



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 02

(b) Calculate the power supplied or absorbed by each element in Fig. 1.

C(2)

CO1 02

C(2)

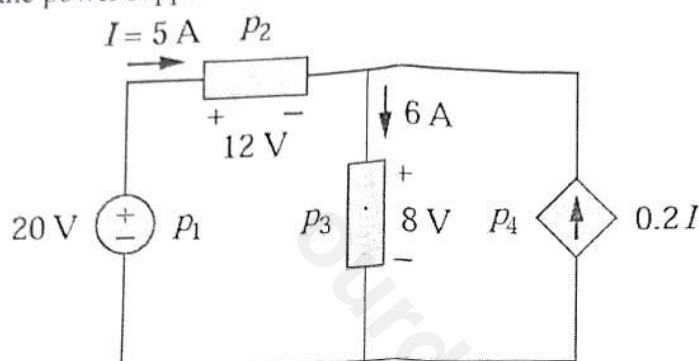


Fig. 1

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

CO1 03

C(2)

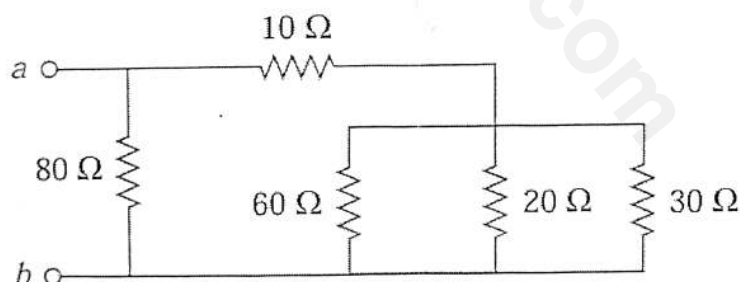


Fig. 2

Q2. Calculate I_0 for the circuit of Fig. 3 using Δ -Y method.

CO2 06

C(3)

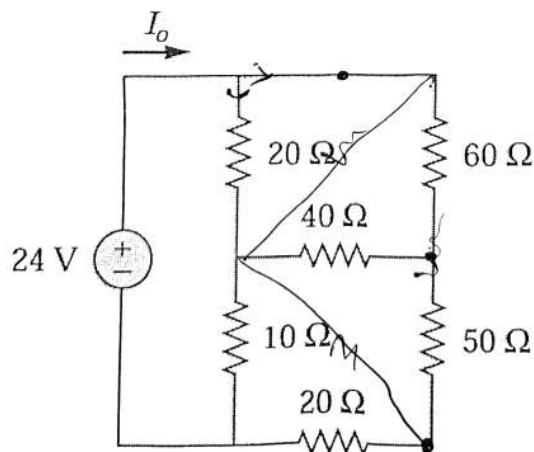


Fig. 3

Q3. Find v and i in the circuit of Fig. 4 using nodal analysis.

CO2 06
C(3)

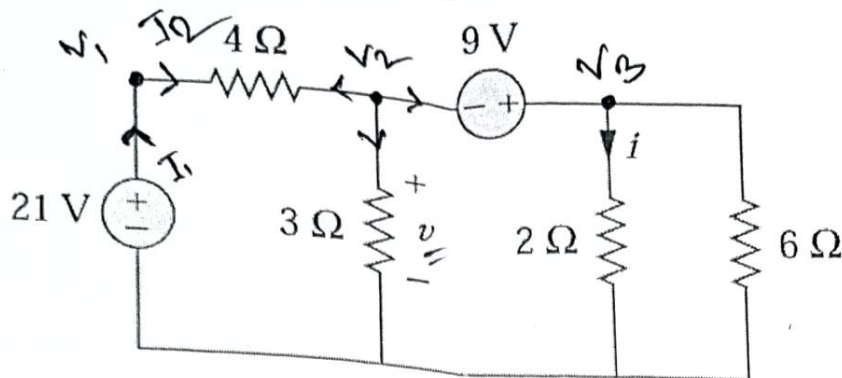


Fig. 4

Q4. Determine i_1 , i_2 and i_3 in Fig. 5 using mesh analysis.

CO2 06
C(3)

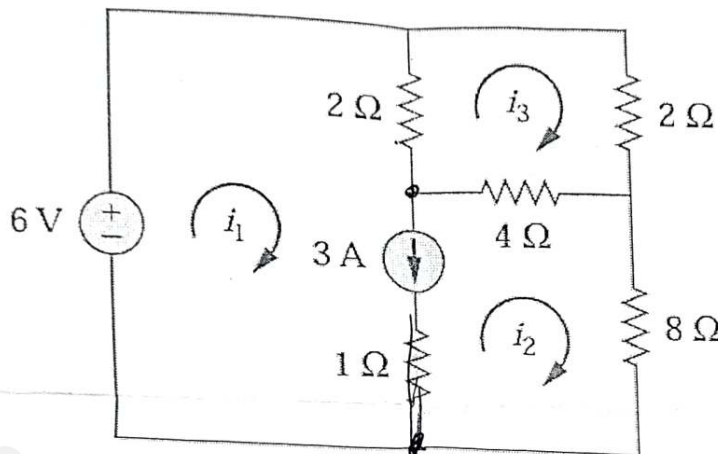


Fig. 5