Hard | Assistant Engineer (Electrical), Clas | 2025 | Building Department

A three phase transformer having a line voltage ratio of 400/33000 V is connected in the star-delta. The CTs on the 400V side have a CT ratio of 1000/5. What must be

A **7/5** Correct

B 5/7

C 3/5

D 5/2

Correct Answer: A

Full Detailed Explanation

Concept & ReasoningIn transformer differential schemes, CT connections are normally opposite to the power-transformer winding connections to compensate the 30 phase shift. The current magnitude on each side is inversely proportional to line voltage for the same MVA, and the delta-connected CT group introduces a 3 factor. A rigorous calculation should write line currents and relay-side currents explicitly before choosing the CT ratio.How to Solve It in the ExamProtection CT matching = transformer current ratio + CT star/delta compensation.Important Exam PointDraw transformer winding and CT connections before calculating relay currents.Related Revision PathThis question sits in the revision path Power System Protection Differential Protection .

Open live question on website:

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