

Chemical Energetics – 2019 Nov

1. 0620/11/O/N/19/No.11

Which statements about endothermic reactions are correct?

- 1 The energy of the products is greater than the energy of the reactants.
- 2 The energy of the reactants is greater than the energy of the products.
- 3 The temperature of the surroundings increases during the reaction.
- 4 The temperature of the surroundings decreases during the reaction.

A 1 and 3 only **B** 1 and 4 only **C** 2 and 3 only **D** 2 and 4 only

2. 0620/12/O/N/19/No.12

The temperature of the water in two beakers, X and Y, is measured as 21.5 °C.

5 g of sodium chloride is dissolved in the water in beaker X. The temperature changes to 18.0 °C.

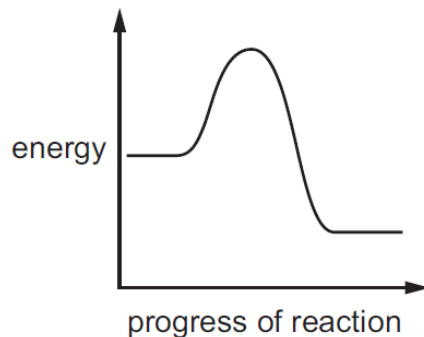
5 g of calcium oxide is dissolved in the water in beaker Y. The temperature changes to 29.4 °C.

Which types of process are occurring in beakers X and Y?

	X	Y
A	endothermic	endothermic
B	endothermic	exothermic
C	exothermic	endothermic
D	exothermic	exothermic

3. 0620/13,23/O/N/19/No.11,13

An energy level diagram for a reaction is shown.



Which statement and explanation about this reaction are correct?

	statement	explanation
A	the reaction is endothermic	the products have more energy than the reactants
B	the reaction is endothermic	the products have less energy than the reactants
C	the reaction is exothermic	the products have more energy than the reactants
D	the reaction is exothermic	the products have less energy than the reactants

4. 0620/21/O/N/19/No.13

Which statements about endothermic reactions are correct?

- 1 The energy of the products is greater than the energy of the reactants.
- 2 The energy of the reactants is greater than the energy of the products.
- 3 The temperature of the surroundings increases during the reaction.
- 4 The temperature of the surroundings decreases during the reaction.

A 1 and 3 only **B** 1 and 4 only **C** 2 and 3 only **D** 2 and 4 only

5. 0620/21,23/O/N/19/No.14

Which gases are used to generate electricity in a fuel cell?

- A** carbon dioxide and oxygen
- B** hydrogen and methane
- C** hydrogen and oxygen
- D** methane and carbon dioxide

6. 0620/22/O/N/19/No.13

The temperature of the water in two beakers, X and Y, is measured as 21.5 °C.

5 g of sodium chloride is dissolved in the water in beaker X. The temperature changes to 18.0 °C.

5 g of calcium oxide is dissolved in the water in beaker Y. The temperature changes to 29.4 °C.

Which types of process are occurring in beakers X and Y?

	X	Y
A	endothermic	endothermic
B	endothermic	exothermic
C	exothermic	endothermic
D	exothermic	exothermic

7. 0620/22/O/N/19/No.14

Which gases are used to generate electricity in a fuel cell?

- A** carbon dioxide and oxygen
- B** hydrogen and methane
- C** hydrogen and oxygen
- D** methane and carbon dioxide

