023×10^{21} atoms of Ca

79. An alkene X is treated with HBr to give Haloalane Y. The compound Y is treated with Na metal in presence of dry ether 2, 3-dimethyl butane is formed find x & y
(2 marks)

- $X \Rightarrow CH_2 = CH_2$ & $Y = CH_3CH_2Br$
- $X \Rightarrow CH_3{-}CH = CH_2$ & $Y = CH_3CH_2CH_2Br$
- $X \Rightarrow CH_3{-}\underset{\displaystyle Br}{\underset{|}{CH}} = CH_2$ & $Y = CH_3{-}CH{-}CH_3$
- $X \Rightarrow CH_3{-}CH = CH_2$ & $Y = CH_3{-}CH_2{-}Br$

80. Which is called Rinmann's green?
(2 marks)

- Ferrous ferrocyamide
- Complex of ZnO & CoO
- Ferric ferrocyamide
- Ferric ferrocyamide

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