

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS**  
**ELECTRICAL ENGINEERING DEPARTMENT**

Dr. Ibrahim O. Habiballah  
 EE-360

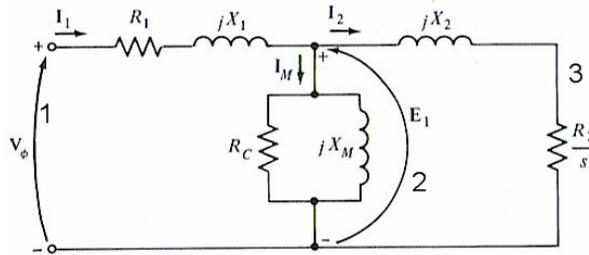
**Key Solution**

Quiz # 6    Serial #

Name:

I.D.#

1) In the per-phase equivalent circuit of a polyphase induction motor shown below, number "1" is the (....) power, number "2" is the (.....) power, and number "3" is the (.....) power.



- a) electrical input ; converted ; mechanical output
- b) electrical input; air-gap; mechanical output
- c) electrical input; air-gap; converted**
- d) mechanical input; converted; electrical output

2) The figures below show one phase of a 2-pole ployphase induction motor where the winding in Fig. 1-a is a (.....) winding and has been connected, as shown in Fig. 1-b, as a (....) winding in order to (.....) the speed of the rotor.

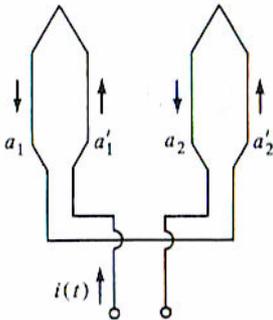


Fig 1-a

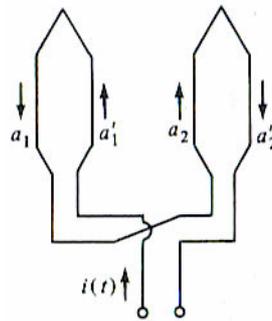


Fig. 1-b

- a) two-pole ; four-pole ; increase
- b) two-pole ; four-pole ; reduce
- c) four-pole ; two-pole ; increase**
- d) four-pole ; two-pole ; reduce

3) A 4-pole, 50-Hz, 3-phase, induction motor has a full-load speed of 1450 rpm. At half-load, its speed would be :

- a) 1500 rmp
- b) 1740 rmp
- c) 1470 rmp**
- d) 725 rmp