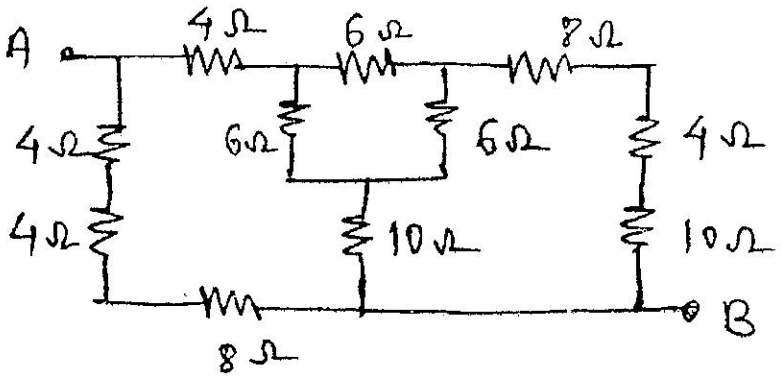
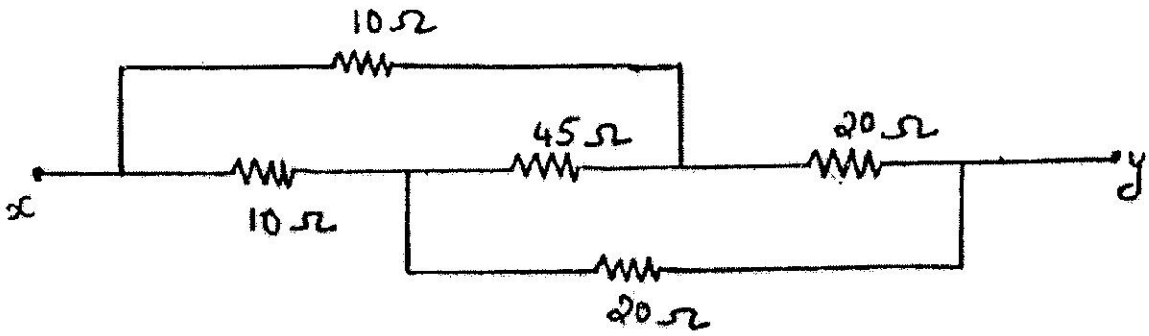
TUTORIAL NO. 2 SUBJECT: B.E.E TOPIC: STAR-DELTA & SOURCE TRANSFORMATION

1. For the circuit shown below find the resistances between terminals A and B. (May 13)(7 m)



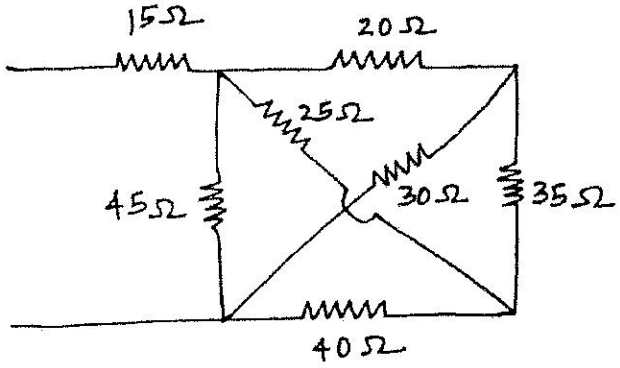
Ans. $R_{AB} = 7.467\Omega$.

2. Calculate R_{xy} for the circuit shown in the figure. (Dec 12)(7 m)



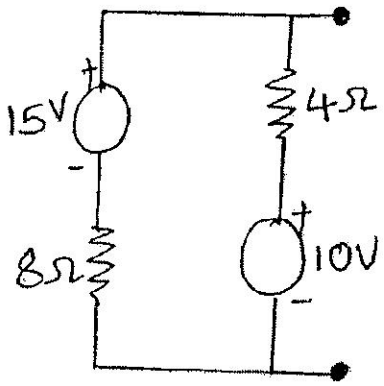
Ans. $R = 15\Omega$.

3. Find an equivalent resistances between terminals A and B.(May 14)(7 m)



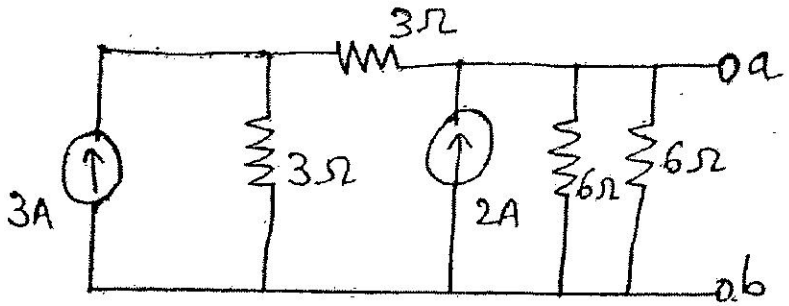
Ans. $R_{AB} = 32.353\Omega$.

