

Easy

Assistant Engineer (Electrical), Class 2025

Building Department

A

Correct

B

C

D

Correct Answer: A

Full Detailed Explanation

Concept & Reasoning On the open-circuit characteristic of a DC generator, the initial portion is nearly linear because the iron is unsaturated. Extending this linear portion gives the air-gap line. It indicates the field current that would be required if the magnetic circuit behaved linearly, essentially representing the air-gap dominated mmf requirement. As saturation develops, the actual OCC bends below the air-gap line because additional field current produces progressively smaller flux increase. How to Solve It in the Exam Air-gap line = unsaturated straight-line reference of the OCC. Important Exam Point Use the air-gap line to visualize saturation and synchronous-reactance methods. Related Revision Path This question sits in the revision path Electrical Machines DC Machines Open-Circuit Characteristic .

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