

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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EE-306

Key Solution

Quiz 5 Sec.: 3 I.D.: Ser#: Name:

Circle the correct answer.

1) Speed regulation of synchronous motors when absorb unity power factor is. (2 Marks)

- a. 1.1
- b. 1.0
- c. 0.9
- d. 0.0

2) The field winding in synchronous machines is supplied from (2 Marks)

- a. directly the input three-phase voltage.
- b. the input three-phase voltage by induction.
- c. external AC voltage.
- d. external DC voltage.

3) Two synchronous generators are to run in parallel. The first one has six-poles and runs at a speed of 1000 rpm. If the second one has two-poles, its speed should be (3 Marks)

- a. 3600 rpm.
- b. 3000 rpm.
- c. 1200 rpm.
- d. 900 rpm.

4) The converted power in synchronous machines when neglecting 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. $3 |E_A||I_A| \cos(\gamma)$.