KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT
Dr. Ibrahim O. Habiballah
EE-465

Key Solution

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

Circle the correct answer.

1) The resistance of a hard-drawn copper transmission line conductor is affected by the following factors:
a.   temperature, skin effect, and type of materials used.
b.   temperature, skin effect, and constuction configurations.
c.   temperature, skin effect, and its resistivity.
d.   all above   (3 Marks)

2) The positive-sequence inductance of a balanced, 3-phase, equal-spaced, solid cylinderical, unbandeled conductor is calculated as:
a. $L_1 = 2 \times 10^{-7} \ln (D / r)$
b. $L_1 = 2 \times 10^{-7} \ln (D / 0.7788r)$
c. $L_1 = 2 \times 10^{-7} \ln (D_s / D_{eq})$
d. $L_1 = 2 \times 10^{-7} / \ln (D / r)$
                                                                            (3 Marks)

3) The line-to-line single-phase capacitance of two 636000 54/3 ACSR conductors with 5 feet between the conductor centers is
a. 4.866×10^{-12} F/m.
b. 5.782×10^{-12} F/m.
c. 5.537×10^{-12} F/m.
d. 0.119×10^{-12} F/m.
                                                                            (4 Marks)