

Worksheet: Semiconductor Electronics

IB · Class 12 · Physics · 5 questions · 11 marks

Name: _____

Date: _____

Score: _____ / 11

Q1. In a CE amplifier $\beta = 100$ and $I_B = 40 \mu\text{A}$. Find I_C and I_E . *[2 marks]*

Q2. Identify the gate whose output is 0 only when both inputs are 1. *[2 marks]*

Q3. Why is the n-p-n transistor more commonly used than p-n-p? *[2 marks]*

Q4. What is the ripple frequency of a full-wave rectifier with 50 Hz input? *[2 marks]*

Q5. A Zener regulator has $V_Z = 5 \text{ V}$, $R = 500 \Omega$, input 8-12 V. Find the resistor current range. *[3 marks]*
