

University of Bahrain, Chemistry Department

Chemistry 102, Quiz-2 (Thermochemistry)

Name: Key ID#: _____ Sec _____

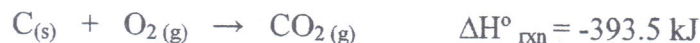
Q1(1pts): In an energy exchange between a system and a surrounding, consider a negative ΔE_{sys} . Which of the following is true?

- a. The ΔE_{sys} increases and the ΔE_{surr} decreases.
- b. Both ΔE_{sys} and ΔE_{surr} increase.
- c. Both ΔE_{sys} and ΔE_{surr} decrease.
- d. The ΔE_{sys} decreases and the ΔE_{surr} increases.

Q2(2pts): A system releases 415kJ of heat and does 125kJ of work on the surroundings. What is ΔE_{sys} ?

-540 kJ

Q3(2pts): Determine the mass of CO_2 produced by burning enough carbon to produce 5.00×10^2 kJ of heat.



55.9 g

Q4(2pts): Consider the following reaction: $\text{A} + 2\text{B} \rightarrow \text{C} + 3\text{D}$ $\Delta H^{\circ}_{\text{rxn}} = 155 \text{ kJ}$

Determine the value of ΔH for: $\frac{1}{2}\text{C} + \frac{3}{2}\text{D} \rightarrow \frac{1}{2}\text{A} + \text{B}$

-77.5 kJ