

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth
DATE :

SUBJECT : CHEMISTRY
DPP No. : 6

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

- The molarity of 20.0 mass % H_2SO_4 solution of density 11.14 g cm^{-3} is
a) 2.56 mol dm^{-3} b) 1.56 mol dm^{-3} c) 1.26 mol dm^{-3} d) 2.32 mol dm^{-3}
- How many moles of Fe^{2+} ions are formed, when excess of iron is treated with 50 mL of 4.0 M HCl under inert atmosphere? Assume no change in volume:
a) 0.4 b) 0.1 c) 0.2 d) 0.8
- 100 mL of 0.3 N HCl solution were mixed with 200 mL of 0.6 N H_2SO_4 solution. The final acidic normality is:
a) 0.9 N b) 0.6 N c) 0.5 N d) 0.4 N
- 45 g of acid of mol. wt. 90 neutralized by 200 mL of 5 N caustic potash. The basicity of the acid is:
a) 1 b) 2 c) 3 d) 4
- The equivalent weight of KIO_3 in the reaction,
 $2\text{Cr}(\text{OH})_3 + \text{OH}^- + \text{KIO}_3 \rightarrow 2\text{CrO}_4^{2-} + 5\text{H}_2\text{O} + \text{KI}$ is
a) Mol. wt. b) Mol. wt./3 c) Mol. wt./6 d) Mol. wt./2
- The sample with largest number of atoms is
a) 1 g of $\text{O}_2(\text{g})$ b) 1 g of $\text{Ni}(\text{s})$ c) 1 g of $\text{B}(\text{s})$ d) 1 g of $\text{N}_2(\text{g})$
- The equation,
 $2\text{Al}(\text{s}) + (3/2)\text{O}_2(\text{g}) \rightarrow \text{Al}_2\text{O}_3(\text{s})$ shows that:
a) 2 mole of Al reacts with (3/2) mole of O_2 to produce (7/2) mole of Al_2O_3
b) 2 g of Al reacts with (3/2) g of O_2 to produce one mole of Al_2O_3
c) 2 g of Al reacts with (3/2) litre of O_2 to produce 1 mole of Al_2O_3
d) 2 mole of Al reacts with (3/2) mole of O_2 to produce 1 mole of Al_2O_3
- The number of atoms in 3.2 g of oxygen gas are:
a) 6.02×10^{22} b) 6.02×10^{23} c) 12.04×10^{22} d) 12.04×10^{23}

9. The number of atoms in n moles of gas can be given by:
 a) $\frac{n \times}{\text{Av. no.} \times \text{atomicity}}$ b) $\frac{n \times \text{Av. no.}}{\text{atomicity}}$ c) $\frac{\text{Av. no.} \times \text{atomicity}}{n}$ d) None of these
10. How many moles of $\text{Al}_2(\text{SO}_4)_3$ would be in 50 g of the substance?
 a) 0.083 mol b) 0.952 mol c) 0.481 mol d) 0.140 mol
11. The molecular weight of air will be
 (the components of air given as N_2 –78%, O_2 –21%, Ar – 09% and CO_2 –0.1%)
 a) 18.64 b) 24.968 c) 28.964 d) 29.864
12. 1.520 g of the hydroxide of a metal on ignition gave 0.995 g of oxide. The equivalent weight of metal is:
 a) 1.520 b) 0.995 c) 19.00 d) 9.00
13. The hydrated salt $\text{Na}_2\text{SO}_4 \cdot n\text{H}_2\text{O}$, undergoes 55% loss in weight on heating and becomes anhydrous. The value of n will be:
 a) 5 b) 3 c) 7 d) 10
14. When 100 g of ethylene polymerizes to polyethylene according to the equation,
 $n\text{CH}_2 = \text{CH}_2 \longrightarrow \text{-(CH}_2 - \text{CH}_2\text{)}_n\text{-}$
 The weight of polyethylene produced will be:
 a) $\frac{n}{2}$ g b) 100 g c) $\frac{100}{n}$ g d) $100n$ g
15. Vapour density of a volatile substance is 4 ($\text{CH}_4 = 1$). Its molecular weight would be:
 a) 8 b) 2 c) 64 d) 128
16. Dulong and Petit's law is valid only for
 a) Metals b) Non-metals c) Gaseous elements d) Solid elements
17. The molarity of pure water is:
 a) 55.6 b) 50 c) 100 d) 18
18. A molal solution is one that contains one mole of a solute in:
 a) 1000 g of the solvent
 b) 1000 mL of the solution
 c) One litre of the solvent
 d) 22.4 litre of the solution
19. The weight of a substance that displaces 22.4 litre air at NTP is:

a) Mol. wt.

b) At. wt.

c) Eq. wt.

d) All of these

20. The density (in g mL^{-1}) of a 3.60 M H_2SO_4 solution having 29% by mass of H_2SO_4 (molar mass 98) will be:

a) 1.45

b) 1.64

c) 1.88

d) 1.22

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