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| Explain the laws of resistance. |
| A coil consists of 4000 turns of copper wire having a cross sectional area of 0.9 mm2. The mean length per turn is 90 cm and the resistivity of copper is 0.03 μ Ω –m. Find the resistance of the coil and power absorbed by the coil when connected across 110 V d.c. supply. |
| Consider the following circuit    i) Find the value of equivalent resistance.  ii)Find total current.  iii)If 10 Ω resistor is replaced with short circuits, then find the current following through the short circuit. |
| Distinguish between linear and non-linear circuit. |
| Using Kirchhoff’s current law and ohm’s law, find the magnitude and polarity of voltage V in Fig. 6(b). Directions of the two current sources are as shown.    Fig. 6(b) |
| Apply thevenin’s theorem to calculate the current through 4 Ω resistor of the circuit shown in Fig. 6(c).    Fig. 6(c) |
| State and explain the Norton theorem. |
| Describe the procedure by which we can thevenize a given circuit. |
| By applying thevenin’s theorem find the following:  i)the equivalent e.m.f of the network when viewed from terminals A and B.  ii)the equivalent resistance of the network when looked into from terminals A and B.  BEE.PNG  Fig. 7(c). |
| Explain the significance of power factor. |
| Find the RMS value of a sinusoidal alternating current. |
| Compute the average and effective values of the square voltage wave shown in Fig. 8(c). |
| Distinguish between series and parallel circuit. |
| Calculate RAB in the circuit shown in Fig. 5(b).    Fig. 5(b) |
| Apply source conversion technique to find the current through 3 Ω resistor in the circuit of Fig. 5(c).    Fig. 5(c). |
| State and explain reciprocity theorem. |
| Appling Norton’s theorem, find out the current flowing through 6Ω resistor of Fig. 6(b).    Fig. 6(b). |
| Use Nodal Analysis to calculate the value of current I in the network where I is the current flowing from node 1 to node 3 through 9 Ω resistor.    Fig. 6(c). |
| State and explain Thevenin theorem. |
| Apply thevenin theorem to calculate the current through 4Ω resistor of the following circuit.  20210627_124657-1.jpg  Fig. 7(b). |
| Describe the procedure by which we can nortonize a given circuit. |
| Distinguish between AC and DC. |
| What do you mean by average value of alternating current? Calculate the average value of a sinusoidal alternating current. |
| Compute the average and effective values of the square voltage wave shown in Fig. 8(c).    Fig. 8(c). |