

SVKM'S NMIMS
School of Technology Management & Engineering, Navi-Mumbai Campus
B.Tech. (Sem- I) (CSBS)
Assignment-2
Subject: Principles of Electrical Engineering
Date of Submission: 31/08/2019

- Q.1 If 20 V be applied across AB shown in Fig. 1, calculate the total current, the power dissipated in each resistor and the value of the series resistance to have the total current.

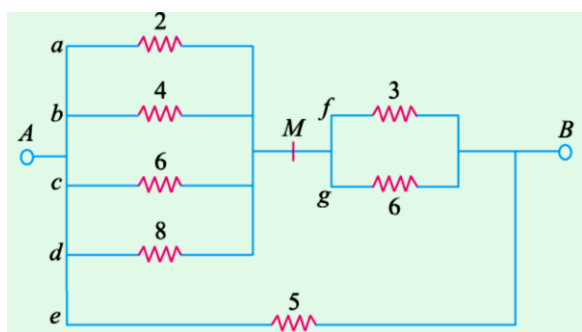


Fig. 1

- Q.2 Using the current-divider rule, find the ratio I_L/I_S in the circuit shown in Fig. 2.

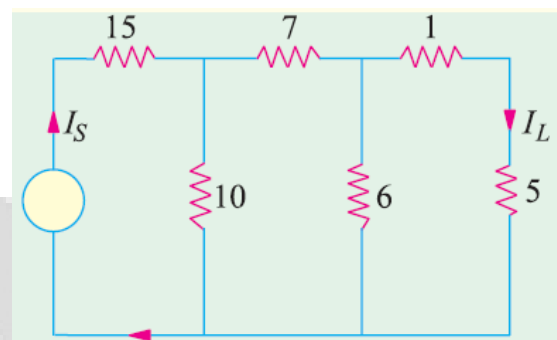


Fig. 2

- Q.3 For the parallel circuit of Fig. 3 calculate (i) V (ii) I_1 (iii) I_2 .

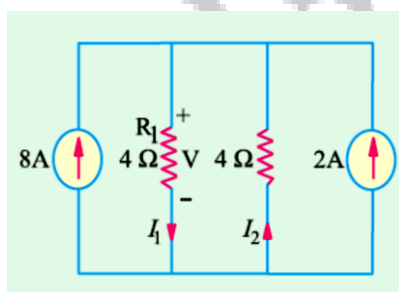


Fig. 3

- Q.4 Find the potential at point e with respect to point c in the network shown in fig.4.

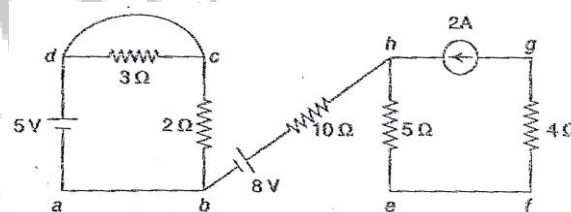


Fig. 4

- Q.5 With the help of mesh current method, find the magnitude and direction of the current flowing through the 1Ω resistor in the network of fig. 5.

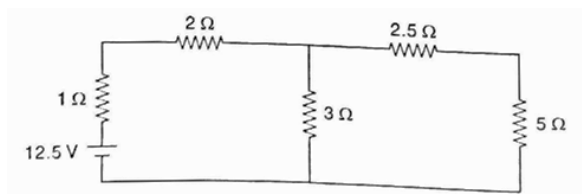


Fig. 5

- Q.6 By mesh analysis find current through 2Ω resistor in the circuit of fig. 6

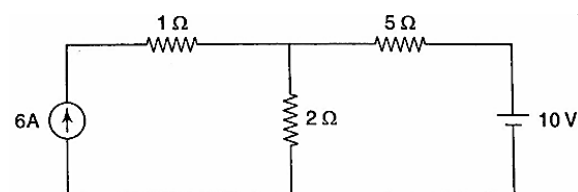


Fig. 6

Q.7 By mesh analysis, find the current through 5Ω resistor in the circuit of fig. 7.

