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Daffodil International University

Department of Electrical and Electronic Engineering
Faculty of Engineering

Midterm Examination, Summer-2026

Course Code: 0713-111
Section: A, B, C, D, E, F
Full Marks: 25

Course Title: Electrical Circuits I
Level-Term: L1-T1
Exam Date: July 04, 2026

Teachers' Initial: MRK, KAH
Time: 1.5 Hours

Notes: Answer all questions below. The second right most column indicates the course outcomes (COs) with respective Bloom's level and the right column indicates the allocated marks.

Q1. (a) **Describe** Kirchhoff's Laws for linear electrical circuit analysis. CO1 C(2) 02

(b) **Calculate** the power supplied or absorbed by each element in Fig. 1. CO1 C(2) 02

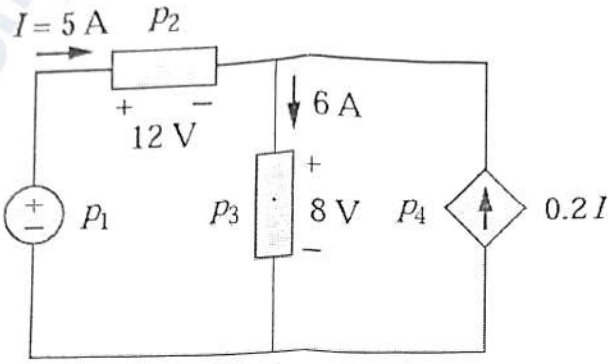


Fig. 1

(c) **Calculate** the equivalent resistance R_{ab} at terminals a-b in Fig. 2. CO1 C(2) 03

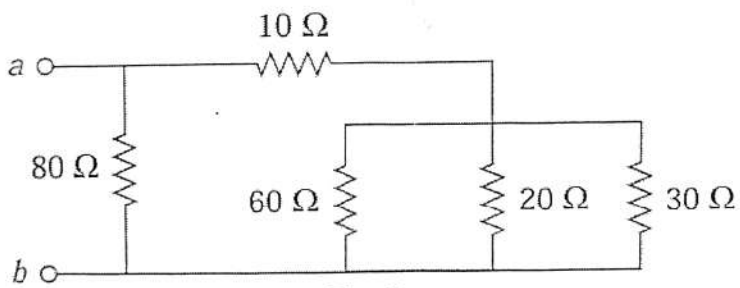


Fig. 2

Q2. **Calculate** I_0 for the circuit of Fig. 3 using Δ-Y method. CO2 C(3) 06

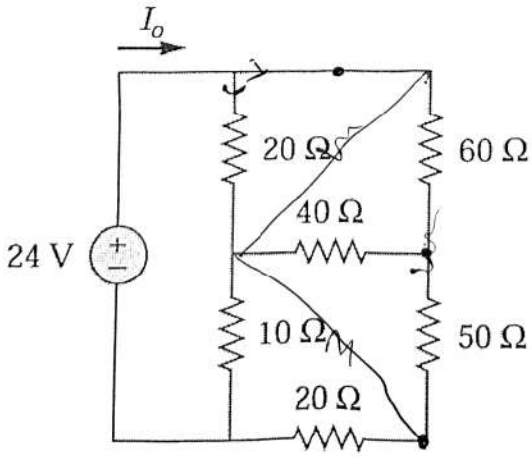


Fig. 3

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Q3. **Find** v and i in the circuit of Fig. 4 using nodal analysis. CO2 C(3) 06

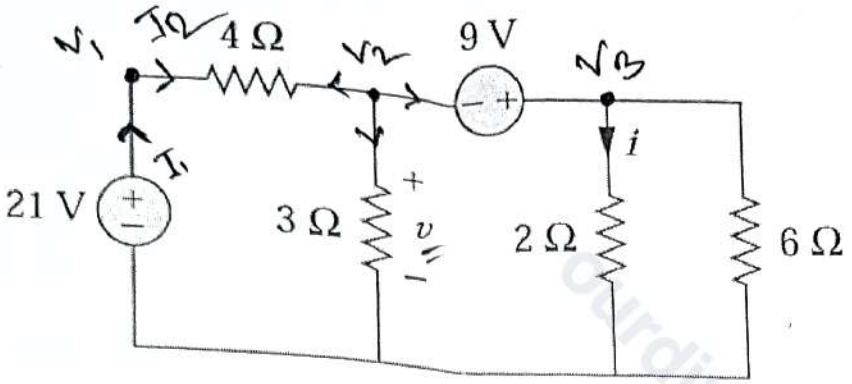


Fig. 4

Q4. **Determine** i_1, i_2 and i_3 in Fig. 5 using mesh analysis. CO2 C(3) 06

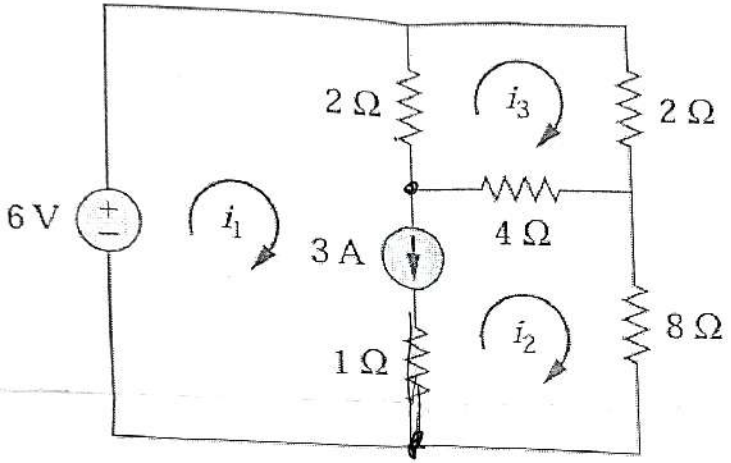


Fig. 5