EAST WEST UNIVERSITY

Course Title: CSE209

Section: 02

Semester: Fall 22

Assignment- 02

SUBMITTED TO

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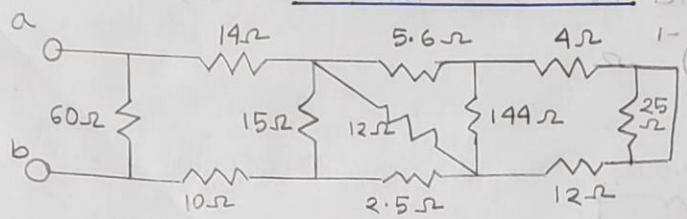
Assignment - 2

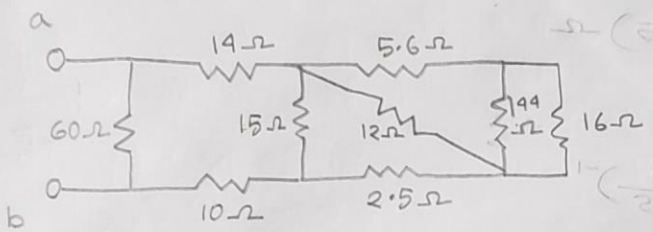


Here, a wire connected over 25Ω. So the 25Ω resistor won't work here. So this is a short circuit.

So, 4Ω and 12Ω are in series;

$R_{S_1} = (4 + 12)\,\Omega$

$= 16\,\Omega$

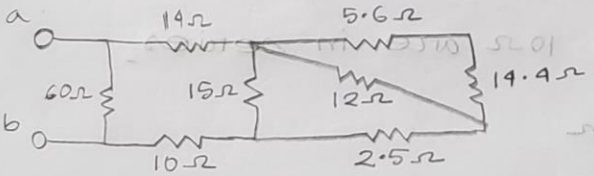


Here,

144Ω and 16Ω are in parallel,

$\frac{1}{R_{P_1}} = \left(\frac{1}{144} + \frac{1}{16}\right)$

$\therefore R_{P_1} = 14.4\,\Omega$



Here,

5.6Ω and 14.4Ω are in series,

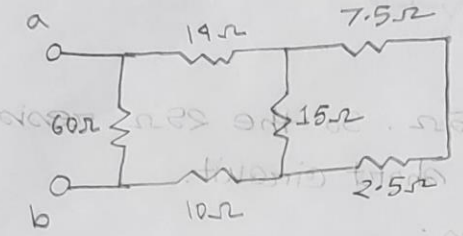
$R_{S_2} = (5.6 + 14.4)\,\Omega$

$= 20\,\Omega$

and the 20Ω and 12Ω are in parallel]

$$R_{P_2} = \left(\frac{1}{20} + \frac{1}{12}\right)^{-1} \Omega$$

$$= 7.5\Omega$$



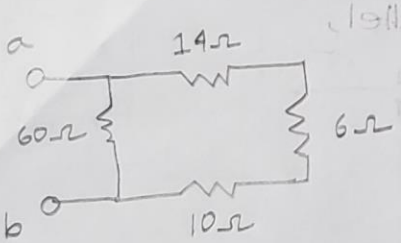
Here 7.5Ω and 2.5Ω are in series, and with 15Ω they are parallel,

$$R_{S_3} = (7.5 + 2.5)\Omega$$

$$= 10\Omega$$

$$\therefore R_{P_3} = \left(\frac{1}{10} + \frac{1}{15}\right)^{-1}$$

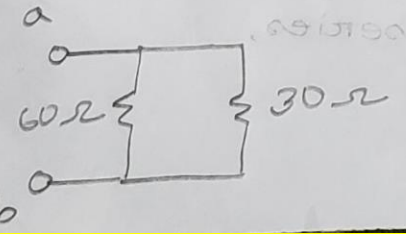
$$= 6\Omega$$



Here, 14Ω, 6Ω and 10Ω are in series.

$$R_{S4} = (14 + 6 + 10)\Omega$$

$$= 30\Omega$$

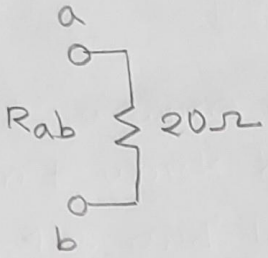


Here,

30Ω and 60Ω are in parallel,

$$R_{PA} = \left(\frac{1}{30} + \frac{1}{60}\right)^{-1}$$

$$= 20\Omega$$



$\therefore R_{ab} = 20\Omega$