

Chemistry - 11th Class Chemistry Short Questions Chapter 7 Preparation

Q1. Define Thermochemistry.

Ans 1: That branch of chemistry which deals with the heat energy changes along with the phase changes and occurring of the chemical reactions, is called thermochemistry.

Q2. Differentiate between law of conservation of energy and Hess's law?

Ans 1: Energy can neither be created nor destroyed, can be changed from one form to another is called Law of Conservation of Energy.

If a chemical change takes place by several different routes, the overall energy change is the same, regardless of the route by which the chemical change occurs, provided the initial and final conditions are the same is known as Hess"s Law.

Q3. Spontaneous reaction always proceed in the forward direction. Give reason?

Ans 1: Spontaneous process are unidirectional, irreversible and real processes. These can take place without any external assistance. That's why reactions always proceed in forward direction.

Q4. What is meant by heat(q) and work (W) in thermochemistry?

Ans 1: There are two fundamental ways of transferring energy to or from a system. These are heat and work. Heat is not a property of a system. It is therefore not a state functions. Heat evolved or absorbed by the system is represented by a symbolq. Work is also a form in which energy is transferred from one system to another.

Q5. Why in exothermic reaction, heat is released from the system?

Ans 1: In a chemical change if enthalpy of product is less than the enthalpy of reactant. Heat is released from the system to surrounding. Hence heat is released in an exothermic reaction.

Q6. Described System and Surrounding?

Ans 1: System: The part of universe which is under your observation is called system. Surrounding: Everything that is not a part of system is called surrounding, e.g. Water in a glass is a system and all around is surrounding.

Q7. Is it true that a non-spontaneous process never happen in universe? Explain it?

Ans 1: Yes it is true that non-spontaneous processes never happen in the universe. Because a non-spontaneous process needs energy to take place. Since this energy is not available of its own. Therefore a non-spontaneous process never happens in the universe.

Q8. Define Born-Haber cycle and lattice energy?

Ans 1: Born-Haber cycle: The sum of energy changes for a closed cyclic process is zero, If the initial and final states are same. Lattice Energy: The amount of energy released when gaseous icons of opposite charges combine to give one mole of a crystalline ionic compound.

Q9. What are thermochemical reaction, give their type/

Ans 1: Thermochemical Reaction: Those reaction in which energy is either evolve or absorbed during a chemical change is called thermochemical reactions.

Two types of those reactions:

- 1. Exothermic reactions
- 2. Endothermic reactions

Q10. Enthalpy is a state function Justify?

Ans 1: The total heat content of a system is called enthalpy. Equation

H=E+PV E,P and V are state functions so enthalpy is also a state function. It is not possible to measure the enthalpy of a system in a given state. However change in enthalpy can be measured for a change in the state of system.