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

# The air gap line represents _____

A **Magnetic behaviour of the air gap of the DC machine** Correct

B Magnetic behaviour of the air gap of the induction machine

C Magnetic behaviour of the iron core

D All of the mentioned

## Correct Answer: A

### Full Detailed Explanation

Concept & ReasoningOn 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 ExamAir-gap line = unsaturated straight-line reference of the OCC.Important Exam PointUse the air-gap line to visualize saturation and synchronous-reactance methods.Related Revision PathThis question sits in the revision path Electrical Machines DC Machines Open-Circuit Characteristic .

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