



Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science and Engineering

Midterm Examination, Fall-2024

Course Code: CSE121, Course Title: Electrical Circuits

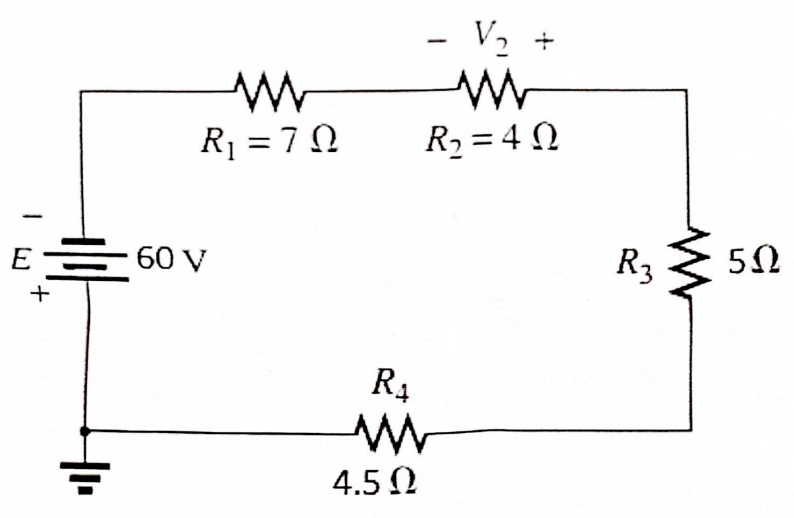
Level: 1 Term: 2 Batch: 66

Time: 1 Hour and 30 Minutes

Marks: 25

Answer ALL Questions

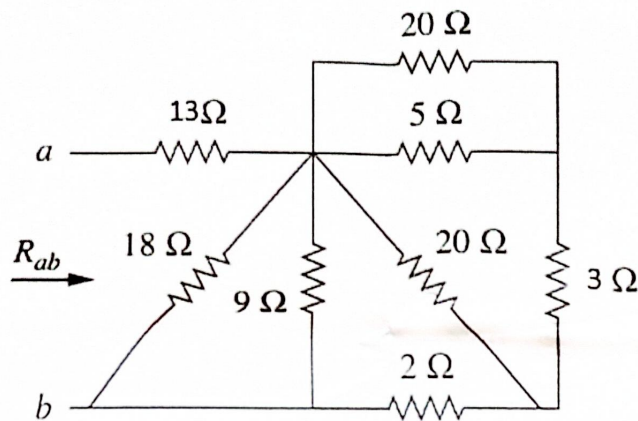
[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	<p>a) Define the term 'Branch' in an electric circuit.</p> <p>b) List the factors that affect the resistance of a conductor.</p> <p>c) Illustrate the Thevenin equivalent circuit.</p> <p>d) Recall Kirchhoff's Voltage Law.</p> <p>e) Show the 'Node and Loop' in an electric circuit.</p>	5×1=5	CO1
2.	<p>Solve the following circuit to determine</p> <p>a. The total resistance R_T.</p> <p>b. The source current I_s and indicate its direction on the circuit.</p> <p>c. The voltage across resistor R_2.</p> 	2×5=10	CO2

b)

Solve the following circuit to determine the total resistance R_{ab} .

2.40

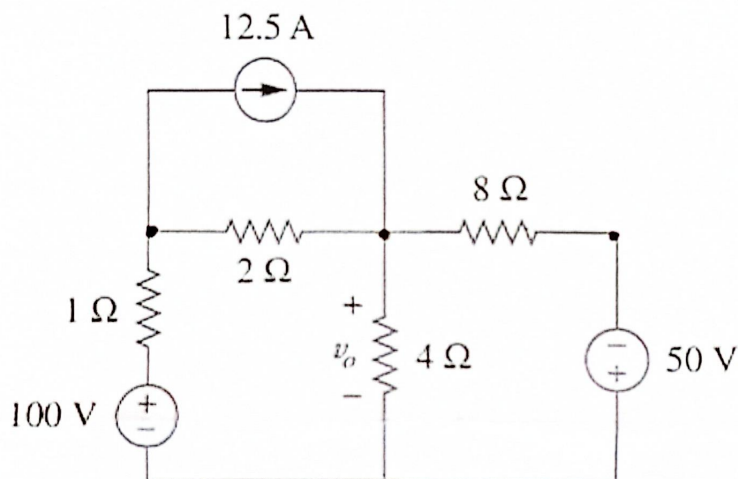


3/ g)

Analyze the following circuit to determine the voltage V_0 using nodal analysis.

2×5=10

CO3



b)

Examine the following circuit to obtain the Thevenin equivalent at terminals a-b using the Thevenin theorem.

