

Submissions accepted: 7/31/2013 | 12:00 AM

Review: Full, Anonymous: No

Fundamental Properties of DC Circuits

Parallel Resistive Circuit

- Analysis:

1. For Laboratory Application Assignment on pg. 198 examine Fig. 6-50.
 1. Perform calculations for:
 1. R_t (total equivalent resistance)
 2. I_t (total current supplied by voltage source)
 3. V_1 (voltage across R_1)
 4. V_2 (voltage across R_2)
 5. V_3 (voltage across R_3)
 6. V_4 (voltage across R_4)
 7. P_1 (power dissipated in R_1)
 8. V_{AB} (voltage between points A and B)
 9. I_2 (current in R_2 branch)
 10. I_3 (current in R_3 branch)
 11. P_1 (power dissipated in R_1)
 12. P_2 (power dissipated in R_2)
 13. P_3 (power dissipated in R_3)
 14. P_4 (power dissipated in R_4)
 15. P_t (total power dissipated by the series-parallel circuit)
 2. Scan all calculations showing all work in a file called "Lab6_Analysis_StudentID".

- Simulation:

1. Construct the series circuit in Fig. 6-50 with MultiSIM.
 1. Measure the values:
 2. R_t (total equivalent resistance)
 3. I_t (total current supplied by voltage source)
 4. V_1 (voltage across R_1)
 5. V_2 (voltage across R_2)
 6. V_3 (voltage across R_3)
 7. V_4 (voltage across R_4)
 8. V_{AB} (voltage between points A and B)
 9. I_2 (current in R_2 branch)
 10. I_3 (current in R_3 branch)
 11. P_1 (power dissipated in R_1)
 12. P_2 (power dissipated in R_2)
 13. P_3 (power dissipated in R_3)
 14. P_4 (power dissipated in R_4)
 15. P_t (total power dissipated by the series-parallel circuit)