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. 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.

Q3. What is a spontaneous process?

Ans 1: The process which takes place on its own is called spontaneous process. No external. Assistance is required. It moves from non-equilibrium state. It is unidirectional and irreversible.

Q4. 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

Q5. Acid-base neutralization process is always exothermic.Give reasons?

Ans 1: The standard enthalpy of neutralization is the amount of heat evolved when one mole of hydrogen icons H^+From an acid, react with one mole of hydroxide ions from a base to form one mole of water. For example, the enthalpy of neutralization of sodium hydroxide by hydrochloric acid is -57.4 $kjmol^{-1}$
Thus heat is evolved in acid base neutralization process is always exothermic

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Q6. 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.

Q7. 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.

Q8. 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.

Q9. How the temperature of the system change during exothermic and endothermic reactions?

Ans 1: In an exothermic reaction, heat is evolved which increases the temperature of the system. In an endothermic reaction, heat is absorbed, so the temperature of the system falls down. These statements are true when the system is isolated.

Q10. Burning of an candle is a spontaneous process. Justice?

Ans 1: A reaction will also be called spontaneous process if it needs energy to start with.
Burning of candle also a spontaneous process which needs energy to start.Once the candle is made to lit with match spark.It continues to burn afterword.
Therefore burning of candle is a spontaneous process.
