Determine I_1, I_2 using KCL and the power supplied/absorbed by the two sources and the element with 18V.
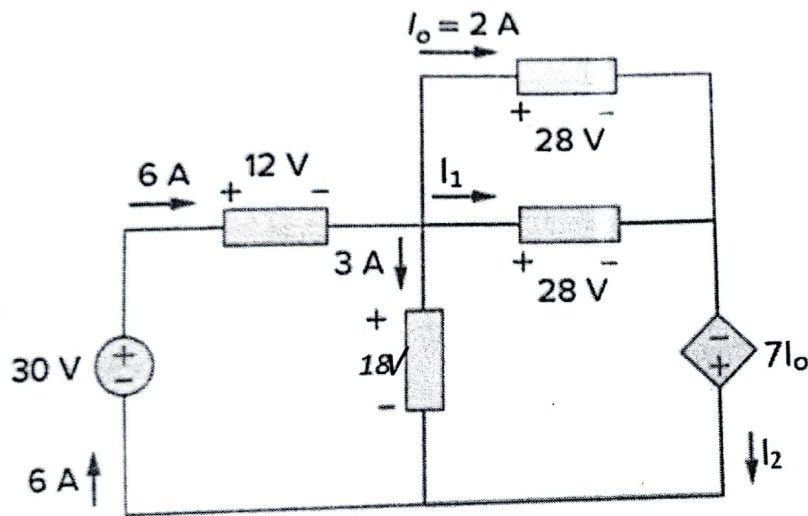
$$-6+3+I_1+2=0$$
$$\text{or}, \ I_1 = 1 \ A$$

$$-2-I_1+I_2=0$$
$$\text{or}, \ I_2 = 2+I_1 = 3A$$
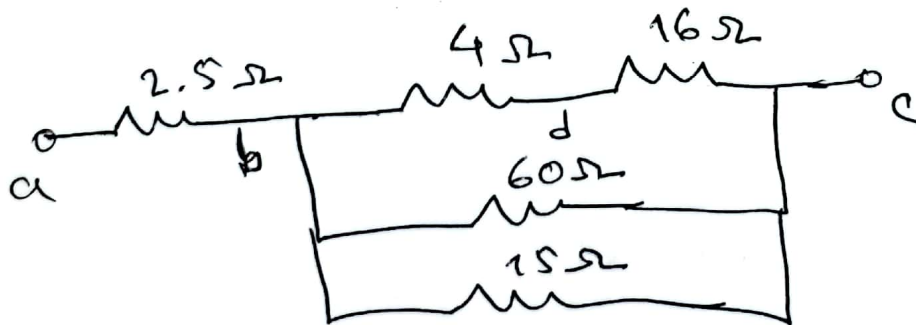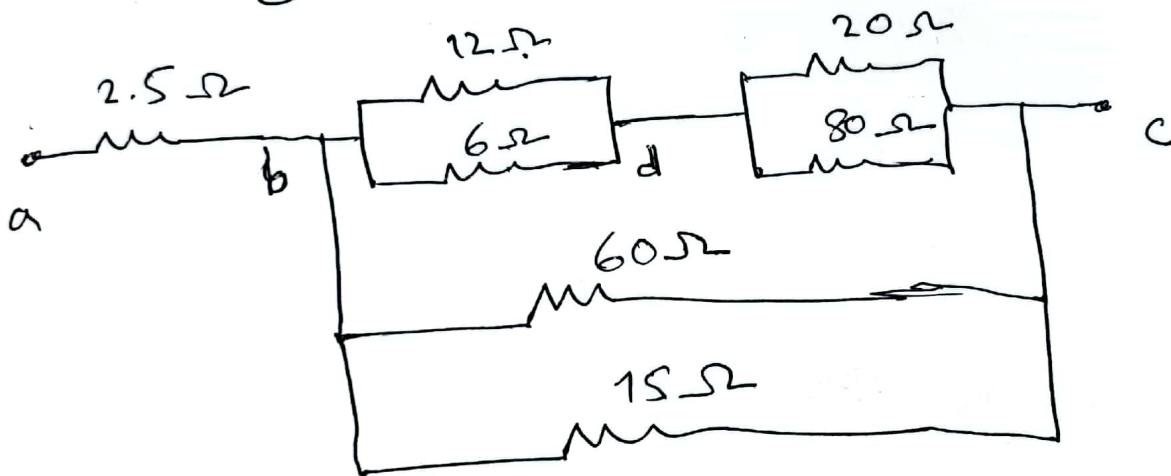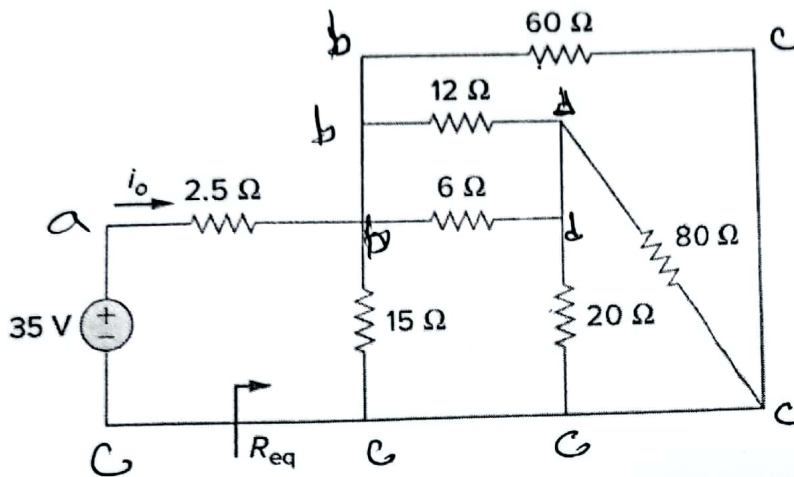
$$P_{30v} = -30\times6 = -180W \ (\text{supplied})$$

$$P_{7I_o} = -7I_o\times3 = -7\times2\times3 = -42W \ (\text{supplied})$$

$$P_{18v} = 18\times3 = 54W \ (\text{absorbed})$$

■ **Question 2 of 2** *[CO1] [10 marks]*

Determine R_{ab} and i_o

$$R_{eq} = 2.5 + \left(\frac{1}{20} + \frac{1}{60} + \frac{1}{15} \right)^{-1} = 10\,\Omega$$

$$i_o = \frac{35}{R_{eq}} = 3.5\,A$$