

# KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

## ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

### Key Solution

Quiz 1      Sec.: 6      I.D.:      Ser#:      Name:

Q.1 In a Y-connected acb-sequence system (going counter clockwise), the line voltage  $V_{ba}$  leads the phase voltage  $V_{an}$  by  $150^\circ$  (4-points)

- a. TRUE.
- b. FALSE.

Q.2 A three-phase load consumes 150-MVA at 0.8 power factor lagging. The load's active power is (---), and reactive power is (---). (3-points)

- a. 120 MW, 90 MVAR
- b. 120 MW, -90 MVAR
- c. 90 MW, 120 MVAR
- d. 90 MW, -120 MVAR

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

- a. phase-current magnitude of the load is the source line-current magnitude.
- b. phase-current magnitude of the load is the source phase-current magnitude.
- c. phase-current magnitude of the load is the source line-current magnitude divided by  $\sqrt{3}$ .
- d. phase-current magnitude of the load is the source line-current magnitude multiplied by  $\sqrt{3}$ .