Q1 JEE Main 2020 - 2 September (Evening)

The ratio of the mass percentages of 'C \& H' and 'C \& O' of a saturated acyclic organic compound $^{\circ}\mathrm{X}$ ' are 4: 1 and 3: 4 respectively. Then, the moles of oxygen gas required for complete combustion of two moles of organic compound $'\mathrm{X}$ ' is _____.

Q2 JEE Main 2020 - 3 September (Morning)

The mole fraction of glucose $\left(\mathrm{C}_6\mathrm{H}_{12}\mathrm{O}_6\right)$ in an aqueous binary solution is 0.1. The mass percentage of water in it, to the nearest integer, is

Q3 JEE Main 2020 - 3 September (Evening)

6.023×10^{22} molecules are present in $10\mathrm{g}$ of a substance x'. The molarity of a solution containing $5\mathrm{g}$ of substance $'\mathrm{x}$ ' in $2\mathrm{L}$ solution is $\times 10^{-3}$

Q4 JEE Main 2020 - 4 September (Morning)

The mass of ammonia in grams produced when $2.8\mathrm{kg}$ of dinitrogen quantitatively reacts with 1 kg of dihydrogen is

Q5 JEE Main 2020 - 4 September (Evening)

A 100 mL solution was made by adding $1.43\mathrm{g}$ of $\mathrm{Na}_2\mathrm{CO}_3 \cdot \times \mathrm{H}_2\mathrm{O}$. The normality of the solution is $0.1\mathrm{N}$. The value of x is
(The atomic mass of Na is $23\mathrm{g/mol}$)

Q6 JEE Main 2020 - 5 September (Morning)

The minimum number of moles of O_2 required for complete combustion of 1 mole of propane and 2 moles of butane is

Q7 JEE Main 2020 - 6 September (Morning)

A solution of two components containing n_1 moles of the 1^{st} component and n_2, moles of the 2^{nd} component is prepared. M_1 and M_2 are the molecular weights of component 1 and 2 respectively. If d

is the density of the solution in gmL^{-1}, C_2 is the molarity and x_2 is the mole fraction of the 2^{nd} component, then C_2 can be expressed as

(A) $\mathrm{C}_2 = \frac{1000\mathrm{x}_2}{\mathrm{M}_1+\mathrm{x}_2(\mathrm{M}_2-\mathrm{M}_1)}$

(B) $\mathrm{C}_2 = \frac{1000\mathrm{dx}_2}{\mathrm{M}_1+\mathrm{x}_2(\mathrm{M}_2-\mathrm{M}_1)}$

(C) $\mathrm{C}_2 = \frac{\mathrm{dx}_2}{\mathrm{M}_2+\mathrm{x}_2(\mathrm{M}_2-\mathrm{M}_1)}$

(D) $\mathrm{C}_2 = \frac{\mathrm{dx}_1}{\mathrm{M}_2+\mathrm{x}_2(\mathrm{M}_2-\mathrm{M}_1)}$

Q8 JEE Main 2020 - 6 September (Evening)

The average molar mass of chlorine is $35.5\mathrm{gmol}^{-1}$. The ratio of $^{35}\mathrm{Cl}$ to $^{37}\mathrm{Cl}$ in naturally occuring chlorine is close to

(A) 01:01

(B) 02:01

(C) 03:01

(D) 04:01

Q9 JEE Main 2020 - 7 January (Evening)

$0.6\ g$ of urea on strong heating with $NaOH$ evolves NH_3. Liberated NH_3 will combine completely with which of the following HCl solution ?

(A) $100\ mL$ of $0.2\ N\ HCl$

(B) $400\ mL$ of $0.2\ N\ HCl$

(C) $100\ mL$ of $0.1\ N\ HCl$

(D) $200\ mL$ of $0.2\ N\ HCl$

Q10 JEE Main 2020 - 8 January (Morning)

Ferrous sulphate heptahydrate is used to fortify foods with iron. The amount (in grams) of the salt required to achieve $10\ ppm$ of iron in $100\ kg$ of wheat is .

Atomic weight : $Fe = 55.85;\ S = 32.00;\ O = 16.00$

Multiply your answer with 100

Q11 JEE Main 2020 - 8 January (Evening)

$NaClO_3$ is used, even in spacecrafts, to produces O_2.The daily consumption of pure O_2 by a person is $492\ L$ at 1 atm, $300\ K$. How much amount of $NaClO_3$, in grams, is required to produce O_2 for the daily consumption of a person at 1 atm, $300\ K$?

Q12 JEE Main 2020 - 9 January (Morning)

The mass percentage of nitrogen in histamine is. . . . .

Q13 JEE Main 2020 - 9 January (Morning)

The molarity of HNO_3 in a sample which has density $1.4\ g/mL$ and mass percentage of 63% is. . . . . .

(Molecular Weight of $HNO_3 = 63$)

Q14 JEE Main 2020 - 9 January (Evening)

$10.30\ mg$ of O_2 dissolved into a liter of sea water of density $1.03\ g/mL$. The concentration of O_2 in ppm is

Answer Key

Q1 (5)
Q2 (47)
Q3 (25)
Q4 (3400)
Q5 (10)
Q6 (18)
Q7 (B)
Q8 (C)
Q9 (A)
Q10 (496)
Q11 (2130)
Q12 (37.84)
Q13 (14)
Q14 (10)