

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

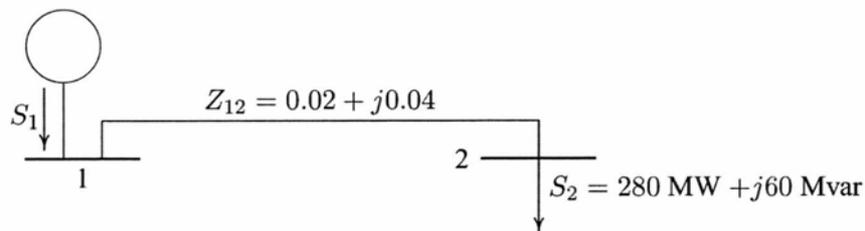
Dr. Ibrahim O. Habiballah

EE-463 - 131

Key Solutions

Quiz 2 ser#: I.D.: Name:

In the power system network shown below, bus 1 is a slack bus with $V_1 = 1.0 + j 0.0$ per unit and bus 2 is a load bus with $S_2 = 280 \text{ MW} + j60 \text{ MVAR}$. The line impedance is in per unit on a base of 100 MVA.



If after several iterations voltage at bus 2 converges to $V_2 = 0.90 - j 0.10$ per-unit.

Q.1) The line flow S_{21} is equal to

- a) 300 MW + j 100 MVAR
- b) -300 - j 100 MVAR
- c) 280 MW + j 60 MVAR
- d) -280 MW - j 60 MVAR**

Q.2) The slack bus power S_1 is equal to

- a) 300 MW + j 100 MVAR**
- b) -300 - j 100 MVAR
- c) 280 MW + j 60 MVAR
- d) -280 MW - j 60 MVAR