KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT
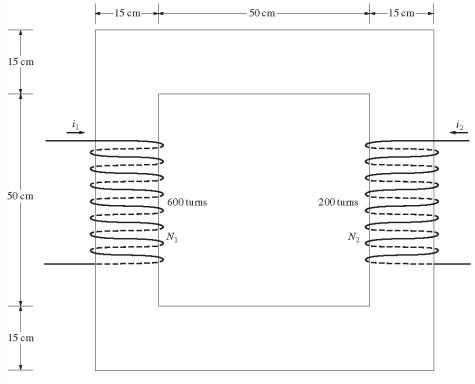
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EE-306

Key Solution

Quiz 2   Sec.: 5   I.D.:   Ser#:   Name:

Q.1 A two-legged core is shown below. If $i_1 = -0.1$ A and $i_2 = -2.0$ A, and the relative permeability of the core is 2000. What is the magnetic flux that flows in the core.   (5 points)

Core depth = 15 cm

a.   7.4 mWeber (flowing clockwise)
b.   10   mWeber (flowing clockwise)
c.   7.4 mWeber (flowing counter-clockwise)
d.   10   mWeber (flowing counter-clockwise)

Q.2 In order to demagnetize the above core (i.e, the magnetic flux flow in the core becomes zero), i_2 must be   (5 points)

a.   − 3.0 A.
b.   + 3.0 A.
c.   − 0.3 A.
d.   + 0.3 A.