

2024 Ph H1 Q25

Section: Particles and Waves

Topic: Semiconductors – Diodes

Question Summary

Four identical LEDs are connected to a 2 V rms AC supply in different orientations.

Worked Solution

During alternate half-cycles of the AC, two LEDs are forward biased. From the circuit, LEDs P and Q emit light.

Final Answer: C

Revision Tips

- LEDs only conduct when forward biased and voltage exceeds threshold.
- AC supplies alternate forward-biasing opposite LEDs each half-cycle.
- Pay attention to diode polarity relative to AC terminals.