Chemistry - 11th Class Chemistry Short Questions Chapter 11 Preparation

Q1. 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.

Q2. Define catalytic poisoning with example?

Ans 1: Deactivation of catalyst by small amount of impurities is called catalytic poisoning.It may be temporary or permanent.
E.g. In Haber's process of CO as an impurity with hydrogen decreases the catalytic activity of catalyst

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Q3. 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.

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. How higher temperature increase the rate of reaction?

Ans 1: When we increase the temperature the average energy of the molecules increases. The number of those molecules also increase which can form an activated complex after collision.So by increasing temperature, number of effective collision increased and rate of reaction also increases.

Q6. Define instantaneous and average rate of reaction?

Ans 1: Instantaneous Rate of Reaction: The rate at any one instant during a specific interval of time is called instantaneous rate of reaction.
Average Rate of Reaction: The rate of reaction between two specific intervals of time is called average rate of reaction.

Q7. 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.

Q8. 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

Q9. 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.

Q10. State rate of chemical reaction and give its units?

Ans 1: The rate of reaction is defined as the change in concentration of reactant or a product divided by the time taken for the change.
The rate of reaction has the units of concentration divided by time,Usually the concentration is expressed in mole dm^{-3} And the time in second, thus the units for the reaction rates are moles $dm_{-3}s^{-1}$.
