

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

Key Solution

Quiz 1 Sec.: 8 I.D.: Ser#: Name:

Q.1 In a Delta-connected abc-sequence system (going counter clockwise), the line current I_c leads the phase current I_{ab} by 90° (4-points)

- a. TRUE.
- b. FALSE.

Q.2 A three-phase substation delivers 150-MVA to a three-phase load, at 0.8 power factor leading. The load is (---), and has (---) reactive-power. (3-points)

- a. inductive, 90 MVAR
- b. capacitive, 90 MVAR
- c. inductive, 120 MVAR
- d. capacitive, 152 MVAR

Q.3 In a Delta-connected source feeding directly a Wye-connected resistive-load, (3-points)

- a. phase current phase-angle of the load is the source line-current phase-angle.
- b. phase-current phase-angle of the load is the source phase-current phase-angle.
- c. phase-current phase-angle of the load is the source line-current phase-angle minus 30° .
- d. phase-current phase-angle of the load is the source line-current phase-angle plus 30° .