KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

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EE-463 - 131

Key Solutions
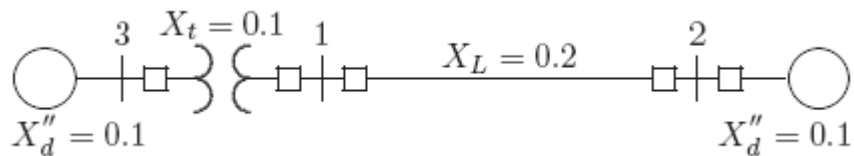
Quiz 3   ser#:   I.D.:   Name:

The one-line diagram of a simple power system is shown below. All impedances are expressed in per unit on a common MVA base. The generators are operating on no load at their rated voltage with their emfs in phase. A three-phase fault occurs at bus 1 through a fault impedance of $Z_f = j0.08$ per unit.

1) Using Th´evenin's theorem, the impedance to the point of fault is

    a) j 0.3 pu

    b) j 0.2 pu

    c) j 0.12 pu

    d) j 0.08 pu

2) The voltage on bus 2 due to the fault at bus 1 is

    a) 0.0 pu

    b) 0.4 pu

    c) 0.7 pu

    d) 0.8 pu