KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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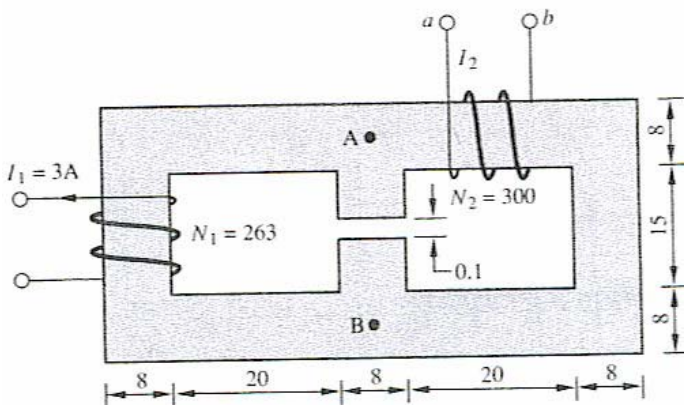
EE-360

Key Solution

Quize # 2 Serial # Name: I.D.#

The shell core shown below has a uniform cross section area of 5 x 10^{-4} m^2. The magnetic flux density produced by I_1 is 5 tesla and the magnetic flux density flowing from point B to A is 10 tesla.

If the current I_2 is made equal to (…..) and the magnetic flux density flowing in the write leg of the core is equal to (…..), the magnetic flux density flowing in the central leg becomes zero.



a) I_2 = 2.63 A entering terminal "b"; β_r = 5 tesla entering point "A" in the core

b) I_2 = 2.63 A entering terminal "b"; β_r = 5 tesla entering point "B in the core

c) I_2 = 7.89 A entering terminal "a"; β_r = 15 tesla entering point "A" in the core

d) I_2 = 7.89 A entering terminal "a"; β_r = 15 tesla entering point "B" in the core