Yakeen NEET 2.0 2026

Physical Chemistry By Amit Mahajan Sir

DPP: 10

Some Basic Concept of Chemistry

Q1 Which of the following relations is incorrect for solutions?
(A) $3\text{N } Al_2(SO_4)_3 = 0.5\text{M } Al_2(SO_4)_3$
(B) $3\text{M } H_2SO_4 = 6\text{N } H_2SO_4$
(C) $1\text{M } H_3PO_4 = 1/3\text{N } H_3PO_4$
(D) $1\text{M } Al_2(SO_4)_3 = 6\text{N } Al_2(SO_4)_3$

Q2 Determine the volume/volume percent solution made by combining 25 mL of ethanol with enough water to produce 200 mL of the solution:
(A) 12.5 (B) 20
(C) 40 (D) 25

Q3 250ml of 0.5MKCl is diluted with water to 500ml of solution, the number of chloride ions in the resulting solution are (Gram atomic mass of K = 39 g and Cl = 35.5 g)
(A) 6.02×10^{23}
(B) 7.52×10^{22}
(C) 1×10^{24}
(D) 3.76×10^{23}

Q4 What is the quantity of water that should be added to 16 g methanol to make the mole fraction of methanol as 0.25? (Gram atomic mass of C = 12 g, O = 16 g, H = 1 g)
(A) 27 g (B) 12 g
(C) 18 g (D) 36 g

Q5 Mole fraction of the solute in a 1.00 molal aqueous solution is
(A) 0.1770 (B) 0.0177
(C) 0.0344 (D) 1.7700

Q6 What is the concentration of nitrate ions if equal volumes of 0.1 M $AgNO_3$ and 0.1 M NaCl are mixed together?
(A) 0.1 M (B) 0.2 M
(C) 0.05 M (D) 0.25 M

Q7 The molarity of the solution containing 2.8% mass-volume solution of KOH is (Gram atomic mass of K = 39 g, O = 16 g, H = 1 g)
(A) $M/10$
(B) $M/2$
(C) $M/5$
(D) $1M$

Q8 What is the $[OH^-]$ in the final solution prepared by mixing 20.0 mL of 0.050M HCl with 30.0 mL of 0.10MBa(OH)_2 ?
(A) 0.10M
(B) 0.40M
(C) 0.0050M
(D) 0.12M

Q9 The molality of a sulphuric acid solution is 0.2 . Calculate the total weight of the solution having 1000gm of solvent. (Gram atomic mass of S = 32 g, O= 16 g, H = 1 g)
(A) 1000 g
(B) 1098.6 g
(C) 980.4 g
(D) 1019.6 g

Q10 The density (in g mL^{-1}) of a 3.60 M sulphuric acid solution that is 29% (H_2SO_4 molar mass $= 98\text{ gmol}^{-1}$) by mass will be :

(A) 1.22 (B) 1.45
(C) 1.64 (D) 1.88

Q11 How many significant figures are in 0.0008 ?
(A) 1 (B) 2
(C) 3 (D) 4

Q12 The multiple 5×0.2 after rounding off will be:
(A) 1 (B) 1.0
(C) 1.00 (D) 1.000

Q13 Add $(0.001 + 0.02)$ upto the correct number of significant figures
(A) 0.021 (B) 0.02
(C) 0.003 (D) 0.001

Q14 One fermi is
(A) 10^{-13} cm (B) 10^{-15} cm
(C) 10^{-10} cm (D) 10^{-12} cm

Q15 Significant figures in 0.00051 are
(A) 5 (B) 3
(C) 2 (D) 4

Q16 $1\ \mathrm{m}^3$ is equal to
(A) 100 litre (B) 10000 litre
(C) 10 litre (D) 1000 litre

Q17 A picometre is written as
(A) $10^{-9}\ \mathrm{m}$
(B) $10^{-10}\ \mathrm{m}$
(C) $10^{-11}\ \mathrm{m}$
(D) $10^{-12}\ \mathrm{m}$

Q18 Convert $25365\ \mathrm{mg}$ to S.I. unit
(A) $253.65\ \mathrm{g}$
(B) $25.365 \times 10^{-3}\ \mathrm{kg}$
(C) $25.365\ \mathrm{kg}$
(D) $253.65\ \mathrm{kg}$

Answer Key

Q1	(C)
Q2	(A)
Q3	(B)
Q4	(A)
Q5	(B)
Q6	(C)
Q7	(B)
Q8	(A)
Q9	(D)
Q10	(A)
Q11	(A)
Q12	(A)
Q13	(B)
Q14	(A)
Q15	(C)
Q16	(D)
Q17	(D)
Q18	(B)