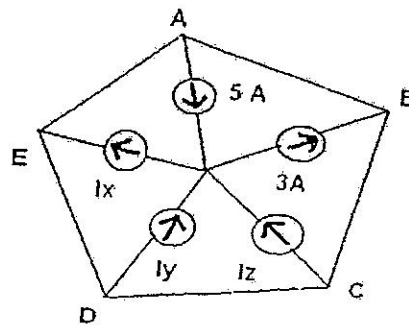


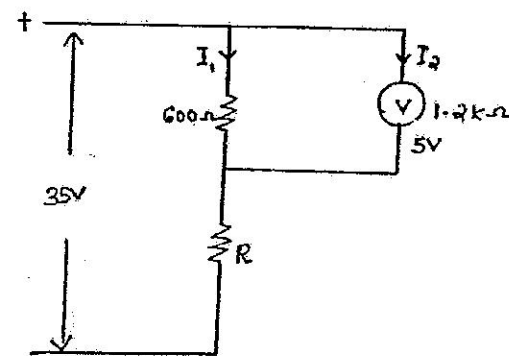
1. Find the unknown current

- (a) I_X , if $I_Y = 2A$ and $I_Z = 0A$.
- (b) I_Y , if $I_X = 2A$ and $I_Z = 2I_Y$.
- (c) I_Z , if $I_X = I_Y = I_Z$.



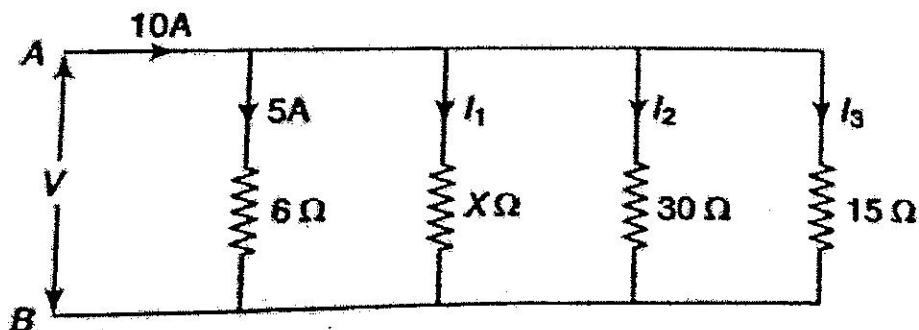
Ans. $I_X = 4A$, $I_Y = 0A$ and $I_Z = -2A$.

2. Determine the value of resistance R as shown in figure using KVL and KCL.
(Dec 12)(6 m)



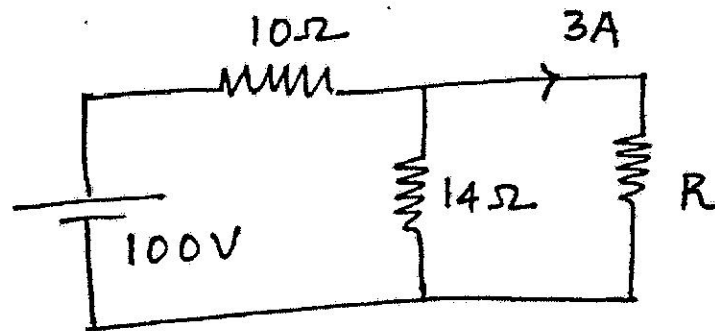
Ans. $R = 2.4k\Omega$.

3. In the circuit, find the values of I_1 , I_2 , I_3 and X . Also find equivalent resistance between points A and B.



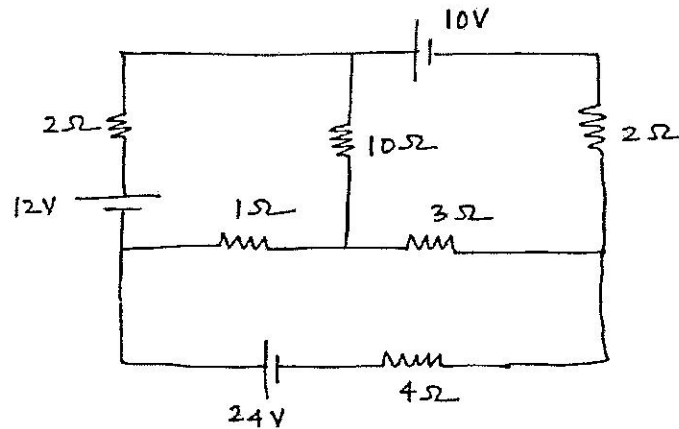
Ans. $I_1 = 2A$, $I_2 = 1A$, $I_3 = 2A$, $X = 15\Omega$ and $R_{AB} = 3\Omega$.

