Power systems lab manual

Embed Size (px) 344 x 292429 x 357514 x 422599 x 487DHANALAKSHMI COLLEGE OF ENGINEERINGDEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERINGEE 1404 POWER SYSTEM SIMULATION LABORATORYLAB MANUAL/ OBSERVATION2009 2010 ODD SEMESTERNAME:REG:BRANCH:PREPARED BY V.BALAJI, M.Tech, (Ph.D)Asst.Professor /EEEPREPARED BY V.BALAJI, M.Tech, (Ph.D) Asst.Professor /EEEPage 1LIST OF EXPERIMENTS1. 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View the results.EXERCISES: 1 A three-phase transposed line composed of one ACSR, 1,43,000 cmil, 47/7 Bobolink conductor per phase with flat horizontal spacing of 11m between phases a and b and between phases b and c. The conductors have a diameter of 3.625 cm and a GMR of 1.439 cm. The line is to be replaced by a three-conductor bundle of ACSR 477,000-cmil, 26/7 Hawk conductors having the same cross sectional area of aluminum as the single-conductor line. The conductors have a diameter of 2.1793 cm and a GMR of 0.8839 cm. The new line will also have a flat horizontal configuration, but it is to be operated at a higher voltage and therefore the phase spacing is increased to 14m as measured from the center of the bundles. The spacing between the conductors in the bundle is 45 cm. (a) Determine the inductance and capacitance per phase per kilometer of the above two lines. 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