

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

Key Solution

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

Q.1 In a star-connected three-phase circuit, the line voltage V_{bc} lags the phase voltage V_{an} by (3-points)

- a. 30° .
- b. 90° .
- c. 180° .
- d. 210° .

Q.2 A three-phase motor consumes 200-MVA at 0.8 power factor lagging. The motor absorbs (---) active power, and (---) reactive power. (4-points)

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

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