Tutoria1

Conversion of Voltage and Current Sources

1. The current source in Figure 1 has I = 12 A, R_S = 2 Ω and R_L = 6 Ω. Find the values of V_L and I_L for this circuit. Convert the source into an equivalent voltage source and recalculate V_L and I_L.
   Ans: V_L = 18 V,I_L = 3 A

2. Find the equivalent voltage source between terminals AB for the circuit shown in Figure 2 using source conversion.
   V_{AB} = 9 V, R = 9 Ω

3. Using source conversion method, simplify the given circuit in Figure 3 to its equivalent current source between the terminals AB.
   Ans: I = 4 A (A +ve), R = 2.5 Ω

4. Using source conversion method, simplify the given circuit in Figure 4 to its equivalent current source between the terminals AB.
   Ans: I = 1 A (B +ve), R = 2.5 Ω

5. Using source conversion method, simplify the given circuit in Figure 5 to its equivalent current source between the terminals AB and calculate the current in the 4 Ω resistor.
   Ans: 10 A, 1 Ω, $I_{4Ω}$ = 2A

Quiz – 3 questions

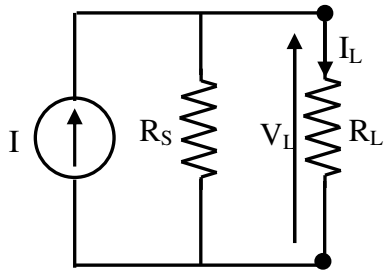

Figure 1

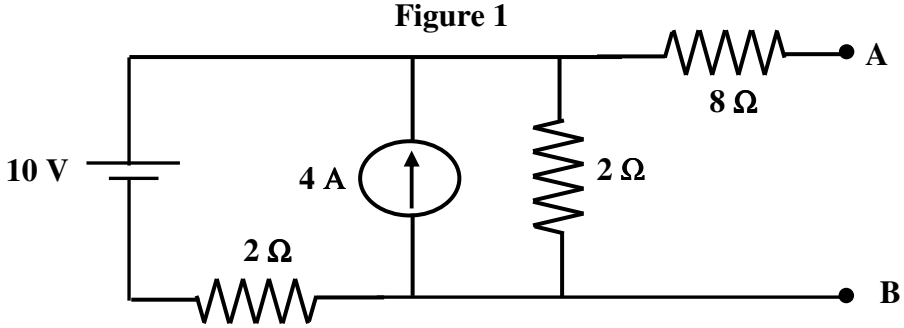

Figure 2

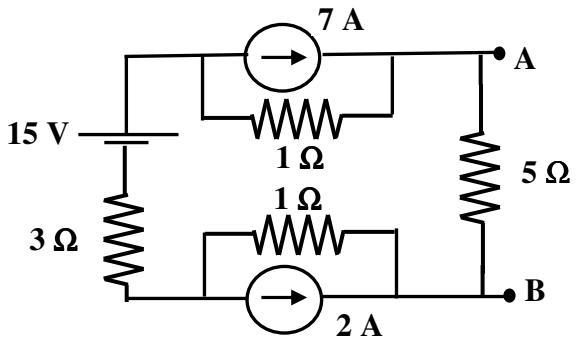

Figure 3

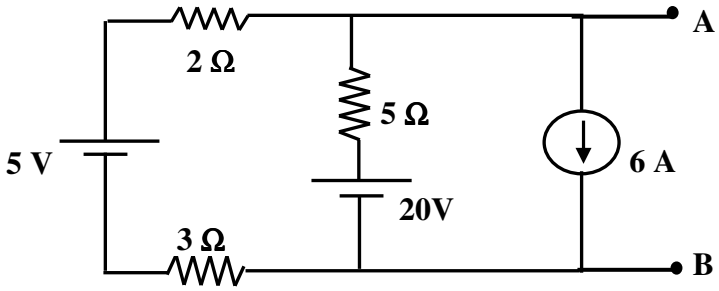

Figure 4

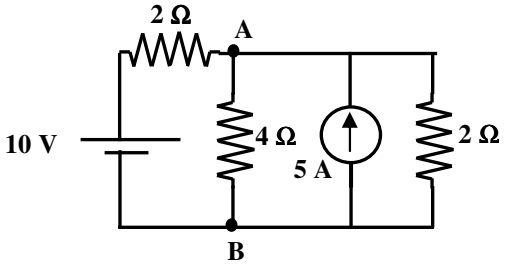

Figure 5