7. Using source transformation convert the circuit given below to a single voltage source in series with a resistor. **(Dec 12)(7 m)**



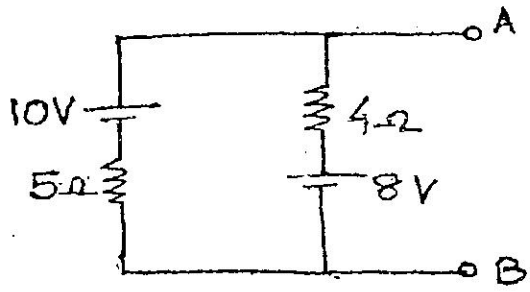
Ans. $V = 11.67V$ and $R = 2.667\Omega$.

8. Using source transformation convert the circuit given below to a single current source in parallel with a resistor. **(May 14)(3 m)**



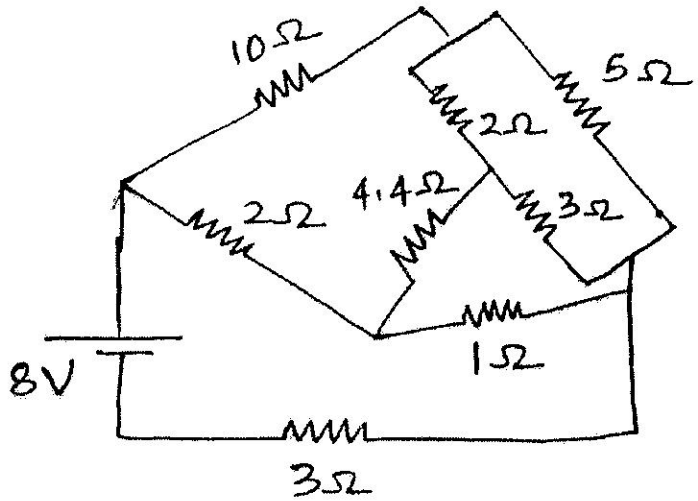
Ans. $I = 3.5A(\uparrow)$ and $R = 2\Omega$.

9. Convert the given circuit into a current source in parallel with a single resistance between points A and B.**(May 13)(3 m)**



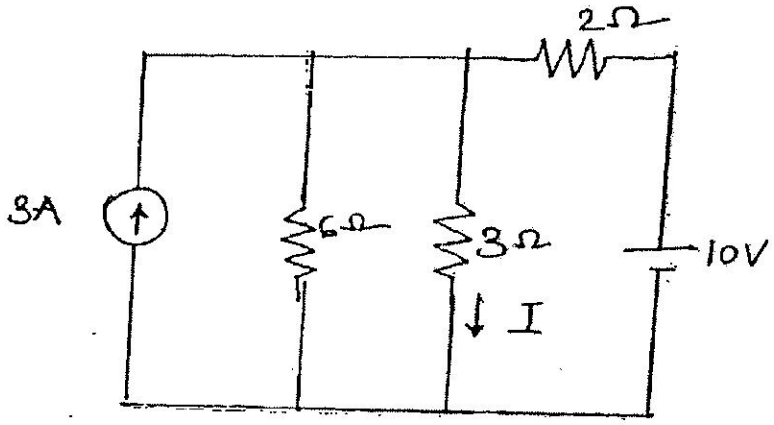
Ans. $I = 4A(\uparrow), R = 2.222\Omega$.

4. Find the current delivered by the source. **(May 17)(8 m)**



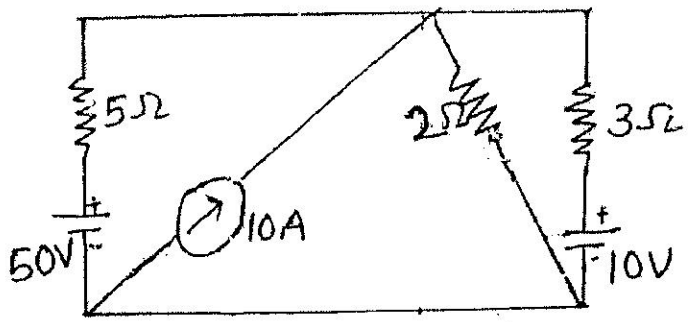
Ans. $I = 1.4864A$.

