



Chapter 1 Some Basic Concept of Chemistry

Assignment 3

Class 11

Prerna Edu

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DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth

DATE :

SUBJECT : CHEMISTRY

DPP No. : 3

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

- For the reaction, $A + 2B \rightarrow C$, 5 moles of A and 8 moles of B will produce:
a) 5 moles of C b) 4 moles of C c) 8 moles of C d) 13 moles of C
- Which sample contains the largest number of atoms?
a) 1 mg of C_4H_{10} b) 1 mg of N_2 c) 1 mg of Na d) 1 mL of water
- An aromatic hydrocarbon with empirical formula C_5H_4 on treatment with concentrated H_2SO_4 gave a monosulphonic acid. 0.104 g of the acid required 10 mL of $\frac{N}{20}$ $NaOH$ for complete neutralisation. The molecular formula of hydrocarbon is
a) C_5H_4 b) $C_{10}H_8$ c) $C_{15}H_{12}$ d) $C_{20}H_{16}$
- If isotopic distribution of C-12 and C-14 is 98% and 2% respectively then the number of C-14 atoms in 12 g of carbon is
a) 1.032×10^{22} b) 3.01×10^{22} c) 5.88×10^{23} d) 6.023×10^{23}
- Zinc sulphate contains 22.65% of zinc and 43.9% of water of crystallization. If the law of constant proportions is true then the weight of zinc required to produce 20 g of the crystals will be
a) 45.3 g b) 4.53 g c) 0.453 g d) 453 g
- The number of gram molecules of chlorine in 6.02×10^{25} hydrogen chloride molecules is
a) 10 b) 100 c) 50 d) 5

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7. The net charge on ferrous ion is:
- a) +2 b) +3 c) +4 d) +5
8. H_2O_2 solution used for hair bleaching is sold as a solution of approximately 5.0 g H_2O_2 Per 100 mL of the solution. The molecular weight of H_2O_2 is 34. The molarity of this solution is approximately:
- a) 3.0 b) 1.5 c) 0.15 d) 4.0
9. 4.6×10^{22} atoms of an element weigh 13.8 g. The atomic weight of element is
- a) 290 b) 180 c) 34.4 d) 10.4
10. The weight of 50% (wt./wt.) solution of HCl required to react with 100 g of CaCO_3 would be:
- a) 73 g b) 100 g c) 146 g d) 200 g
11. An element, X has the following isotopic composition
 ^{200}X : 90%
 ^{199}X : 8.0%
 ^{202}X : 2.0%
The weighted average atomic mass of the naturally occurring element X is closed to
- a) 200 u b) 210 u c) 202 u d) 199 u
12. Law of constant composition is same as the law of
- a) Conservation of mass b) Conservation of energy
c) Multiple proportion d) Definite proportion
13. One atom of an element X weight 6.643×10^{-23} g. number of moles of atom in 20 kg is
- a) 140 b) 150 c) 250 d) 500

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14. The reaction, $2C + 2O_2 \rightarrow 2CO_2$ is carried out by taking 24 g carbon and 96 g O_2 . Which one is limiting reagent?
a) C b) O_2 c) CO_2 d) None of these
15. 1000 g aqueous solution of $CaCO_3$ contains 10 g of calcium carbonate. Concentration of solution is:
a) 10 ppm b) 100 ppm c) 1000 ppm d) 10000 ppm
16. The maximum amount of $BaSO_4$ precipitated on mixing 20 mL of 0.5 M $BaCl_2$ with 20 mL of 1 M H_2SO_4 is:
a) 0.25 mole b) 0.5 mole c) 1 mole d) 0.01 mole
17. The percentage of an element M is 53 in its oxide of molecular formula M_2O_3 . Its atomic mass is about
a) 45 b) 9 c) 18 d) 27
18. H_3BO_3 is:
a) Monobasic and weak Lewis acid
b) Monobasic and weak Bronsted acid
c) Monobasic and strong Lewis acid
d) Tribasic and weak Bronsted acid
19. A sample of peanut oil weighing 1.5763 g is added to 25 mL of 0.4210 M KOH after saponification is complete 8.46 mL of 0.2732 M H_2SO_4 is needed to neutralise excess KOH. The saponification number of peanut oil is:
a) 209.6 b) 108.9 c) 98.9 d) 218.9
20. What quantity of ammonium sulphate is necessary for the production of NH_3 gas sufficient to neutralize a solution containing 292 g of HCl ? [$HCl = 36.5, (NH_4)_2SO_4 = 132, NH_3 = 17$]

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a) 272 g

b) 403 g

c) 528 g

d) 1056 g

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