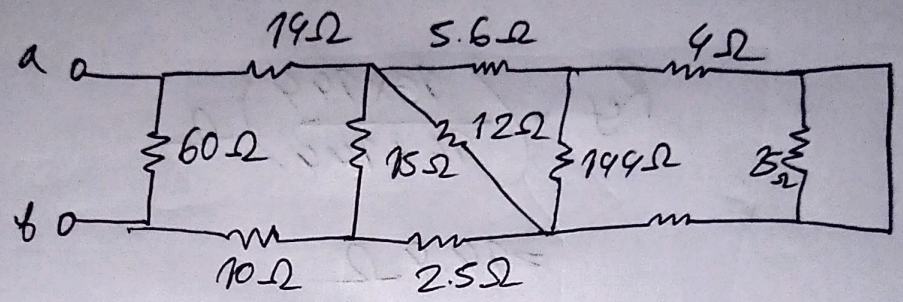
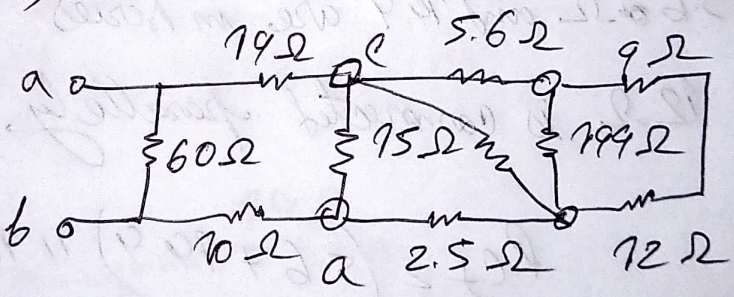
Assignment-1

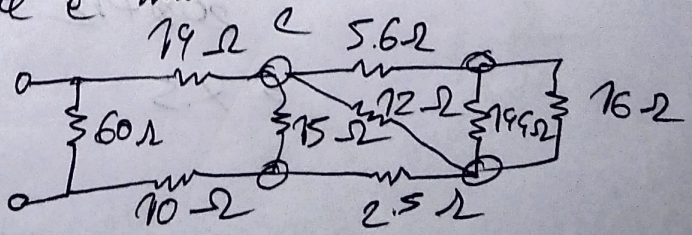


Here, 25Ω with an short circuit coire 25Ω is not useable

The circle,



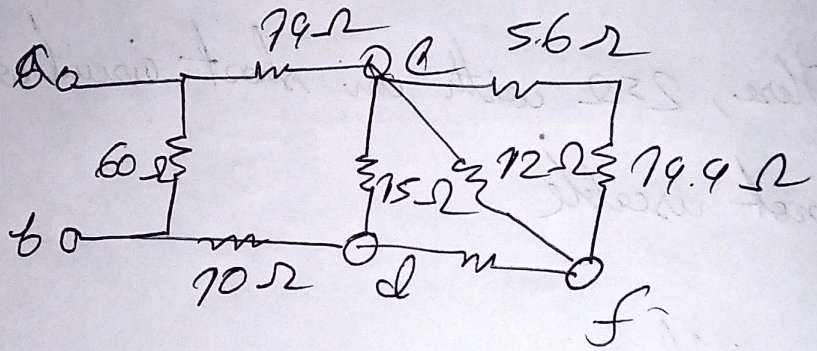
Since, 4Ω and 12Ω is connected in series between node e and f.



16 Ω and 144 is connected by parrally

$$R_{ef} = \left(\frac{16 \times 144}{16 + 144}\right) \Omega$$

$$= 14.4 \Omega$$



5.6 Ω and 14.4 are in series

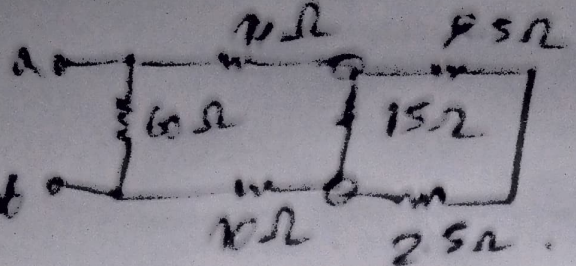
12 Ω is connected parallely,

$$R_{cf} = (5.6 + 14.4) \parallel 12 \Omega$$

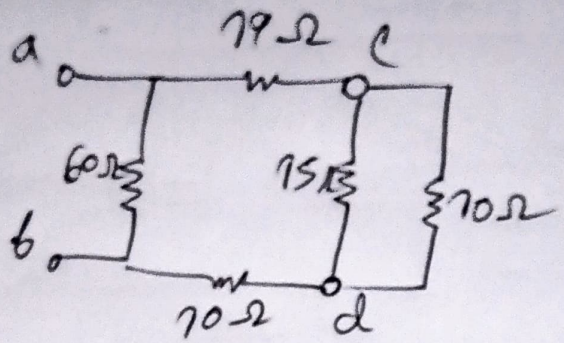
$$= 20 \Omega \parallel 12$$

$$= \frac{20 \times 12}{20 + 12} \Omega$$

$$= 7.5$$

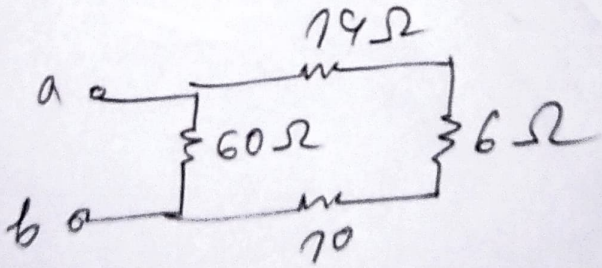


75Ω and 25 Connected in series.



15Ω and 10Ω are parallel

$$R_{cd} = \frac{15 \times 10}{15 + 10} = 6\,\Omega$$



$$R_{ab} = 60 \parallel (14 + 10 + 6)\,\Omega$$

$$= 60 \parallel 30\,\Omega$$

$$= \frac{60 \times 30}{60 + 30}\,\Omega$$

$$= 20\,\Omega$$

[Ans]