KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

Dr. Ibrahim O. Habiballah

EE-360

Key Solutions

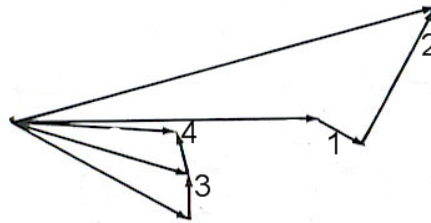Quize # 6   Serial #   Name: I.D.#

Circle the correct answer.

1) In the phasor diagram of a Pi-nominal transmission line shown below, number "1" must be (…..), number "2" must be (…..), number "3" must be (…..), and number "4" must be (…..).

a) $R*I_R$; $j X_L (I_R + I_{CR})$; I_{CR} ; I_{CS} .

b) $R*I$; $j X_L*I$; I_{CR} ; I_{CS}.

c) $0.5*R*I_R$; $j 0.5*X_L (I_R + I_{CR})$; I_{CR} ; I_{CS}.

d) $0.5*R*I_R$; $j 0.5*X_L*I_R$; I_C ; I_S.

(5 Marks)

2) A 60 Hz, 200 km, 3-phase, transmission line has a series impedance $(0.08 + j 0.48)$ Ohm/km and a shunt admittance $(j 3.33 \times 10^{-6})$ S/km. The "B" constant of the line using the pi-nominal model is

a. $0.968 \angle 0.315^o$

b. $97.32 \angle 80.54^o$

c. $6.553 \times 10^{-4} \angle 90.155^o$

d. $6.66 \times 10^{-4} \angle 90^o$

(5 Marks)