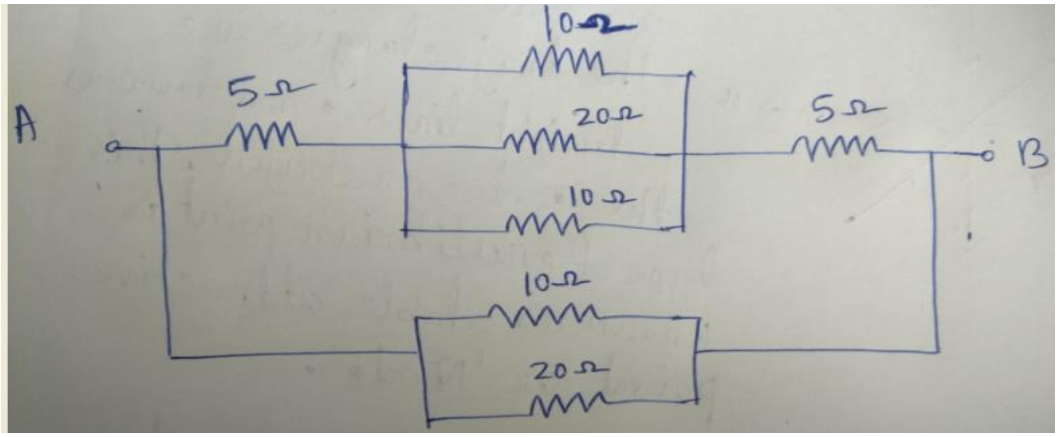
Study Note – Basic Electrical Engineering

Objective: This material is part of a disciplinary sequence designed to cover the fundamental concepts of Basic Electrical Engineering.
Outcomes: Learn the basic principles and properties of Basic Electrical Engineering
Level: Basic
Prerequisite: Basic Calculus, Trigonometry & Algebra