4. Find the value of R in the following circuit. (May 19)(4 m)



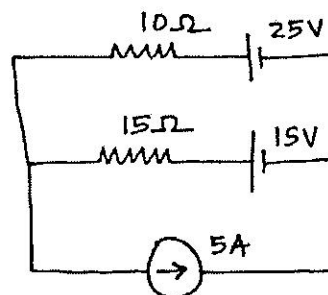
Ans. $R = 13.61\Omega$.

5. Use Mesh Analysis to find the current through 4Ω . (Dec 15)(6 m)



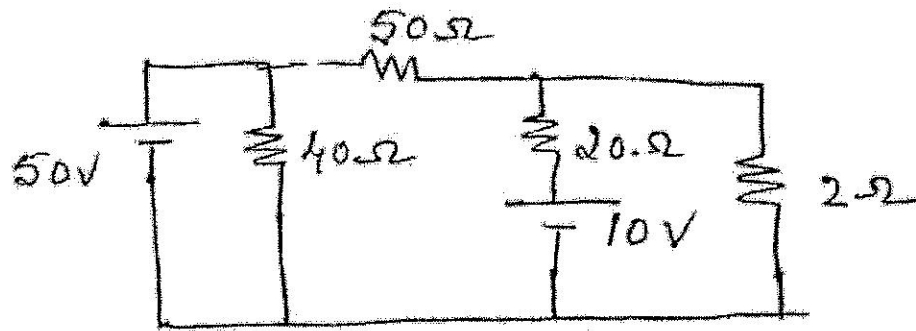
Ans. $I_{4\Omega} = 4.102A(\leftarrow)$.

6. Use Mesh Analysis to find the current through 10Ω . (May 16)(3 m)



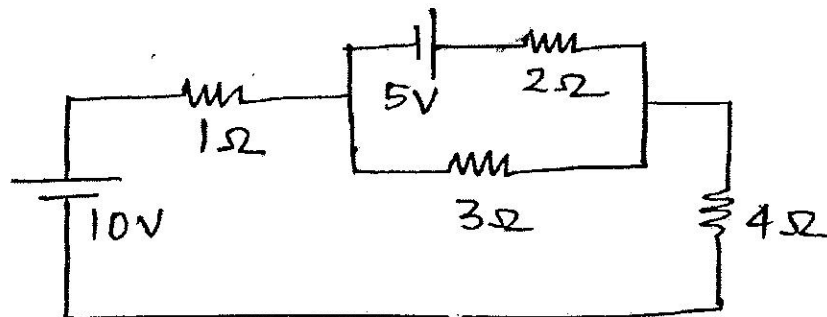
Ans. $I_{10\Omega} = 3.4A(\leftarrow)$.

7. Find the current through 2Ω resistance using Mesh Analysis. (May 17)(6 m)



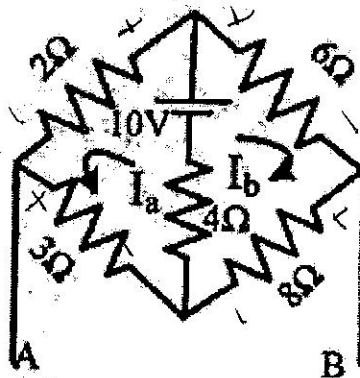
Ans. $I_{2\Omega} = 1.3157A(\downarrow)$.

