

Worksheet: Thermodynamics

IB · Class 11 · Chemistry · 5 questions · 15 marks

Name: _____

Date: _____

Score: _____ / 15

Q1. Is bond breaking endothermic or exothermic, and what about bond formation? *[2 marks]*

Q2. What is the significance of $\Delta G = 0$? *[2 marks]*

Q3. For $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$, $\Delta H = -92.4 \text{ kJ}$ at 298 K. Find ΔU given $\Delta n_g = -2$. *[3 marks]*

Q4. For a reaction $\Delta H = 30 \text{ kJ}$ and $\Delta S = 100 \text{ J/K}$. Find the temperature above which it becomes spontaneous. *[3 marks]*

Q5. Calculate $\Delta_f H$ of C_2H_6 given $\Delta_c H(\text{C}) = -393.5$, $\Delta_f H(\text{H}_2\text{O}) = -285.8$, and $\Delta_c H(\text{C}_2\text{H}_6) = -1560 \text{ kJ/mol}$. *[5 marks]*
