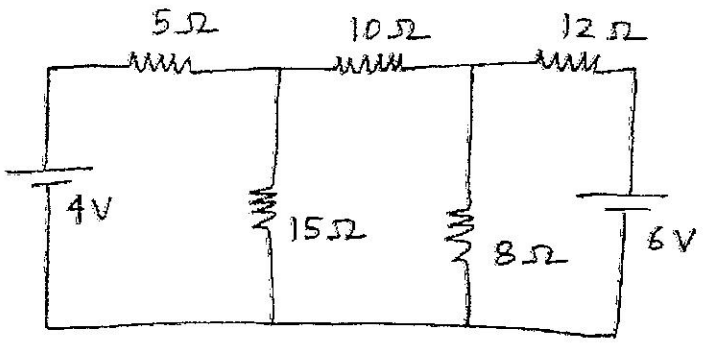
ST. FRANCIS INSTITUTE OF TECHNOLOGY
Mount Poinsur, SVP Road, Borivali (W), Mumbai – 400103

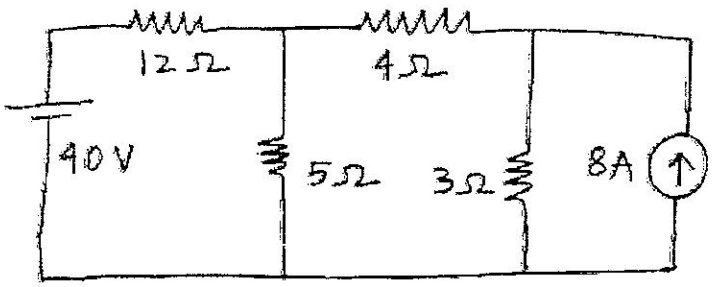
TUTORIAL NO.3 SUBJECT: B.E.E TOPIC: SUPERPOSITION THEOREM

1. Find the value of the current flowing through the 8Ω resistance using Superposition Theorem. **(May 19)(8 m)**



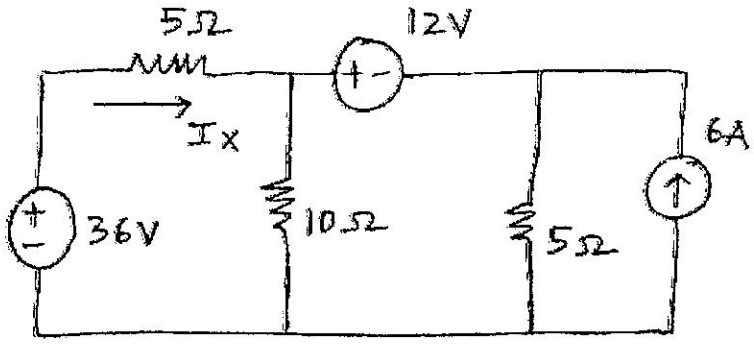
Ans. $I_{8\Omega} = 0.319A(\downarrow)$.

2. Find the value of the current flowing through the 4Ω resistance using Superposition Theorem. **(May 19)(7 m)**



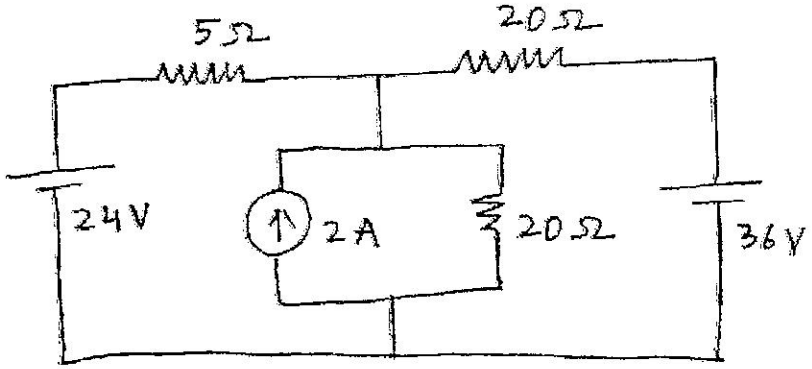
Ans. $I_{4\Omega} = 1.162A(\leftarrow)$.