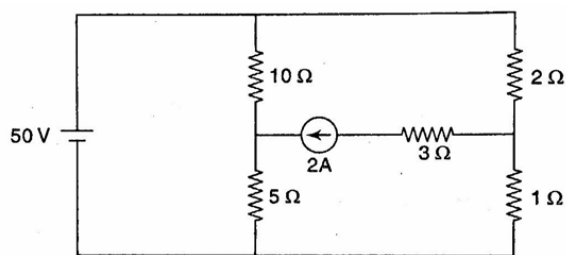


Fig. 7

Q.8 Determine the current through 1.5Ω resistor in the network shown in fig. 8 by mesh analysis.

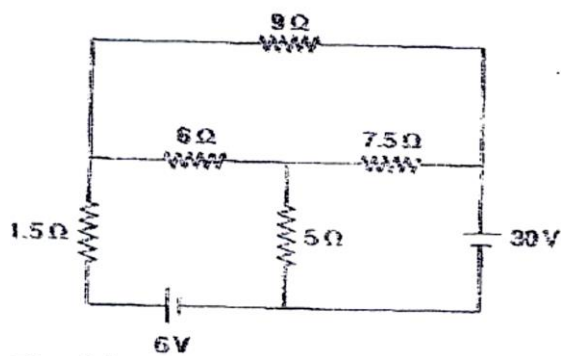


Fig. 8

Q.9 Find currents in various branches of the circuit given in fig. 9 by mesh analysis.

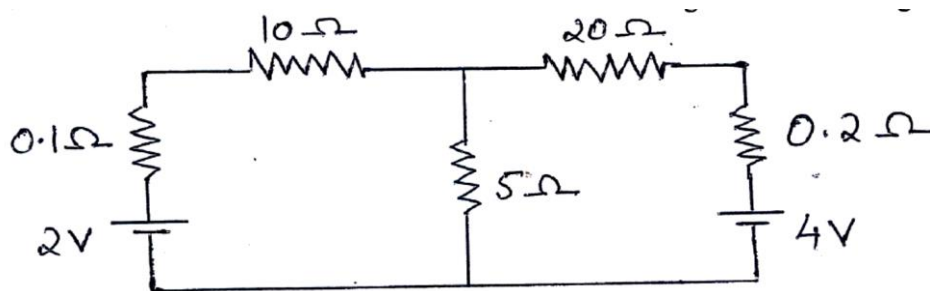


Fig. 9

Q.10 Using mesh analysis, determine the voltage across the $10\text{ k}\Omega$ resistor at terminals $a-b$ of the circuit shown in Fig. 10.

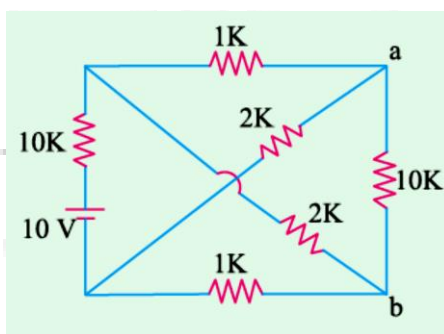


Fig. 10

Q.11 In the network shown in fig. 11 find the voltage between nodes A and B.

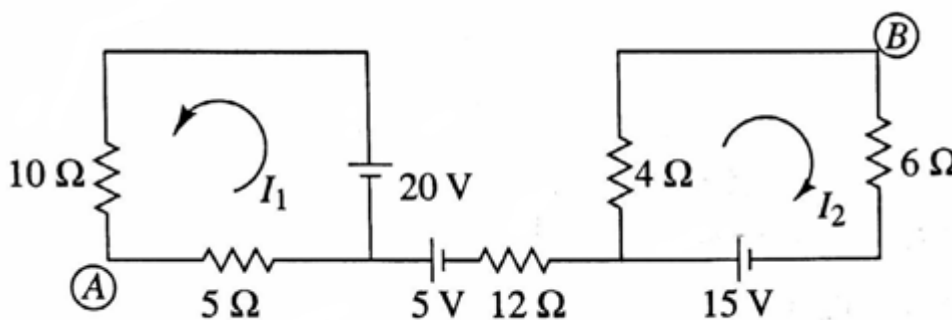


Fig. 11