AIPMT 2009

1. 10 g of hydrogen and 64 g of oxygen were filled in a steel vessel and exploded. Amount of water produced in this reaction will be :-
(1) 1 mol (2) 2 mol
(3) 3 mol (4) 4 mol

AIPMT 2010

2. The number of atoms in 0.1 mol of a triatomic gas is :- ($N_A = 6.02 \times 10^{23}$ mol^{-1})
(1) 1.800×10^{22} (2) 6.026×10^{22}
(3) 1.806×10^{23} (4) 3.600×10^{23}

AIPMT Mains 2011

3. Which has the maximum number of molecules among the following ?
(1) 64 g SO_2 (2) 44 g CO_2
(3) 48 g O_3 (4) 8 g H_2

NEET UG 2013

4. An excess of $AgNO_3$ is added to 100 mL of a 0.01 M solution of dichlorotetraaquachromium(III) chloride. The number of moles of AgCl precipitated would be :-
(1) 0.01 (2) 0.001 (3) 0.002 (4) 0.003

AIPMT 2014

5. Equal masses of H_2,O_2 and methane have been taken in a container of volume V at temeprature 27°C at identical conditions. The ratio of the volumes of gases H_2 : O_2 : CH_4 would be :
(1) 8 : 16 : 1 (2) 16 : 8 : 1
(3) 16 : 1 : 2 (4) 8 : 1 : 2

6. When 22.4 L of H_2(g) is mixed with 11.2 L of Cl_2(g) at S.T.P., the moles of HCl(g) formed is equal to:-
(1) 1 mol of HCl (g) (2) 2 mol of HCl (g)
(3) 0.5 mol of HCl (g) (4) 1.5 mol of HCl (g)

7. 1.0 g of magnesium is burnt with 0.56 g O_2 in a closed vessel. Which reactant is left in excess and by how much ?
(At. wt. Mg = 24 ; O = 16)
(1) Mg, 0.16 g (2) O_2, 0.16 g
(3) Mg, 0.44 g (4) O_2, 0.28 g

AIPMT 2015

8. A mixture of gases contains H_2 and O_2 gases in the ratio of 1 : 4 (w/w). What is the molar ratio of the two gases in the mixture ?
(1) 4 : 1 (2) 16 : 1 (3) 2 : 1 (4) 1 : 4

Re-AIPMT 2015

9. The number of water molecules is maximum in :-
(1) 18 g of water
(2) 18 mol of water
(3) 18 molecules of water
(4) 1.8 g of water

10. If avogadro number N_A, is changed from 6.022×10^{23} mol^{-1} to 6.022×10^{20} mol^{-1}, this would change :
(1) the ratio of chemical species to each other in a balanced equation
(2) the ratio of elements to each other in a compound
(3) the definition of mass in units of grams
(4) the mass of one mole of carbon

11. 20.0 g of a magnesium carbonate sample decomposes on heating to give carbon dioxide and 8.0 g magnesium oxide. What will be the percentage purity of magnesium carbonate in the sample ?
(Atomic weight of Mg = 24)
(1) 60 (2) 84 (3) 75 (4) 96

NEET-II 2016

12. Suppose the elements X and Y combine to form two compounds XY_2 and X_3Y_2. When 0.1 mole of XY_2 weighs 10 g and 0.05 mole of X_3Y_2 weighs 9 g, the atomic weights of X and Y are
(1) 20, 30 (2) 30, 20
(3) 40, 30 (4) 60, 40

NEET(UG) 2018

13. A mixture of 2.3 g formic acid and 4.5 g oxalic acid is treated with conc. H_2SO_4. The evolved gaseous mixture is passed through KOH pellets. Weight (in g) of the remaining product at STP will be

$$HCOOH(\ell) \xrightarrow{H_2SO_4} H_2O(\ell) + CO(g)$$

$$H_2C_2O_4(\ell) \xrightarrow{H_2SO_4} H_2O(\ell) + CO(g) + CO_2(g)$$

(1) 1.4 (2) 3.0
(3) 2.8 (4) 4.4

14. In which case is the number of molecules of water maximum?
(1) 18 mL of water
(2) 0.18 g of water
(3) 0.00224 L of water vapours at 1 atm and 273 K
(4) 10^{-3} mol of water

NEET (UG) 2019

15. The number of moles of hydrogen molecules required to produce 20 moles of ammonia through Haber's process is :-
(1) 10 (2) 20 (3) 30 (4) 40

NEET (UG) (Odisha) 2019

16. The volume occupied by 1.8 g of water vapour at 374 °C and 1 bar pressure will be :-
[Use R = 0.083 bar L $K^{-1}mol^{-1}$]
(1) 96.66 L (2) 55.87 L
(3) 3.10 L (4) 5.37 L

NEET (UG) 2020

17. Which one of the following has maximum number of atoms?
(1) 1g of Li(s) [Atomic mass of Li = 7]
(2) 1g of Ag(s) [Atomic mass of Ag = 108]
(3) 1g of Mg(s) [Atomic mass of Mg = 24]
(4) 1g of O_2(g) [Atomic mass of O = 16]

NEET (UG) 2020 (COVID-19)

18. One mole of carbon atom weighs 12 g, the number of atoms in it is equal to,
(Mass of carbon – 12 is 1.9926×10^{-23} g)
(1) 1.2×10^{23} (2) 6.022×10^{22}
(3) 12×10^{22} (4) 6.022×10^{23}

NEET (UG) 2021

19. An organic comopound contains 78% (by wt.) carbon and remaining percentage of hydrogen. The right option for the empirical formula of this compound is [Atomic wt. of C is 12, H is 1]
(1) CH (2) CH_2
(3) CH_3 (4) CH_4

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**4**	**3**	**4**	**2**	**3**	**1**	**1**	**1**	**2**	**4**	**2**	**3**	**3**	**1**	**3**
Que.	16	17	18	19											
Ans.	**4**	**1**	**4**	**3**											