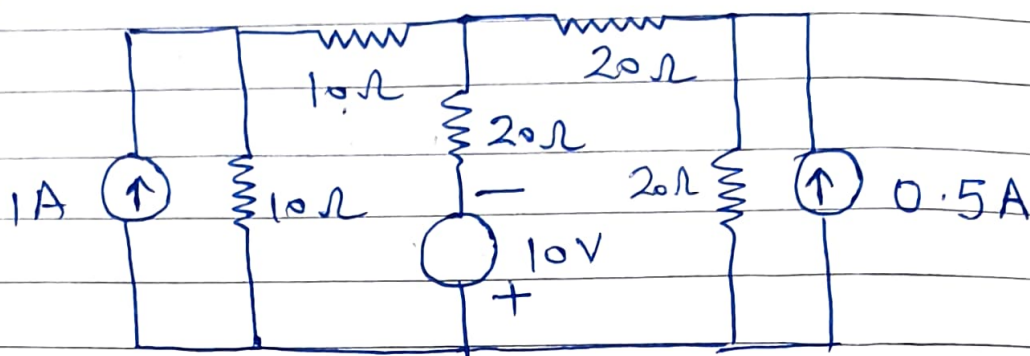
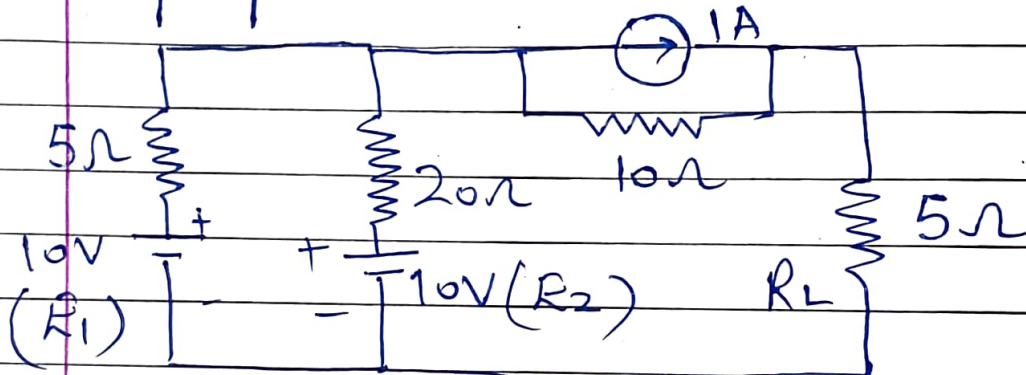


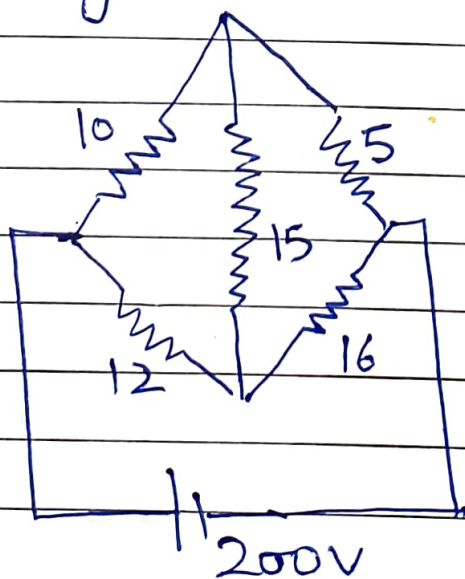
1. Use nodal analysis, to determine current in each branch of the network. Also find the total power loss in the network.



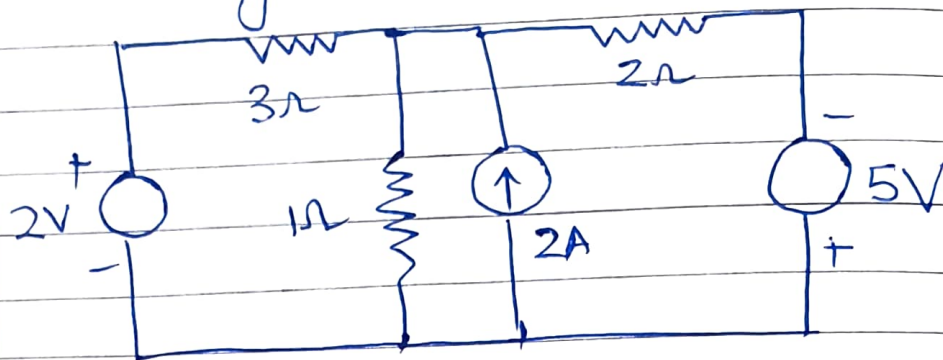
2. Find load current (R_L) using Superposition theorem.



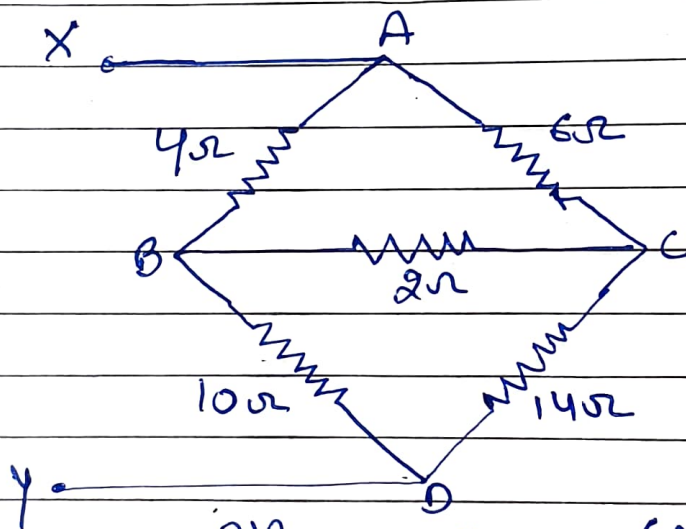
3. Find current through 15Ω resistor using Thevenin's theorem.



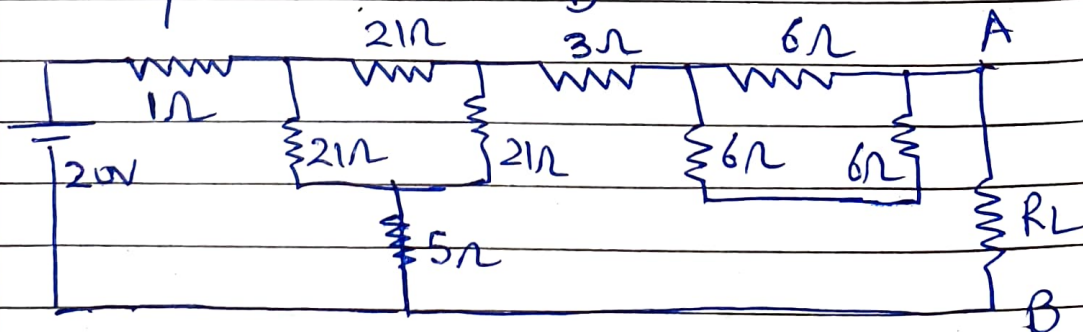
4. Use mesh current method, to determine I through 1Ω resistor.



5. Find the resistance between terminal X Y of the bridge circuit by using delta-star conversion.



6.



Find R_L for maximum power transfer in the circuit.