

Medium

Deputy Executive Engineer (Electrician)

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Sports Authority of Gujarat / Assistant Engineer (Electrical)

Regarding the turn-on process of an SCR, consider the following statements: 1. Latching current is the minimum anode current required to maintain the SCR in the

A

1, 2 and 3 only

B

1, 2 and 4 only

Correct

C

2 and 4 only

D

1, 3 and 4 only

Correct Answer: B

Full Detailed Explanation

Correct Answer: B - 1, 2 and 4 only Quick Concept Explanation Latching current is the minimum anode current needed just after triggering so the device stays on when gate drive is removed.

Holding current is the lower current threshold below which an already-conducting SCR turns off; latching current is normally higher, commonly a few times the holding current. Exam focus: Gate pulse must persist until anode current exceeds latching current. Common trap: Do not substitute holding current for latching current during turn-on. Statement-wise Verification Statement 1 - Correct. Latching current is the minimum anode current required to maintain the SCR in the ON state after the gate pulse is removed. Latching current is the minimum anode current needed just after triggering so the device stays on when gate drive is removed. Statement 2 - Correct. Holding current is associated with the turn-off process. Holding current is the lower current threshold below which an already-conducting SCR turns off Statement 3 - Incorrect. The gate pulse width should be sufficient for the anode current to rise above the holding current. For reliable turn-on, the anode current must rise above the latching current before the gate pulse is removed Statement 4 - Correct. Latching current is typically 2 to 3 times the holding current. Latching current is normally higher, commonly a few times the holding current.