



Daffodil International University
 Department of Electrical and Electronic Engineering
 Faculty of Engineering
Mid-Term Examination, Fall – 2025

Course Code: 0713-111

Section: A, B, C, D, E, F, G, H

Full Marks: 25

Course Title: Electrical Circuit I

Level-Term: L1-T1

Exam Date: October 15, 2025

Teacher's Initial: MRK, FHT

Time: 1.5 Hours

[Answer all questions. Figures in the right margin indicates full marks.]

Q1 (a) State and explain KCL and KVL.

CO1 2

C(1)

(b) Calculate the I and V_{ab} for the circuit shown in Fig. 1.

CO1 3

C(2)

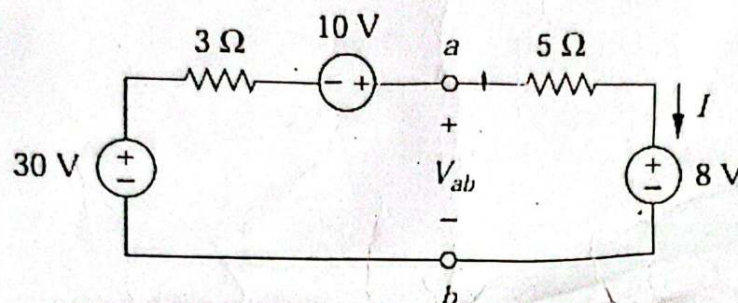


Fig. 1

Q2. Find v_1 and v_2 in the circuit shown in Fig. 2. Also, calculate i_1 and i_2 and the power dissipated in the 12-Ω and 40-Ω resistors.

CO1 5

C(2)

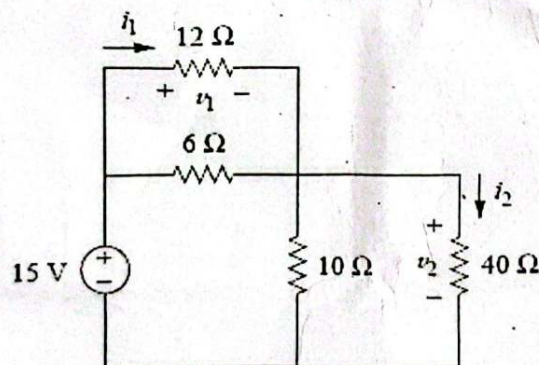


Fig. 2

P.T.O.

- 1 -

Q3. Obtain the equivalent resistance for the circuit in Fig. 3 and use it to find current i .

CO1 5
C(2)

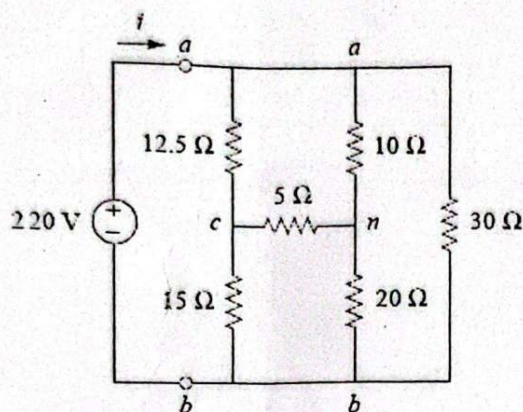
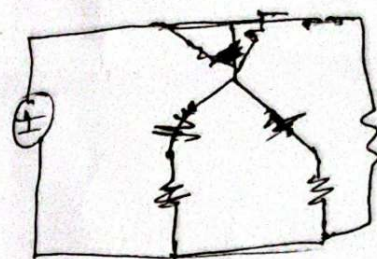


Fig. 3



Q4. Using nodal analysis, find v and i in the circuit shown of following Fig.4.

CO2 5
C(3)

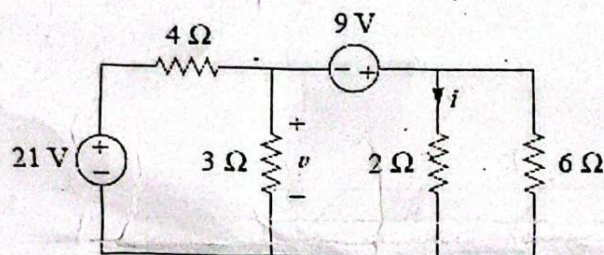


Fig. 4

Q5. Apply mesh analysis to find the current i_o in the circuit shown in Fig.5.

CO2 5
C(3)

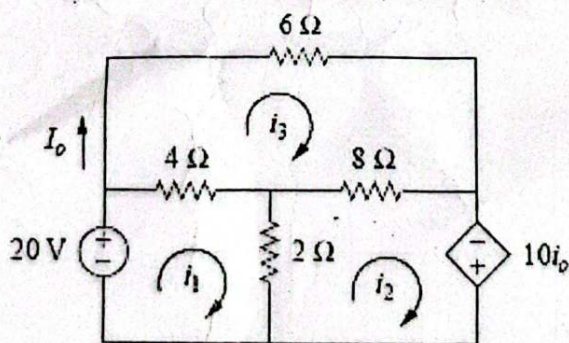


Fig. 5