

## Worksheet: Thermodynamics

West Bengal State Board · Class 11 · Physics · 5 questions · 13 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 13

**Q1.** A gas absorbs 500 J of heat and does 200 J of work. Find  $\Delta U$ . [2 marks]

---

---

---

**Q2.** Why can't a heat engine have 100% efficiency? [2 marks]

---

---

---

**Q3.** 2 moles of ideal gas expand isothermally at 300 K from 5 L to 15 L. Find the work done ( $R = 8.314$ ). [3 marks]

---

---

---

**Q4.** A Carnot engine has 40% efficiency with a sink at 300 K. Find the source temperature. [3 marks]

---

---

---

**Q5.** In a cyclic process a system absorbs 1000 J and rejects 600 J. Find the work done and efficiency. [3 marks]

---

---

---