

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT

Dr. Ibrahim O. Habiballah
EE-306

Key Solution

Quiz # 1 Sec.: 4 I.D.# Name:

Circle the correct answer.

1) The strength of the magnetic flux produced in a rectangular core made of a ferromagnetic material and warped by a coil around one of its leg depends on

- a. The type of the ferromagnetic material.
- b. The shape of the core.
- c. The magnetomotive force of the coil.
- d. **All of above.**

(5 Marks)

2) A rectangular core has a cross-sectional area of 10 cm^2 and mean length of 40 cm. A coil of 350 turns is placed on its left leg. The relative permeability of the core is 10,000. If the magnetic flux flowing in the core is 0.5 mWb, the flux density is

- a. 0.5 Wb
- b. 2.0 Wb
- c. 5.0 Wb
- d. **none of the above**

(5 Marks)