

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

Key Solution

Quiz 3 Sec.: I.D.: Ser#: Name:

Q.1 For a non-ideal transformer connected to a resistive load, which sentence is absolutely correct? (3 points)

- a. The primary-voltage lags the secondary-voltage.
- b. The primary-voltage is in-phase with the secondary-voltage.
- c. The primary-voltage leads the secondary-voltage.

Q.2 The equation below is for calculating the primary current of non-idea transformers when using (4 points)

$$I_p = I_s / a + [(1/R_c) + (1/jX_m)] * V_p$$

- a. the approximate equivalent-circuit with magnetization-branch referred to the primary side.
- b. the approximate equivalent-circuit with magnetization-branch referred to the secondary side.
- c. the approximate equivalent-circuit without magnetization-branch referred to the primary side.
- d. the approximate equivalent-circuit without magnetization-branch referred to the secondary side.

Q.3

d. CANCELLED

Q.4 The voltage regulation of an ideal transformer connected to an inductive load has (3 points)

- a. Zero percentage.
- b. Positive Zero percentage.
- c. Negative percentage.
- d. A very high (infinite) value.