

NEET/PMT/IIT-JEE

MOLE CONCEPT

CHEMISTRY TEST PAPER

02MARCH,2021

- 8 litres of  $H_2$  and 6 litres of  $Cl_2$  are allowed to react to maximum possible extent. Find out the final volume of reaction mixture. Suppose P and T remain constant throughout the course of reaction.  
a) 7 litres    b) 14 litres    c) 2 litres    d) none of these
- Calculate the mass in grams of 2g mole of Mg.  
a) 12g    b) 24g    c) 6g    d) None of these
- In 5g atom of Ag ( At. wt of Ag = 108 g/mol), calculate the weight of one atom of Ag.  
a)  $17.93 \times 10^{-23}$  g    b)  $16.93 \times 10^{-23}$  g  
c)  $17.93 \times 10^{23}$  g    d)  $36 \times 10^{-23}$  g
- How many carbon atoms are present in .35 mol of  $C_6H_{12}O_6$  ?  
a)  $6.023 \times 10^{23}$  carbon atoms    b)  $1.26 \times 10^{23}$  carbon atoms  
c)  $1.26 \times 10^{23}$  carbon atoms    c)  $6.023 \times 10^{24}$  carbon atoms
- What is the weight of  $3.01 \times 10^{23}$  molecules of ammonia ?  
a) 17g    b) 8.5 g    c) 34g    d) none of these
- Calculate the number of  $Cl^-$  and  $Ca^{+2}$  ions in 222 g anhydrous  $CaCl_2$ .  
a) 2N ions of  $Cl^-$  and  $Ca^{+2}$  and 4 N ions of  $Cl^-$   
b) 2N ions of  $Cl^-$  and 4 N ions of  $Ca^{+2}$   
c) 1 N ions of  $Ca^{+2}$  and 1 N ions of  $Cl^-$   
d) None of these
- Naturally occurring chlorine is 75%  $Cl^{35}$  and 25 %  $Cl^{37}$ . Calculate the average atomic mass of chlorine.  
a) 35.5 amu    b) 36.5 amu    c) 71 amu    d) 72 amu

8) 8 litre of  $H_2$  and 6 litre of  $Cl_2$  are allowed to react to maximum possible extent. Find out the final volume of reaction mixture. Suppose P and T remain constant throughout the course of reaction.

- a) 7 litre                      b) 14 litre                      c) 2litre                      d) None of these

9) What volume of oxygen gas  $O_2$  measured at  $0^\circ C$  and 1 atm, is needed to burn completely 1L, of propane gas ( $C_3H_8$ ) measured under the same conditions?

- a) 5L                              b) 10L                              c) 7L                              d) 6L

10) An organic compound contains carbon, hydrogen and oxygen. Its elemental analysis gives C, 38.71 % and H, 9.67 %. The empirical formula of the compound would be 9.67%. The empirical formula of the compound would be:

- a) CHO                              b)  $CH_4O$                               c)  $CH_3O$                               d)  $CH_2O$

11) Which has the maximum number of molecules among the following ?

- a) 64g  $SO_2$                       b) 44 g  $CO_2$                       c) 48g  $O_3$                       d) 8 g  $H_2$

12) When 22.4 litres of  $H_2(g)$  is mixed with 11.2 litres of  $Cl_2(g)$ , each at STP, the moles of HCl (g) formed is equal to :

- a) 1 mol of HCl (g)              b) 2 mol of HCl (g)              c) 0.5 mol of HCl (g)              d) 1.5 mol of HCl (g)

13) Dissolving 120 g of urea (mol. Wt. 60 g/mol) in 1000g of water of water gave a solution of density 1.15 g/ml, the molarity of the solution is :

- a) 1.78 M                              b) 2.00M                              c) 2.05M                              d) 2.22 M

