

## Worksheet: Thermodynamics

Uttar Pradesh State Board · 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]

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

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**Q3.** For  $N_2 + 3H_2 \rightarrow 2NH_3$ ,  $\Delta H = -92.4$  kJ at 298 K. Find  $\Delta U$  given  $\Delta n_g = -2$ . [3 marks]

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

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**Q5.** Calculate  $\Delta_f H$  of  $C_2H_6$  given  $\Delta_c H(C) = -393.5$ ,  $\Delta_f H(H_2O) = -285.8$ , and  $\Delta_c H(C_2H_6) = -1560$  kJ/mol. [5 marks]

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