KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT
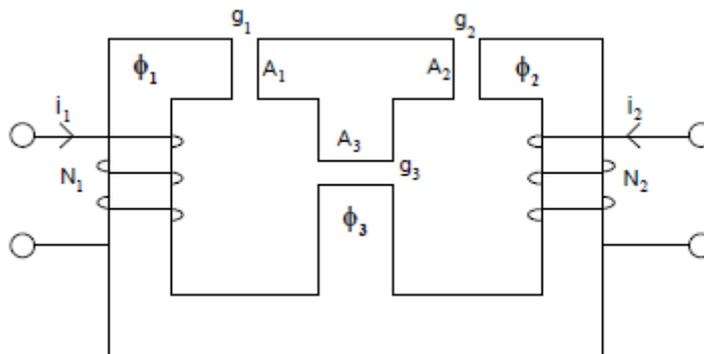
Dr. Ibrahim O. Habiballah

EE-306

Key Solution

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

Consider the uniform shell core shown below. Assume the number of turns $N_1 = N_2$; length of air-gaps $g_1 = g_2 = g_3$; and cross-sectional areas $A_1 = A_2 = A_3$). Let $i_2 = 2i_1$.

Q.1 The flux in the central-leg is flowing from top to bottom.   (2-points)

   a. True.

   b. False.

Q.2 The flux density in upper-right air-gap is larger than that in upper-left air-gap.   (3-points)

   a. True.

   b. False.

Q.3 The flux density in upper-right air-gap is smaller than that in central air-gap.   (3-points)

   a. True.

   b. False.

Q.4 The reluctances of the three air-gaps are identical.   (2-points)

   a. True.

   b. False.