5. Using Source Transformation, find I.**(May 11)(5 m)**



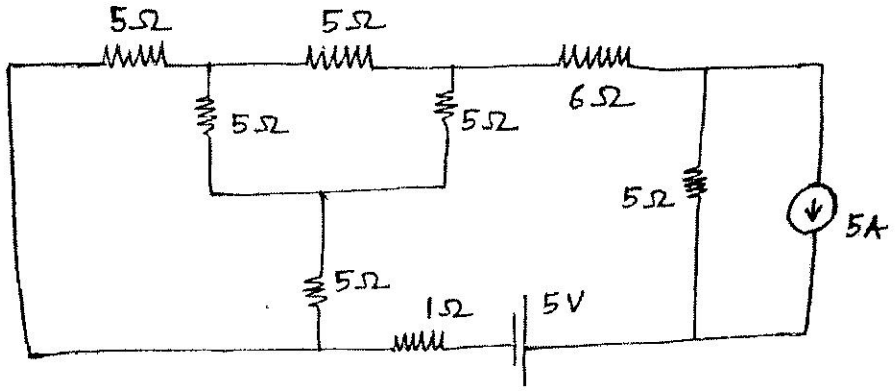
Ans. $I = 2.667A(\downarrow)$.

6. Find the current through 5Ω resistor by source transformation.**(Dec 12)(3 m)**



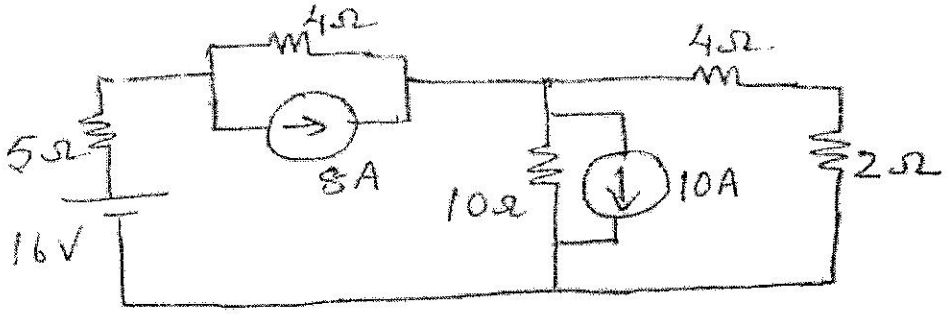
Ans. $I_{5\Omega} = 5.484A(\uparrow)$.

10. Using source transformation find the current flowing through the 6Ω resistance. **(May 15)(7 m)**



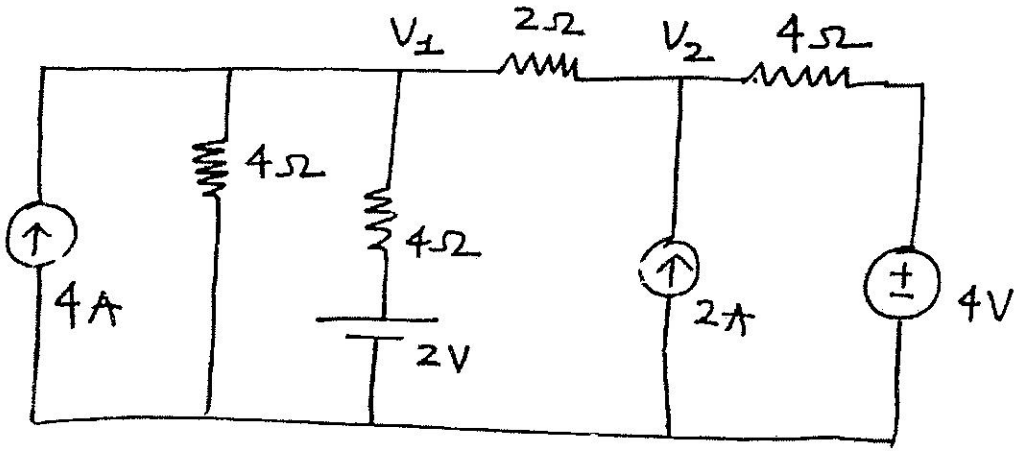
Ans. $I_{6\Omega} = 1.1765A(\rightarrow)$.

11. Using source transformation find the current flowing through the 2Ω resistance. **(May 17)(7 m)**



Ans. $I_{2\Omega} = 2.058A(\uparrow)$.

12. Using source transformation find V_1 and V_2. **(May 18)(7 m)**



Ans. $V_1 = 9.75V$ $V_2 = 10.5V$