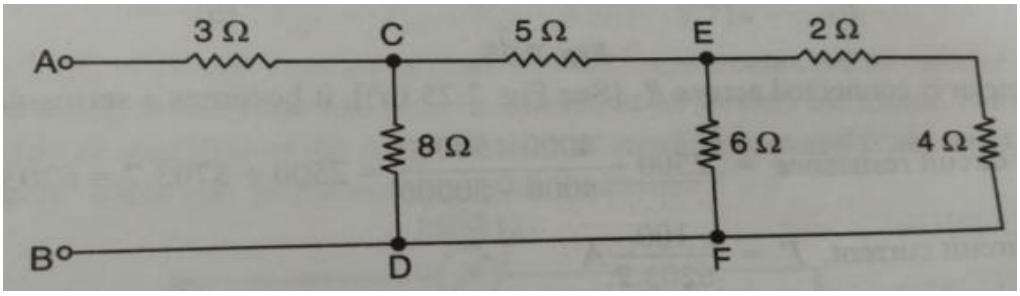
Assignment-1

1. Find the equivalent resistance between points A and B.

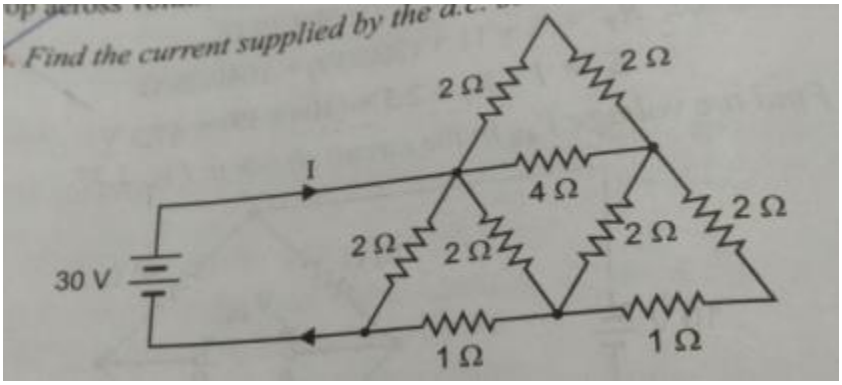


2. Find the equivalent resistance of the following circuits.

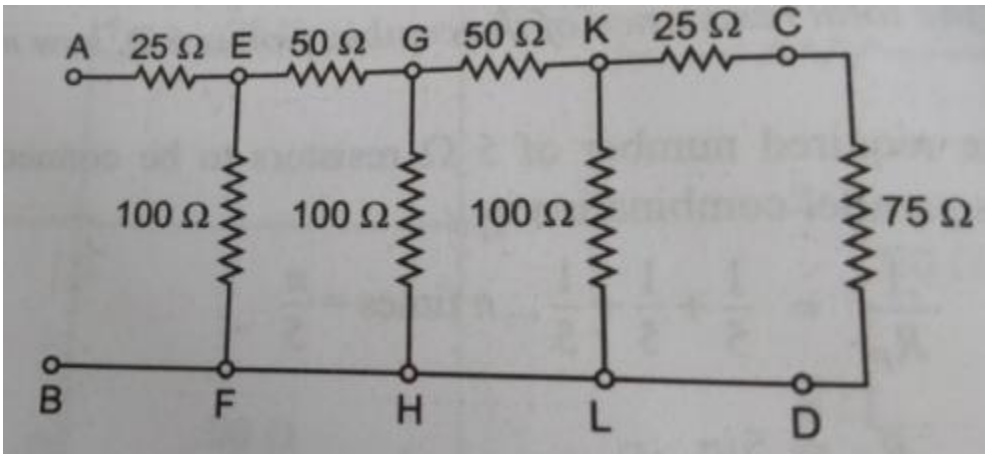
i.



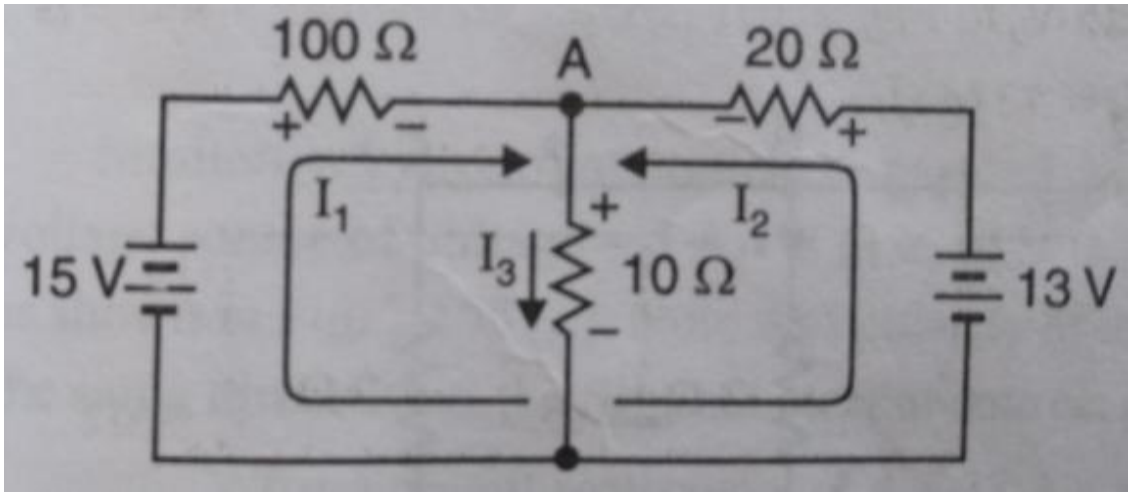
ii.



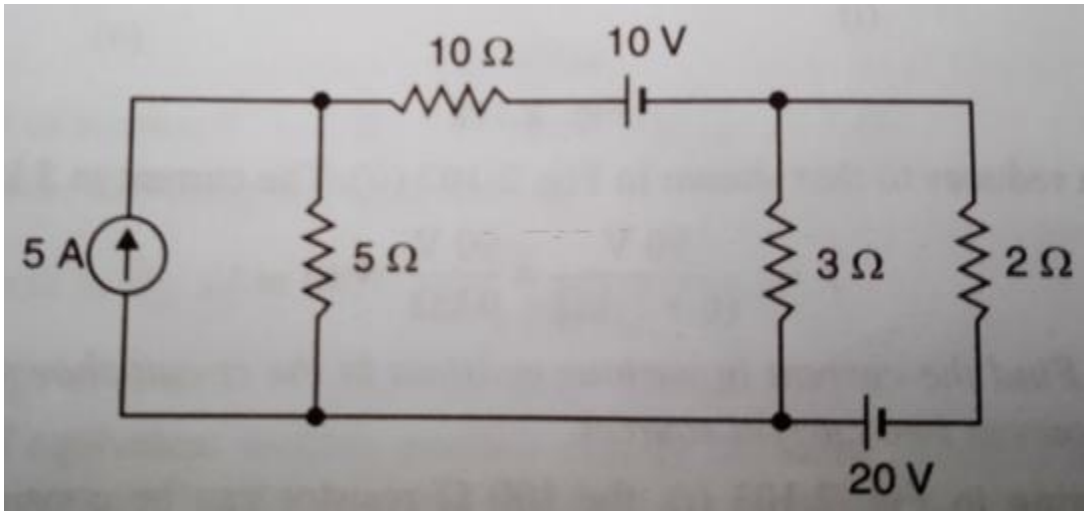
iii.



