

Leaving Cert Chemistry: Hydrogenation and Related Concepts

Chemistry · Answer Key · 10 Questions

1. What is the process called when hydrogen is added to an alkene molecule using a nickel catalyst at 200°C?

- A) Biochemical Oxygen Demand
- B) Heat of Formation
- C) Heat of Combustion
- D) Hydrogenation Reaction**

2. Which term describes the amount of oxygen required by aerobic biological organisms to break down organic material present in a given water sample at a certain temperature over a specific time period?

- A) Biochemical Oxygen Demand**
- B) Heat of Formation
- C) Heat of Combustion
- D) Hydrogenation Reaction

3. What does 'Heat of Formation' refer to in chemistry?

- A) The energy released when a substance burns completely.
- B) The energy change when one mole of a compound is formed from its constituent elements in their standard states.**
- C) The amount of oxygen needed to decompose organic matter.
- D) The addition of hydrogen to an unsaturated molecule.

4. Which option best defines 'Heat of Combustion'?

- A) The energy released during the formation of a compound.
- B) The energy required to break chemical bonds.
- C) The heat released when one mole of a substance undergoes complete combustion with oxygen.**
- D) The process of adding hydrogen to an alkene.

5. A nickel catalyst and a temperature of 200°C are typically involved in which specific chemical reaction?

- A) Biochemical Oxygen Demand measurement
- B) Heat of Formation calculation
- C) Heat of Combustion experiment
- D) Hydrogenation Reaction**

6. If a question asks about the 'energy change when one mole of a compound is formed from its elements in their standard states,' it is likely referring to:

- A) Hydrogenation Reaction
- B) Heat of Combustion
- C) Biochemical Oxygen Demand
- D) Heat of Formation**

7. The term 'BOD' is an abbreviation for:

- A) Heat of Formation
- B) Biochemical Oxygen Demand**
- C) Hydrogenation Reaction
- D) Heat of Combustion

8. Which of the following is a reaction where hydrogen is added to a molecule, often an alkene?

- A) Heat of Combustion
- B) Biochemical Oxygen Demand
- C) Hydrogenation Reaction**
- D) Heat of Formation

9. The energy released during the complete burning of a substance is known as its:

- A) Heat of Formation
- B) Biochemical Oxygen Demand
- C) Hydrogenation Reaction
- D) Heat of Combustion**

10. In the context of chemical definitions, what might '200°C' and 'nickel catalyst' be indicators of?

- A) Biochemical Oxygen Demand
- B) Heat of Formation
- C) Heat of Combustion
- D) Hydrogenation Reaction**