

# KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

## ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

### Key Solution

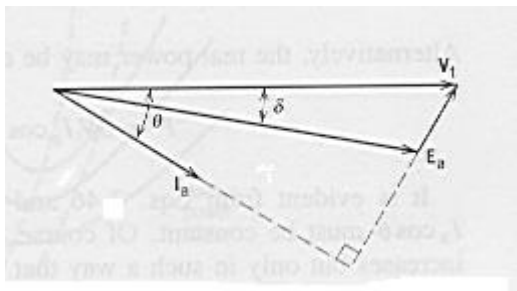
Quiz 5      Sec.: 4      I.D.:      Ser#:      Name:

Circle the correct answer.

1) The speed of synchronous machines is controlled when using round-rotor type. (2 Marks)

- a. TRUE
- b. FALSE

2) The phasor diagram shown below is for (2 Marks)



- a. a leading power factor synchronous motor.
- b. a lagging power factor synchronous motor.
- c. a leading power factor synchronous generator.
- d. a lagging power factor synchronous generator.

3) The maximum power of a synchronous generator delivering 258.8 MW at power (torque) angle of  $15^\circ$  is (3 Marks)

- a. 268.
- b. 518.
- c. 776.
- d. 1000.

4) The converted power in synchronous machines when considering the armature resistance is (3 Marks)

- a.  $\frac{3|V_t||E_A|}{X_S} \cos\delta$ .
- b.  $\frac{3|V_t||E_A|}{X_S} \sin\delta$ .
- c.  $3 |E_A||I_A| \sin(\gamma)$ .
- d.  $3 |E_A||I_A| \cos(\gamma)$ .