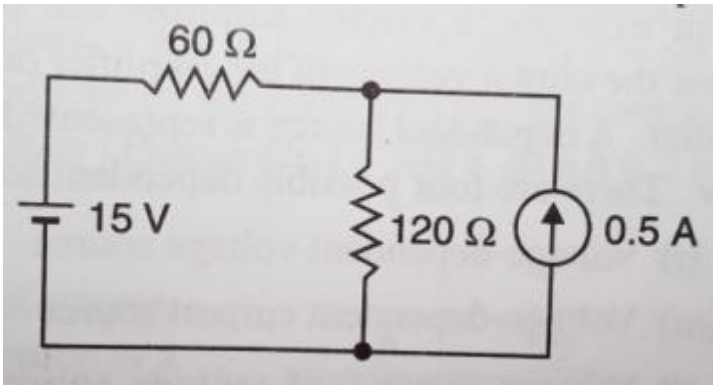
3. Find the current in various resistors in the circuit shown in fig below, by converting voltage sources into current sources.



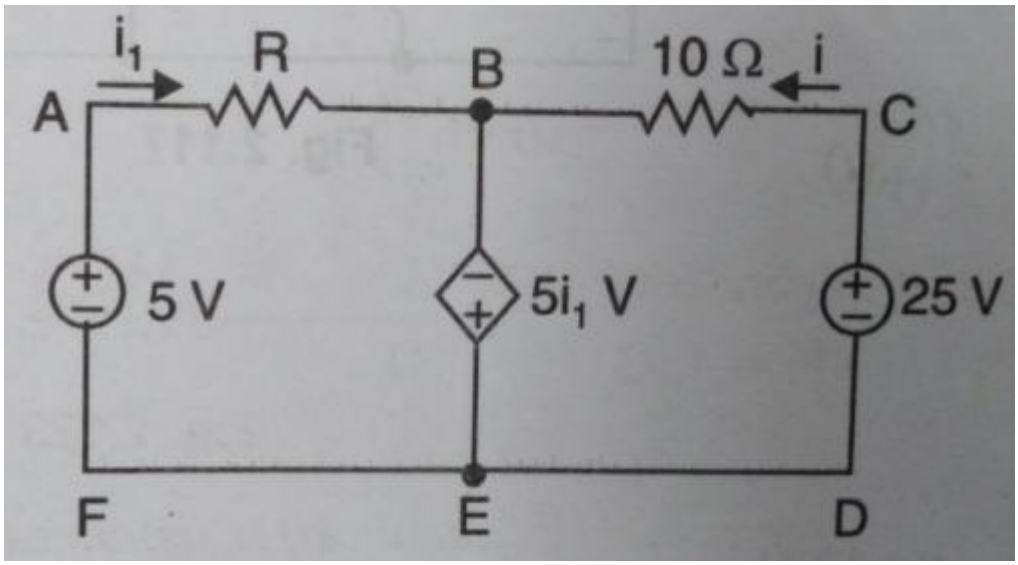
4. Find the current in and voltage across 2Ω resistor.



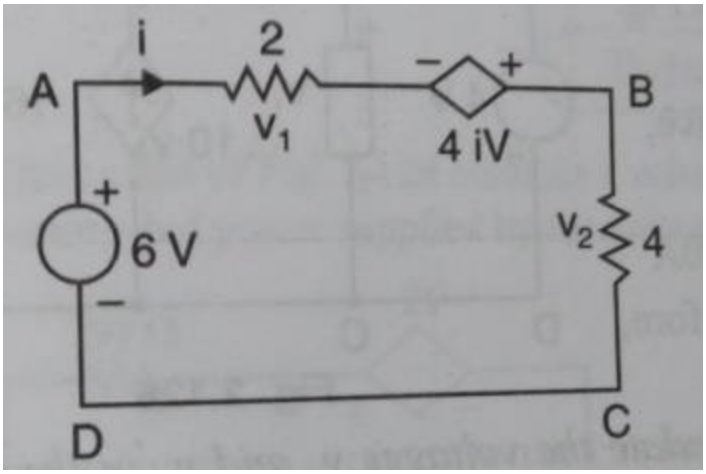
5. By performing an appropriate source conversion, find the voltage across 120Ω resistor in the circuit shown in fig below.



6. Find the value of i in the circuit shown in fig below, if R = 10Ω.



7. Find the values of current i and voltage drops v_1 and v_2 in the circuit of fig below, which contains a current-dependent voltage source. What is the voltage of the dependent-source? All resistance values are in ohms.


i
2
A
B
V_1
4 iV
+
6 V
−
V_2
4
D
C