8. Find the current through 3Ω resistance using Mesh Analysis. (May 17)(4 m)



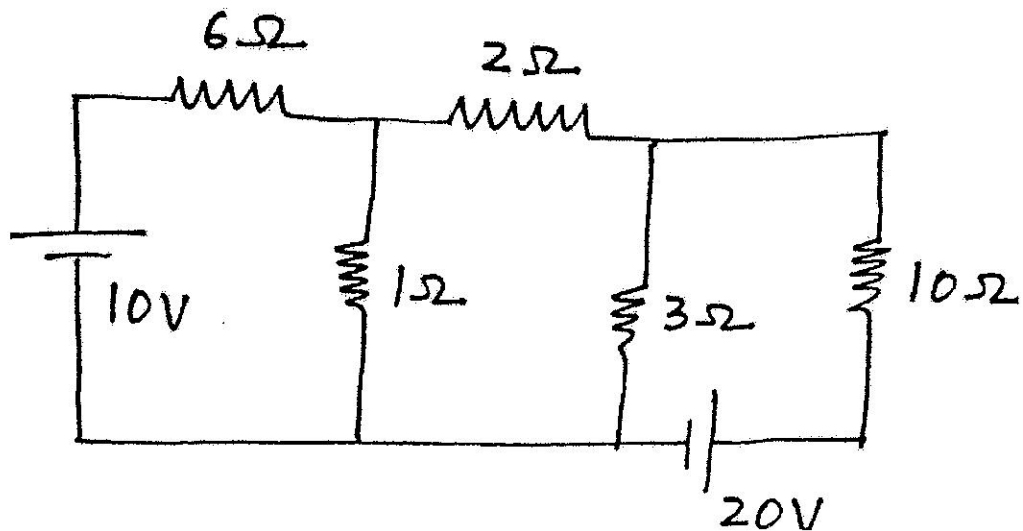
Ans. $I_{3\Omega} = 0.1612A(\leftarrow)$.

9. Find the currents I_a and I_b using Mesh Analysis. Also find V_{AB} . (Dec 18)(10 m)



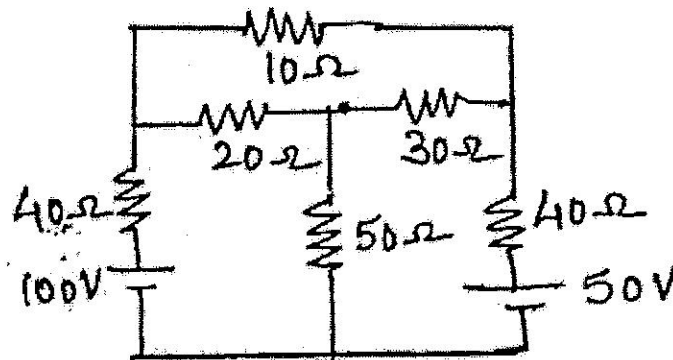
Ans. $I_a = 0.958A$, $I_b = 0.3424A$, $V_{AB} = 0.135V$.

10. Find the current through 2Ω resistance using Mesh Analysis. (May 19) (6 m)



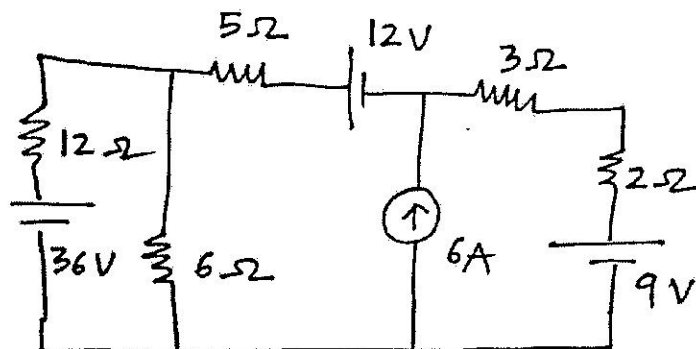
Ans. $I_{3\Omega} = 0.617A(\leftarrow)$.

11. Find the current through 10Ω resistance using Mesh Analysis. (Dec 18) (6 m)



Ans. $I_{10\Omega} = 0.402A(\rightarrow)$.

12. Find the current through 5Ω resistance using Mesh Analysis. (May 18) (6 m)



Ans. $I_{5\Omega} = 1.5A(\leftarrow)$.