KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT

Dr. Ibrahim O. Habiballah

EE-306

Key Solution

Quiz # 6 Sec.: 2 Ser.# I.D.# Name:

Circle the correct answer.

1. A polyphase, 50-Hz, induction motor has **a full-load speed** of 1450 rpm. The number of poles of the motor is:

a. 2-pole
b. 4-pole
c. 6-pole
d. 8-pole
.

2. The A 6-pole, 60-Hz, 3-phase, asynchronous motor has a full-load speed of 1160 rpm. **At half-load**, its synchronous speed would be:

a. 1200 rmp
b. 600 rmp
c. 580 rmp
d. none of above.

3. A three-phase, 60-Hz, induction motor has **a full-load speed** of 1750 rpm. Its slip is

a. 0.514
b. 0.0286
c. 0.0278
d. -0.167

4. The pushover torque in polyphase induction machines occur when the slip is

a. $s < 0.0$
b. $s = 0.0$
c. $s > 1.0$
d. $1.0 > s > 0.0$

5. The breakdown torque of a wound-rotor asynchronous is 74 N-m when its rotor variable resistance is set at 0.34 Ohm. When this resistance is set at .86 Ohm, the breakdown torque is

a. increased twice its original value
b. decreased to half of its original value
c. remain same as its original value
d. must be calculated as its value in not linearly dependent with the rotor resistance