3. Find the value of the current I_X using Superposition Theorem. **(Dec 18)(8 m)**



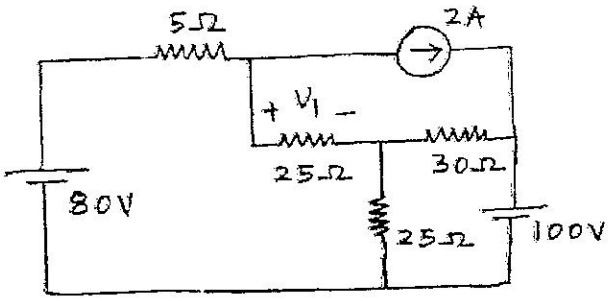
Ans. $I_X = 0.961A(\rightarrow)$.

1. Find the value of the current flowing through the 5Ω resistance using Superposition Theorem. **(Dec 18)(7 m)**



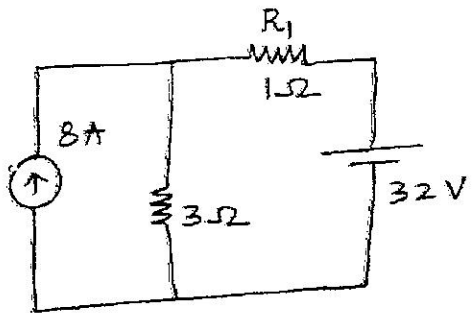
Ans. $I_{5\Omega}$ $0.93A(\leftarrow)$.

3. Find V_1 using Superposition Theorem. **(May 18)(8 m)**



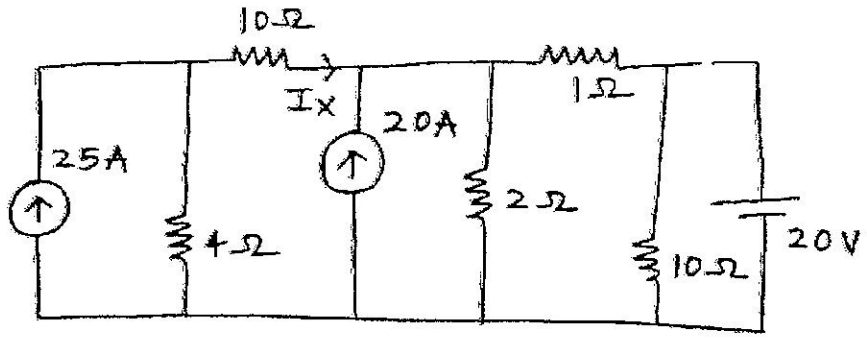
Ans. $V_1 = 14.062V$.

6. Find the value of the current flowing through the R_1 resistance using Superposition Theorem. **(May 17)(8 m)**



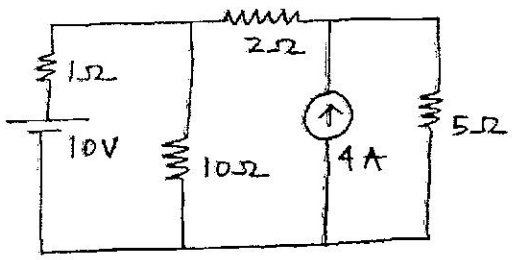
Ans. $I_{1\Omega} = 2A(\leftarrow)$.

7. State Superposition Theorem. Find I_X using superposition theorem without using source transformation. **(Dec 17)(12 m)**



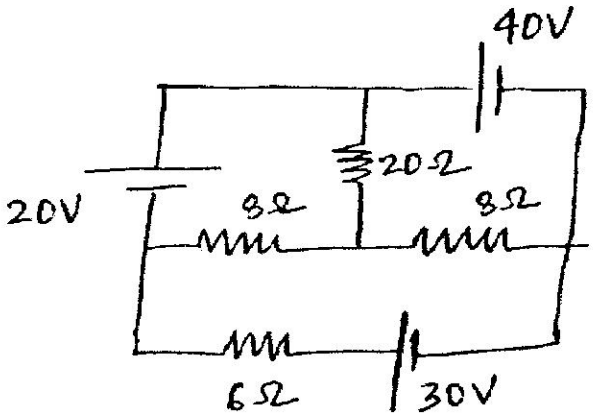
Ans. I_X $5A(\rightarrow)$.

8. Find the value of the current flowing through the 10Ω resistance using Superposition Theorem. **(Dec 17)(7 m)**



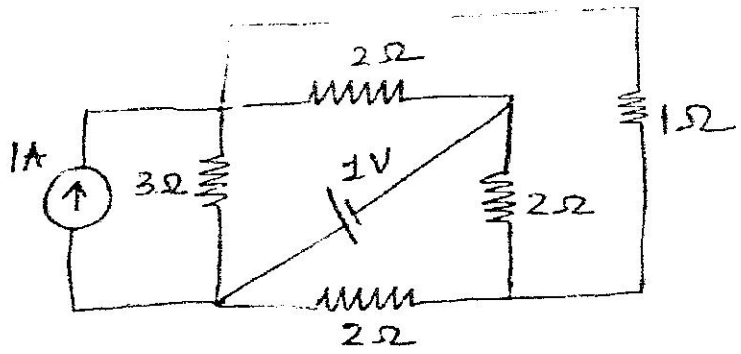
Ans. $I_{10\Omega} = 1.034A(\downarrow)$.

