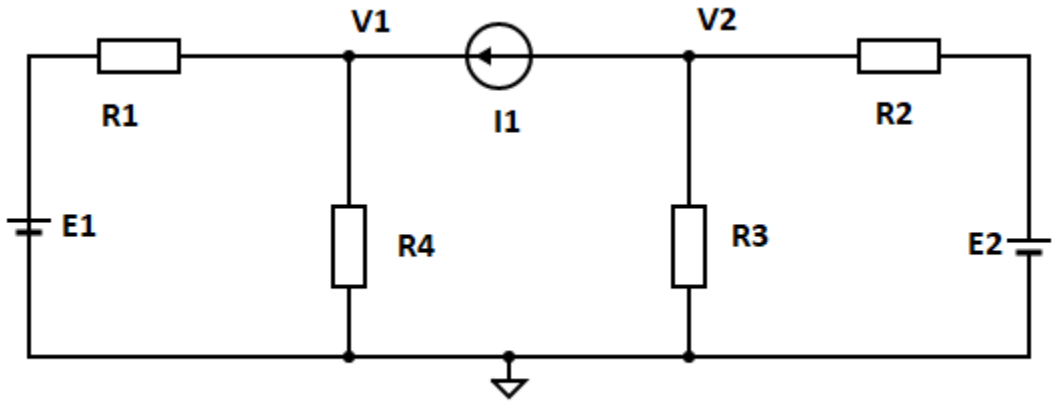
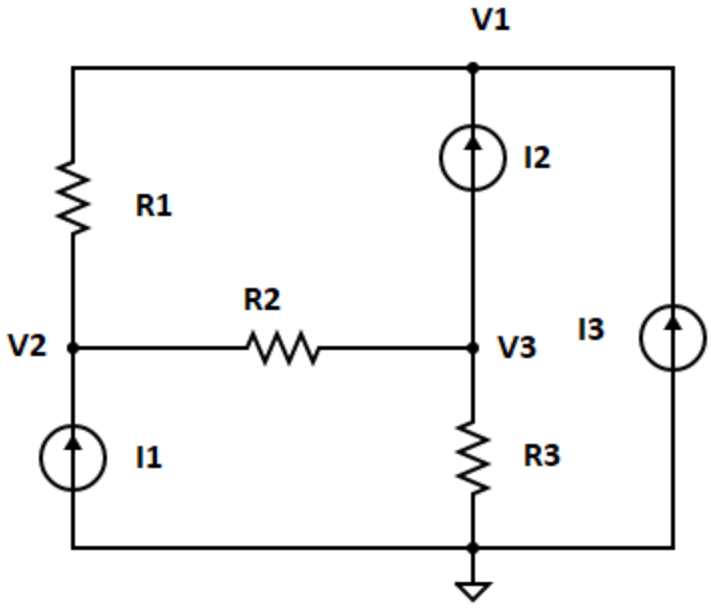
EE 1100 Basic Electrical Engineering
March – June 2023
Tutorial 2

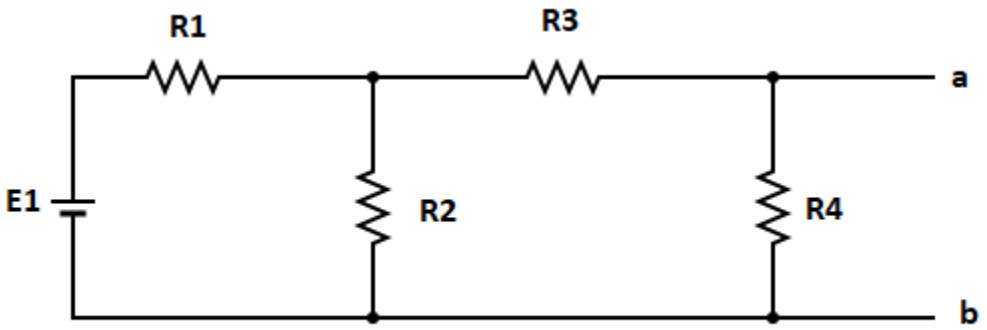
1. Find the expressions for voltages **V1** and **V2** using nodal analysis.



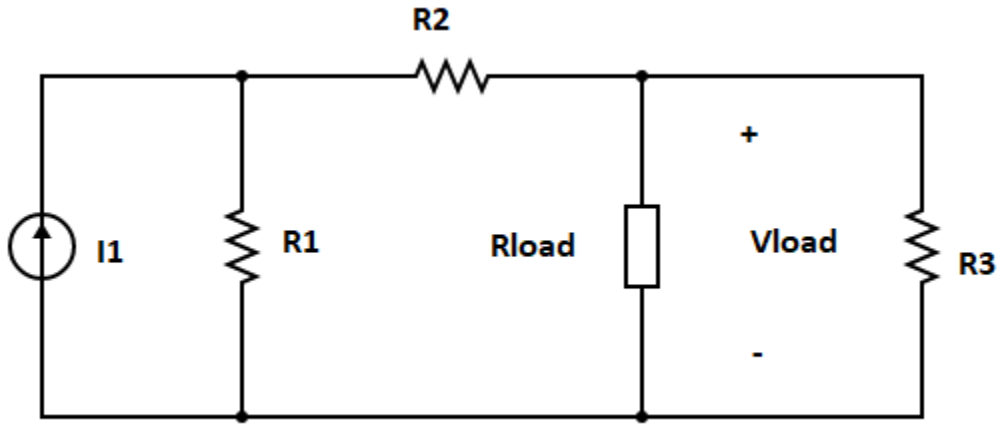
2. Find the expressions for voltages **V1**, **V2** and **V3** using nodal analysis.



3. Find Thevenin equivalent voltage and resistance across **a** and **b**, if E1 = 20 V, R1 = 5 Ω, R2 = 4 Ω, R3 = 8 Ω and R4 = 6 Ω.



4. Find voltage **Vload** by forming an equivalent Norton circuit across resistance **Rload**, given that I1 = 5 A, R1 = 3 Ω s, R2 = 7 Ω and R3 = 2 Ω.



5. In the following circuit,

   a. Calculate the value of Rload in terms of R1, R2 and R3 which will ensure that the maximum power gets transferred to the Rload

   b. Find the maximum power transferred to Rload, if E1 = 10 V, E2 = 5 V, R1 = 2 Ω, R2 = 4 Ω and R3 = 10 Ω.