

Assignment -1

1. For figure 1, 2 and 3 find R_{eq} .
2. For figure 4, find the power across $6\text{ M}\Omega$ resistor and the current I_T .
3. For figure 5, find $E, R_1, I_2, I_3, I_4, I_5, I_6, I_7, I_8, V_2, V_3, V_5, V_6, V_7, R_8$.

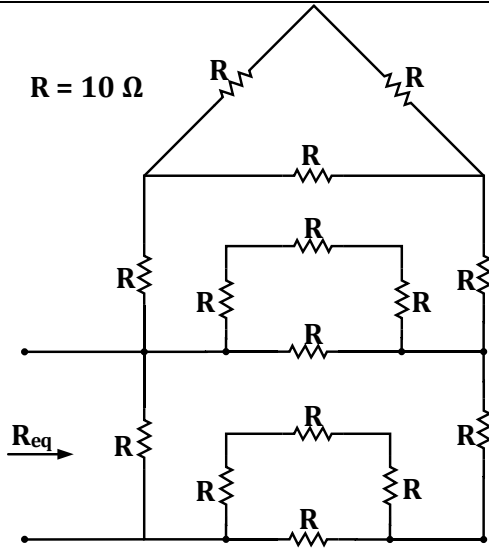


Fig. 1

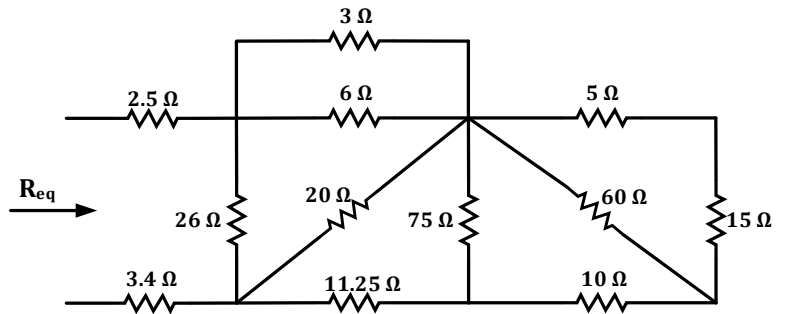


Fig. 2

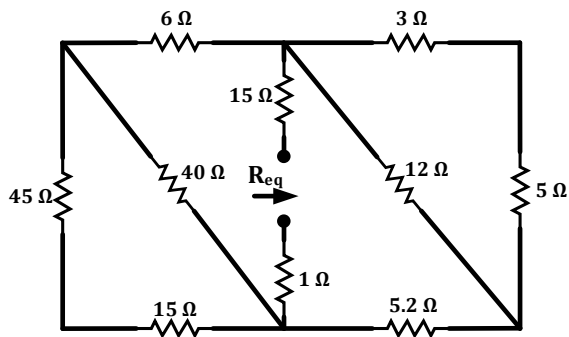


Fig. 3

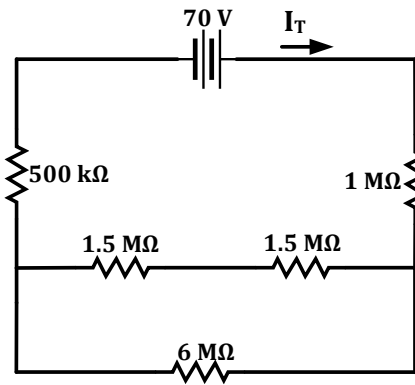


Fig. 4

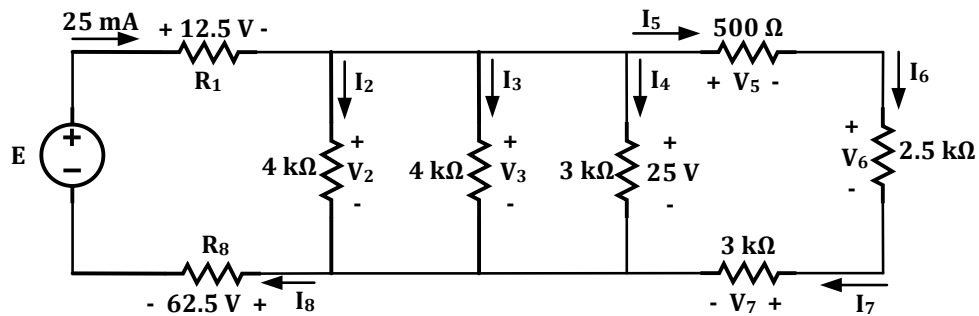


Fig. 5

Answers:

1. For figure 1, $R_{eq} = 7\ \Omega$

For figure 2, $R_{eq} = 15\ \Omega$

For figure 3, $R_{eq} = 23.5\ \Omega$

2 $I_T = 6.66 \times 10^{-6}\ A = 6.66\ \mu A$

$P_{6\Omega} = 2.67 \times 10^{-4}\ W = 0.267\ mW$

3. $E = 100\ V$

$R_1 = 500\ \Omega$

$R_8 = 2500\ \Omega$

$I_2 = I_3 = 6.25\ mA$

$I_4 = 8.33\ mA$

$I_5 = I_6 = I_7 = 4.17\ mA$

$I_8 = 25\ mA$

$V_2 = V_3 = 25\ V$

$V_5 = 2.08\ V$

$V_6 = 10.42\ V$

$V_7 = 12.51\ V$