



Daffodil International University

Department of Textile Engineering (TE)
Faculty of Engineering
Mid Examination, Spring-2026

Course Code: 0713-221
Level & Term: L2T2

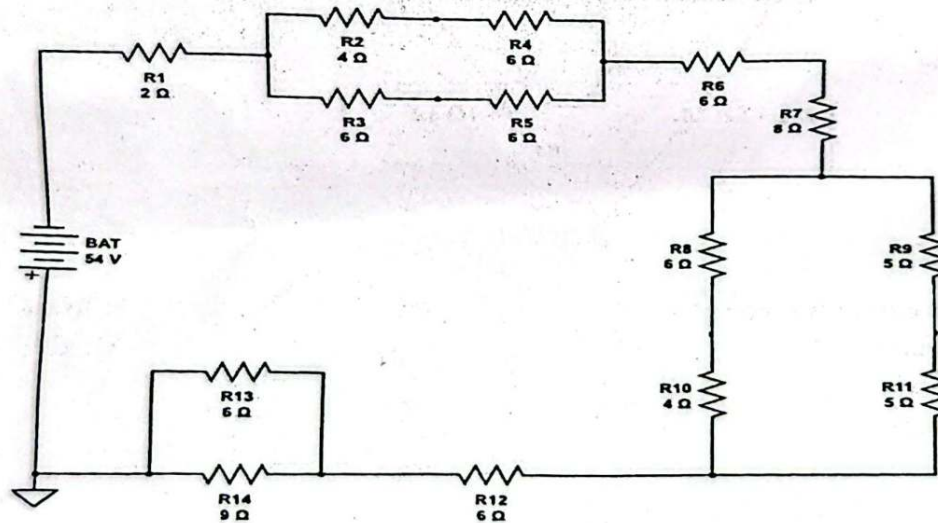
Course Title: Basic Electrical and Electronic Engineering
Full Marks: 25, Time: 1.5 hours
(Ans any 5 set of Questions)

1.

- a. Explain passive sign convention with appropriate diagram.
- b. Calculate the equivalent resistance of the circuit:

[CLO-2,
C2,C3]

[2+3]



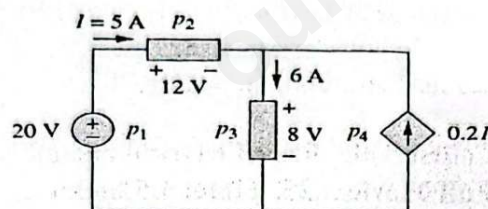
2.

- a. Determine the **total charge** entering a terminal in between $t=1s$ to $t=5s$; if current, $i = (10t^4 - 3t^2) A$
- b. Determine the **total current** entering a terminal at $t = 0.2s$; if total charge, $q = 15t^2 \sin 4\pi t \text{ mC}$
- c. Explain why it is said that 'Electric current is always through an element and electric voltage is always across the element'

[CLO-2,
C5,C5,
C2]

[2+2+1]

3. a. State the law of conversion of energy. [CLO-2, [1+4]
b. From the following circuit prove that it obeys the law of conversion of C2, C3]
energy.



4. a. Discuss different types of dependent sources with proper symbols. [CLO-1, [2+3]
b. Convert the delta network to an equivalent yw network CLO-2, C1, C2]

