

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth
DATE :

SUBJECT : CHEMISTRY
DPP No. : 10

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

- When 10 g of methane is completely burnt in oxygen, the heat evolved is 560 kJ. What is the heat of combustion (in kJ mol^{-1}) of methane?
a) -1120 b) -968 c) -896 d) -560
- How much of $0.1 \text{ M H}_2\text{SO}_4$ solution is required to neutralize 50 mL of 0.2 M NaOH solution?
a) 0.50 mL b) 50 mL c) 100 mL d) 5.0 mL
- One litre of CO_2 is passed over hot coke. The volume becomes 1.4 litre. The per cent composition of products is:
a) 0.6 litre CO
b) 0.8 litre CO_2
c) 0.6 litre CO_2 and 0.8 litre CO
d) None of the above
- Equivalent weight of oxygen is:
a) 32 b) 8 c) 16 d) 24
- Arsenic forms two oxides, one of which contains 65.2% and the other 75.5% of the element. Hence, equivalent masses of arsenic are in the ratio
a) 1 : 2 b) 3 : 5 c) 13 : 15 d) 2 : 1
- The oxide of a metal contains 60 % of the metal. What will be the percentage of bromine in the bromide of the metal, if the valency of the metal is the same in both the oxide and the bromide?
a) ≈ 87 b) ≈ 70 c) ≈ 77 d) ≈ 93
- An aqueous solution of 6.3 g oxalic acid dihydrate is made up to 250 mL. The volume of 0.1 N NaOH required to completely neutralised 10 mL of this solution is:
a) 40 mL b) 20 mL c) 10 mL d) 4 mL
- The enthalpy of combustion of methane at 25°C is 890kJ. The heat liberated when 3.2 g of methane is burnt in air is

- a) 445 kJ b) 278 kJ c) -890 kJ d) 178 kJ
9. A signature written with carbon pencil weighs 1 mg. what is the number of carbon atoms present in the signature?
 a) 6.02×10^{20} b) 0.502×10^{20} c) 5.02×10^{23} d) 5.02×10^{20}
10. If 1.2 g of a metal displace 1.12 litre hydrogen at normal temperature and pressure, equivalent weight of metal would be:
 a) 12 b) 24 c) 1.2×11.2 d) $1.2 \div 11.2$
11. 34 g of hydrogen peroxide is present in 1120 mL of solution. This solution is called:
 a) 10 vol solution b) 20 vol solution c) 30 vol solution d) 32 vol solution
12. A sample of a mixture of $CaCl_2$ and $NaCl$ weighing 4.22 g was treated to precipitate all the Ca as $CaCO_3$. This $CaCO_3$ is then heated and quantitatively converted into 0.959 g of CaO . Calculate the percentage of $CaCl_2$ in the mixture.
 (Atomic mass of $Ca = 40, O = 16, C = 12$ and $Cl = 35.5$)
 a) 31.5% b) 21.5% c) 45.04% d) 68.48%
13. 11.2 litre of NH_3 at STP has electrons:
 a) 3.01×10^{21} b) 3.01×10^{22} c) 3.01×10^{25} d) 3.01×10^{24}
14. Which of the following pairs contains equal number of atoms?
 a) 11.2 cc (STP) of nitrogen and 0.015 g of nitric oxide
 b) 22.4 L (STP) of nitrous oxide and 22.4 L of nitric oxide
 c) 1 millimole of HCL and 0.5 millimole of H_2S
 d) 1 mole of H_2O_2 and 1 mole of N_2O_4
15. The number of atoms present in a molecule is called:
 a) Atomicity b) Molecularity c) Poison's ratio d) None of these
16. Which has the highest weight?
 a) $1 m^3$ of water b) A normal adult man c) 10 L of Hg d) All have same weight
17. 74.5 g of a metallic chloride contains 35.5 g of chlorine, the equivalent weight of the metal is
 a) 19.5 b) 35.5 c) 39 d) 78.0
18. A compound contains 69.5% oxygen and 30.5% nitrogen and its molecular weight is 92. The formula of the compound is
 a) N_2O b) NO_2 c) N_2O_4 d) N_2O_5
19. The solid like conducting state of gases with free electrons is called
 a) Sol state b) Gel state c) Plasma state d) All of these

20. A g of a metal displaces V mL of H_2 at NTP. Equivalent weight E , of metal is:

a) $E = \frac{A}{\text{wt. of } H_2 \text{ displaced}} \times E_H$

b) $E = \frac{A \times 1.008 \times 22400}{\text{volume of } H_2 \text{ displaced} \times 2}$

c) $E = \frac{A \times 1.008}{\text{volume of } H_2 \text{ displaced} \times 0.0000897}$

d) All of the above

PE