

ASSIGNMENT-1

1. Use mesh analysis to find the current in each resistor in **Fig.1.1**.

[Ans. In $100\ \Omega = 0.1\text{A}$ Clockwise; in $20\ \Omega = 0.4\text{ A}$ Anticlockwise; in $10\ \Omega = 0.5\text{ A}$ downward)

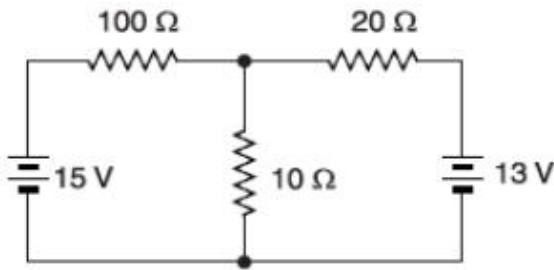


Fig. 1.1

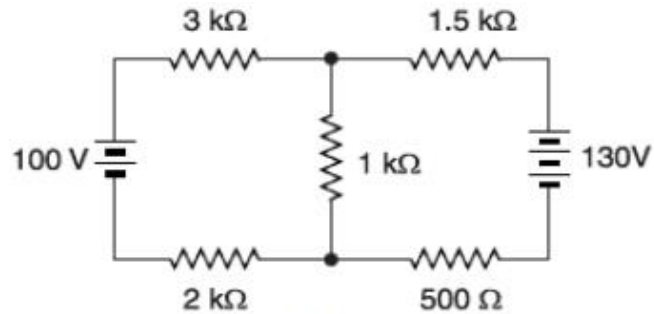


Fig.1.2

2. Using mesh analysis, find the voltage drop across the $1\text{ k}\Omega$ resistor in **Fig.1.2** [50 V]
 3. Using mesh analysis, find the currents in $50\ \Omega$, $250\ \Omega$ and $100\ \Omega$ resistors in the circuit shown in **Fig.1.3** :
 [$I(50\ \Omega) = 0.171\text{ A} \rightarrow$; $I(250\ \Omega) = 0.237\text{ A} \leftarrow$; $I(100\ \Omega) = 0.408\text{ A} \downarrow$]

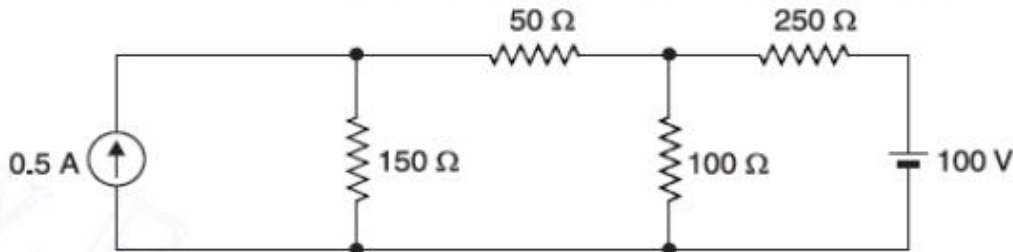


Fig.1.3

4. For the network shown in **Fig. 1.4** , find the mesh currents I_1 , I_2 and I_3 . [5 A, 1 A, 0.5 A]

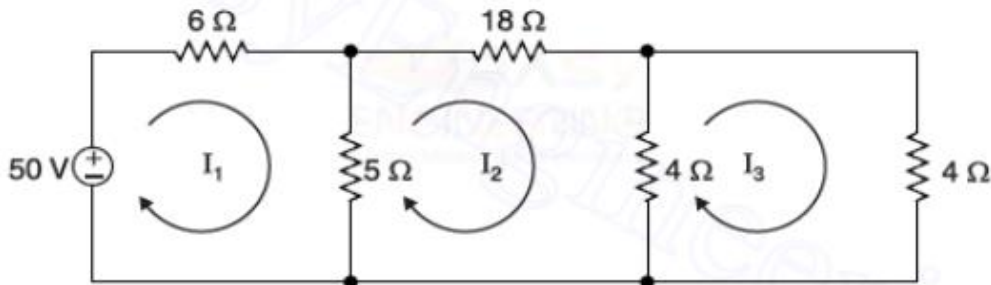


Fig.1.4

5. In the network shown in **Fig. 1.5** , find the magnitude and direction of current in the various branches by mesh current method.
 [$FAB = 4\text{ A}$; $BF = 3\text{ A}$; $BC = 1\text{ A}$; $EC = 2\text{ A}$; $CDE = 3\text{ A}$]

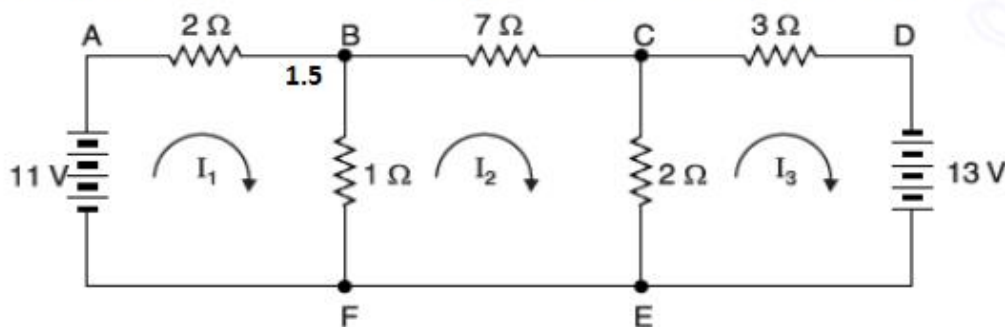


Fig. 1.5