KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

Key Solution

Quiz 2 Sec.: 6 I.D.: Ser#: Name:

Q.1 Although most of the flux produced by an excited coil in a ring core remains inside the core, small amount of the flux do leave the core; known as the flux residual. (3-points)

a. TRUE.

b. FALSE.

Q.2 The magnetic flux intensity (H) and magnetic field density (B) are related as follows:

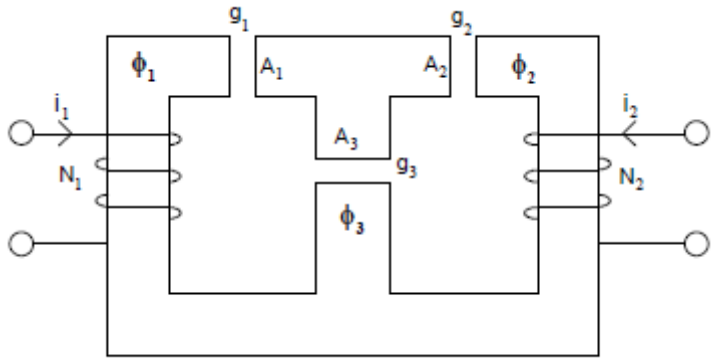
a. $H = \mu B$

b. $H = \dfrac{B}{\mu_o \mu_r}$

c. $H = \dfrac{\mu_o}{\mu_r} B$

d. $H = \dfrac{\mu_r}{\mu_o} B$ (3-points)

Q.3 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 $i_2 = - i_1$. The flux in the central-leg is flowing from top to bottom. (4-points)



a.True.

b. False.