

# KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

## ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

### Key Solution

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

Q.1 In a Y-connected acb-sequence system, the line voltage  $V_{ac}$  leads the phase voltage  $V_{an}$  by  $30^\circ$  (4-points)

- a. TRUE.
- b. FALSE.

Q.2 A three-phase load consumes 200-MVA at 0.6 power factor leading. The load's active power is (---), and reactive power is (---). (3-points)

- a. 120 MW,      160 MVAR
- b. 120 MW,      -160 MVAR
- c. 160 MW,      120 MVAR
- d. 160 MW,      -120 MVAR

Q.3 In a Delta-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  $\sqrt{3}$ .