

## **1. Project on environmental chemistry.**

Make project on

- Air pollution
- Water pollution
- Soil pollution
- Green chemistry

- 1) Find no. of gram atom, no. of gram molecule in 40g of oxygen gas (At mass O = 16).
- 2) Find no. of He atom in sample of He weighing 54 amo (He = 4).
- 3) Find the no. of atoms of each type in 3.42g of  $C_{12}H_{22}O_{11}$
- 4) Find no. of  $SO_2$  molecules in 4.48 lit at S.T.P.
- 5) Find wt of Ca which has same no. of atoms in 4.6g of Na.
- 6) Find no. of  $e^-$  in 3.2g of  $CH_4$ .
- 7) Find wt of carbon in 3 moles of  $K_4[Fe(CN)_6]$ .
- 8) Find no. of  $C_2H_5OH$  molecules in 50ml of  $C_2H_5OH$  having density 1.2 g/ml.
- 9)  $2 \times 10^{21}$  molecules of X weigh 2g. Find molar mass.
- 10) Find wt of 10 molecules of  $CO_2$  in grams.
- 11) Find wt of  $NH_3$  which has same atoms as in 3.6g of  $H_2O$
- 12) Chlorophyll contains 20% Mg by weight. Find no. of calcium atoms in 40g of chlorophyll.
- 13) Find wt of 50ml of  $SO_2$  under STP.
- 14) Find wt of 6 moles of  $H_2SO_4$  and  $10^{21}$  molecules of  $CO_2$ .
- 15) Find no. of neutrons in 3.6g of  $H_2O$ .
- 16) Find no. of  $e^-$  in 40g of  $CO_3^{2-}$ .
- 17) Find wt of oxygen present in 6 moles of  $Na_2SO_4 \cdot 10H_2O$ .
- 18) 20ml of  $H_2O$  evaporate in 1hr. Find no. of water molecules escaping one sec.
- 19) If a person spends one million rupees daily. Find no. of years it would take him to spend avogadro no. of rupees.
- 20) If 3.22g of  $Na_2SO_4 \cdot xH_2O$  has  $6.022 \times 10^{22}$  molecules of water. What is value of x