Chemistry - 11th Class Chemistry Short Questions Chapter 11 Preparation

Q1. Define and give an example of the process of activation of catalyst?

Ans 1: A substance which promotes the activity of catalyst is called promoter or activator or catalyst for a catalyst.
E.g.Nickle is used as catalyst fro hydrogenation of vegetable oil and copper is used as activator.

Q2. What is pseudo first order reaction?Give an example.

Ans 1: The rate of reaction remains effectively independence of the concentration of water because being a solvent it is present in very large excess.Such type of reactions has been named as pseudo-first order reaction.
E.g.Hydrolysis of tertiary butyl bromide.

Q3. A final divided catalyst may prove more effective why?

Ans 1: When a catalyst is finely divided, it has greater surface areas and possibilities of atoms and molecules of reactants to come in contact with each other increase and rate exchange.
E.g. $CaCO_3$ Reacts much more rapidly in powder form, as compared to its big pieces.

Q4. Compare order of reaction and molecularity?

Ans 1: Orde:

1. The number of molecules whose concentration change in a chemical reaction.
2. It is an experimental quantity.
3. It may be fractional.
4. It may be zero.

Ans 2: Molecularity:

1. The number of molecules involved in a chemical reaction.
2. It is a theoretical quantity.
3. It always whole number.
4. It is never zero.

Q5. Define Activation Energy and Activated Complex.

Ans 1: The minimum amount of energy required for an effective collision is called activation energy.
Activated complex is an unstable combination of all the atoms involved
In the reaction for which the energy is maximum.It is a short lived species and decomposes into the products immediately.It has a transient existence, that is why it is also called a transition state.

Q6. Give two characteristics of enzyme catalyst?

Ans 1: There are following characteristics of an enzyme.

1. Enzymes catalysis is highly specific.
2. Rate of enzymatic reaction is maximum at optimum temperature and pH.
3. Enzymatic activities are enhanced by the presence of an activator.

Q7. Define catalysis.Name its two types?

Ans 1: The process which take place in the presence of a catalyst is called catalysis.
There are two types of it.

1. Homogeneous catalysis
2. Heterogeneous catalysis

Q8. How rate of reaction is determined by electrical conductivity method?

Ans 1: The rate of reaction involving ions can be studied by electrical conductivity method. The conductivity of such a solution depends upon the rate of change of concentration of the reacting ions or the ions formed during the reaction.The conductivity will be proportional to the rate of change in the concentration of such ions.

Q9. Name two Physical methods used to determine the rate of a reaction?

Ans 1:

1. Spectrometry
2. Electrical conductivity method
3. Dilatometric method
4. Refractometric method

Q10. Define negative catalyst along with an example?

Ans 1: A substance which decreases the rate of reaction is called negative catalyst or inhibitor.
E.g.Tetraethyl is added to petrol because it control pre-ignition of petrol.
