East West University
Department of Computer Science and Engineering

Course: CSE209
Expt No.: 05
Title: Measurement of node voltages using a voltmeter and mesh currents using an ammeter and comparison with theoretical results

Objective:
In this experiment, students will use a voltmeter to measure node voltages and an ammeter to measure the mesh currents. Finally, they will compare the measured results with the calculated results.

Equipment and Components Needed:

1. Power supply 0 - 30V DC
2. Resistors (50Ω×2, 100 Ω×2, 200Ω×2)
3. Wires
5. Ammeter
6. Voltmeter
7. Multimeter

Circuit Diagram:

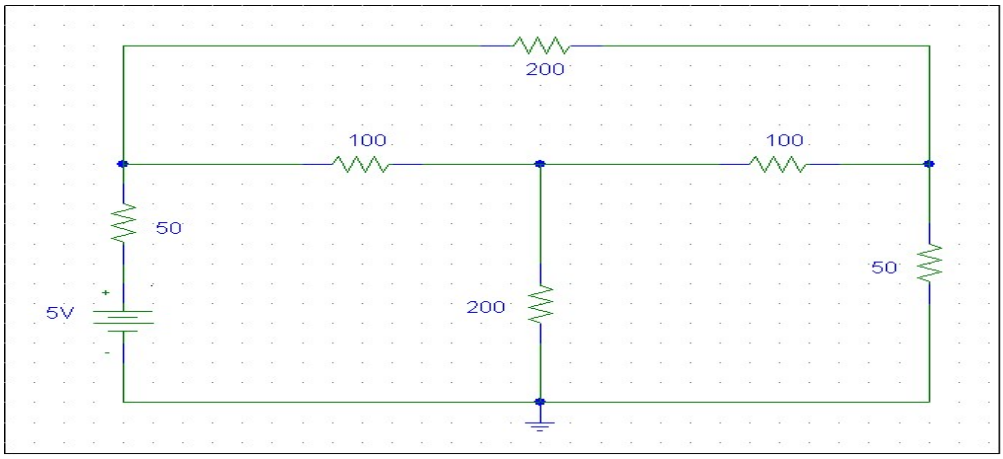

Figure 1

Procedure:
1. Connect the circuit as shown in **Figure 1**.
2. Measure the node voltages concerning the reference node using a voltmeter and record those.
3. Verify the results with those of theoretical calculation using nodal analysis.
4. In the same circuit, measure the mesh currents using an ammeter.
5. Verify the results with those of theoretical calculation using the mesh current method.

Report:
1. Comment on your results if there is any anomaly between experimental and theoretical results.