9. Find the value of the current flowing through the 20Ω resistance using Superposition Theorem. **(May 17)(8 m)**



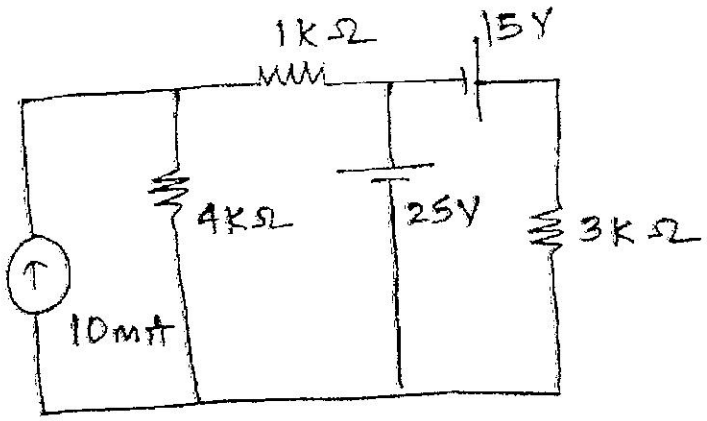
Ans. $I_{20\Omega} = 1.25A(\downarrow)$.

10. Obtain current in 1Ω by using superposition theorem. **(Dec 16)(10 m)**



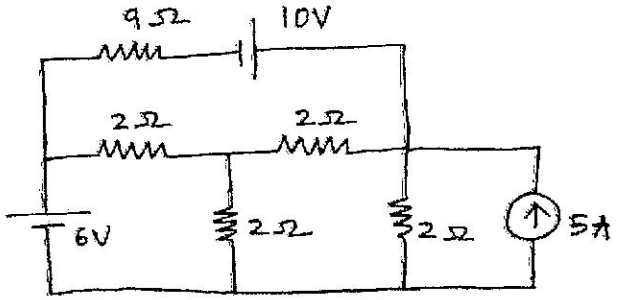
Ans. $I_{1\Omega} = 0.34375A(\downarrow)$.

11. Using Superposition theorem, voltage across $4k\Omega$.**(May 16)(7 m)**



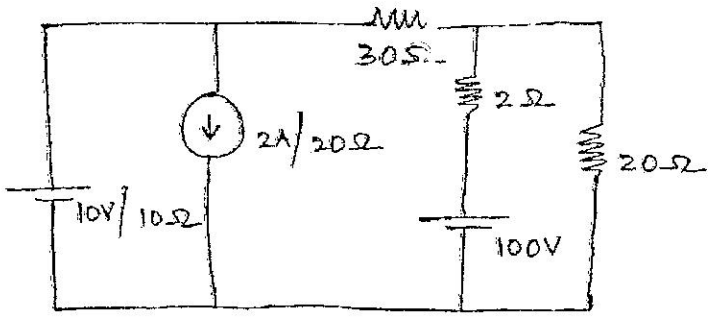
Ans. $V_{4k\Omega} = 28V$.

12. Find the value of the current flowing through the 9Ω resistance using Superposition Theorem. **(Dec 16)(7 m)**



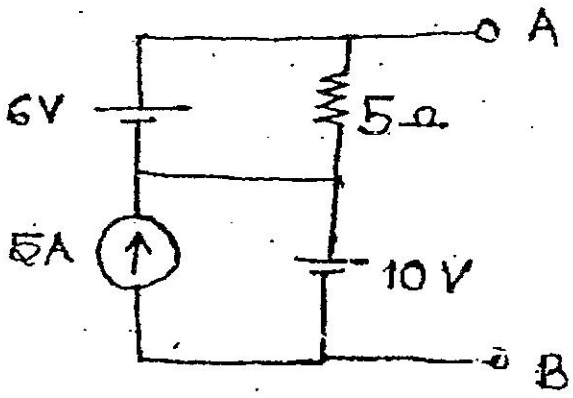
Ans. $I_{9\Omega} = 0.8627A(\rightarrow)$.

