

Hard

Deputy Executive Engineer (Electrician)

2026

Sports Authority of Gujarat / Assistant Engineer (Electrical)

Consider the following statements with reference to Protective Relays: 1. The minimum relay coil current at which the relay operates is called pick-up value. 2. The

A

1 and 2 only

B

2 and 3 only

C

1, 2 and 4 only

D

1 and 3 only

Correct

Correct Answer: D

Full Detailed Explanation

Correct Answer: D - 1 and 3 only Quick Concept Explanation Plug setting multiplier is the fault current divided by relay pickup current. $PSM = I_{\text{fault}} / I_{\text{pickup}} = 30 / 7.5 = 4$, so the statement claiming 5 is numerically incorrect. Key relation: $PSM = I_{\text{fault}} / I_{\text{pickup}}$. Exam focus: Calculate PSM numerically before selecting an option. Common trap: Induction-type relays are not used directly on DC quantities. Statement-wise Verification Statement 1 - Correct. The minimum relay coil current at which the relay operates is called pick-up value. Plug setting multiplier is the fault current divided by relay pickup current. Statement 2 - Incorrect. The pick-up value of a relay is 7.5 A and fault current is 30 A. Therefore its plug setting multiplier is 4. Statement 3 - Correct. An earth fault current is generally lesser than the short-circuit current. Statement 4 - Review. Induction relays are used with both A.C. and D.C quantities. $PSM = 30 / 7.5 = 4$, not 5 Statement 5 - Review. 3. An earth fault current is generally lesser than the short-circuit current. Earth-fault current is often lower than a three-phase short-circuit current because the zero-sequence path adds impedance. Statement 4 - Review. Induction relays are used with both A.C. and D.C quantities. Induction relays require alternating flux and are AC devices. Core Concept Protective-relay pickup is the minimum actuating quantity that causes operation. Plug setting multiplier is the fault current