## KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

## ELECTRICAL ENGINEERING DEPARTMENT

## Dr. Ibrahim O. Habiballah EE-360

## **Key Solution**

Quize # 1 Serial # Name: I.D.#

- Q.) The two-wattmeter method is applied to a three-phase three-wire 120 V inductive load system. With the meters connected to lines A and B,  $W_A = 920$  W and  $W_B = 460$  W. Circle the correct answer.
- 1) The total real and reactive power absorbed by the load are
  - (a) P = 1.38 KW, Q = 460 VAR
  - (b) P = 1.38 KW, Q = 796.7 VAR
  - (c) P = 2.39 KW, Q = 460 VAR
  - (d) P = 2.39 KW, Q = 796.7 VAR
- 2) The phase current when the load is Y-connected is
  - (a)  $I_{ph} = 6.6 \text{ A}$
  - (b)  $I_{ph} = 4.4 \text{ A}$
  - (c)  $I_{ph} = 7.7 A$
  - (d)  $I_{ph} = 3.8 \text{ A}$
- 3) The phase current when the load is delta-connected is
  - (a)  $I_{ph} = 6.6 \text{ A}$
  - (b)  $I_{ph} = 4.4 A$
  - (c)  $I_{ph} = 7.7 \text{ A}$
  - (d)  $I_{ph} = 3.8 \text{ A}$
- 4) The load power factor is
  - (a) p.f. = 0.95 lagging
  - (b) p.f. = 0.95 leading
  - (c) p.f. = 0.87 lagging
  - (d) p.f. = 0.87 leading
- 5) The impedance when the load is delta-connected.
  - (a) Z = 23.4 j 13.5 Ohm
  - (b) Z = 23.4 + j 13.5 Ohm
  - (c) Z = 7.8 j 4.5 Ohm
  - (d) Z = 7.8 + j 4.5 Ohm