

many chemical reactions take place which involve limiting reactants some of these reactions are:

(i) Burning of coal to form CO_2 ---Coal is limiting reactant $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$

(ii) Burning of sui gas to form CO_2 and H_2O
 $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$

(iii) Rusting of iron----iron is limiting reactant

In above reactions oxygen is always in excess, while other reactants are consumed earlier. So other reactants are limiting reactants.

Q.10 One mole of H_2O has two moles of bonds, three moles of atoms, ten moles of electron and twenty-eight moles the total fundamental particles present in it.

Ans.

One molecule of $\text{H}-\text{O}-\text{H}$ has two bonds between hydrogen and oxygen. There are three atoms i.e. two H atoms and one O atom, therefore one mole of H_2O contains two moles of bonds and three moles of atoms (2 moles of H atoms and one mole of O atoms).

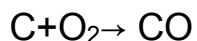
Similarly, there are eight electrons in oxygen and one electron in each of the two, H atoms one molecule of H_2O so has 10 electrons, so one mole of water contains 10 moles of electrons. There are 28 moles of all fundamental particles in one mole of water i.e.

10 moles of electrons.

10 moles of protons.

Ans.

Stoichiometric calculations are based on balanced chemical equation and equation is balanced on the basis of Law of conservation of mass e.g



In this equation stoichiometric calculations are not possible because it is not a balanced equation and it is not obeying Law of conservation.

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