13. Find the value of the current flowing through the 30Ω resistance using Superposition Theorem. **(Dec 15)(7 m)**



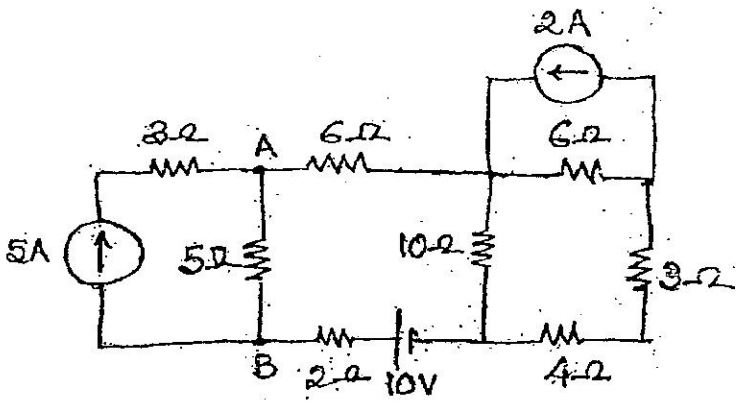
Ans. $I_{30\Omega} = 2.5354A(\leftarrow)$.

14. For the above diagram, find voltage V_{AB} using superposition theorem.**(Dec 14)(3 m)**



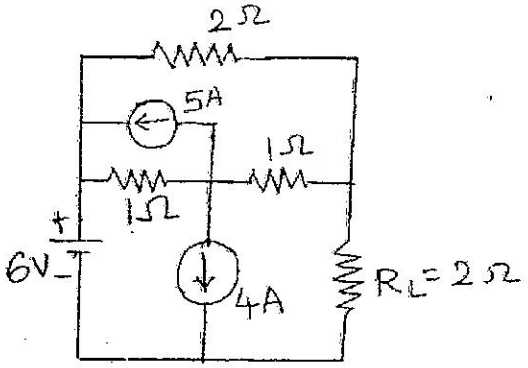
Ans. $V_{AB} = 16V$.

15. Find the value of the current flowing through the 5Ω resistance using Superposition Theorem.**(Dec 14)(7 m)**



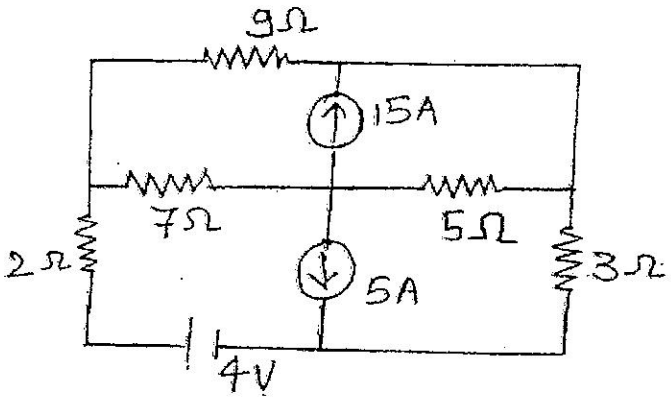
Ans. $I_{5\Omega} = 3.4A(\downarrow)$.

16. Find the current through R_L 2Ω resistor by superposition theorem.**(May 13)(7 m)**



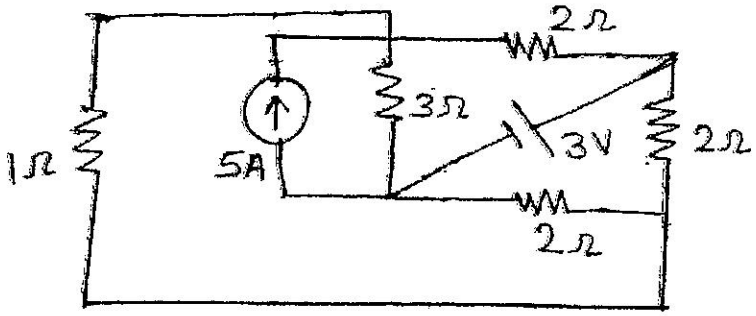
Ans. $I_{2\Omega} = 0.5A(\downarrow)$.

17. Find the current through 3Ω resistor by superposition theorem.**(Dec 12)(7 m)**



Ans. $I_{3\Omega} = 1.098A$.

18. Find the current through 1Ω resistor by superposition theorem.**(Dec 12)(7 m)**



Ans. $I_{1\Omega} = 1.9688A(\downarrow)$.