# EXPERIMENT-1

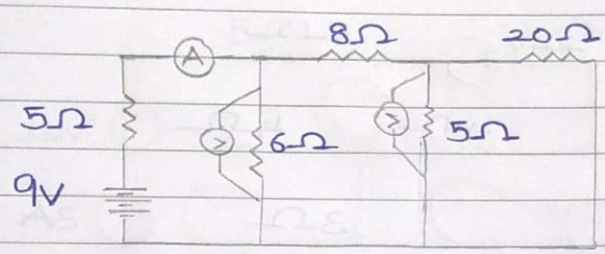
AIM:

To find the equivalent resistance using series parallel reduction.

PROCEDURE:

SERIES AND PARALLEL REDUCTION

CIRCUIT DIAGRAM




FIND THE CURRENT FLOWING THROUGH THE CIRCUIT

20Ω and 5Ω are in parallel connection

$R_{eq_1} = \frac{20 \times 5}{20+5} = 4\Omega$

$R_{eq_1}$ and 8Ω are in series connection

$R_{eq_2} = 4+8 = 12\Omega$

$R_{eq_2}$ and 6Ω are in parallel connection

$R_{eq_3} = \frac{12 \times 6}{12+6} = 4\Omega$

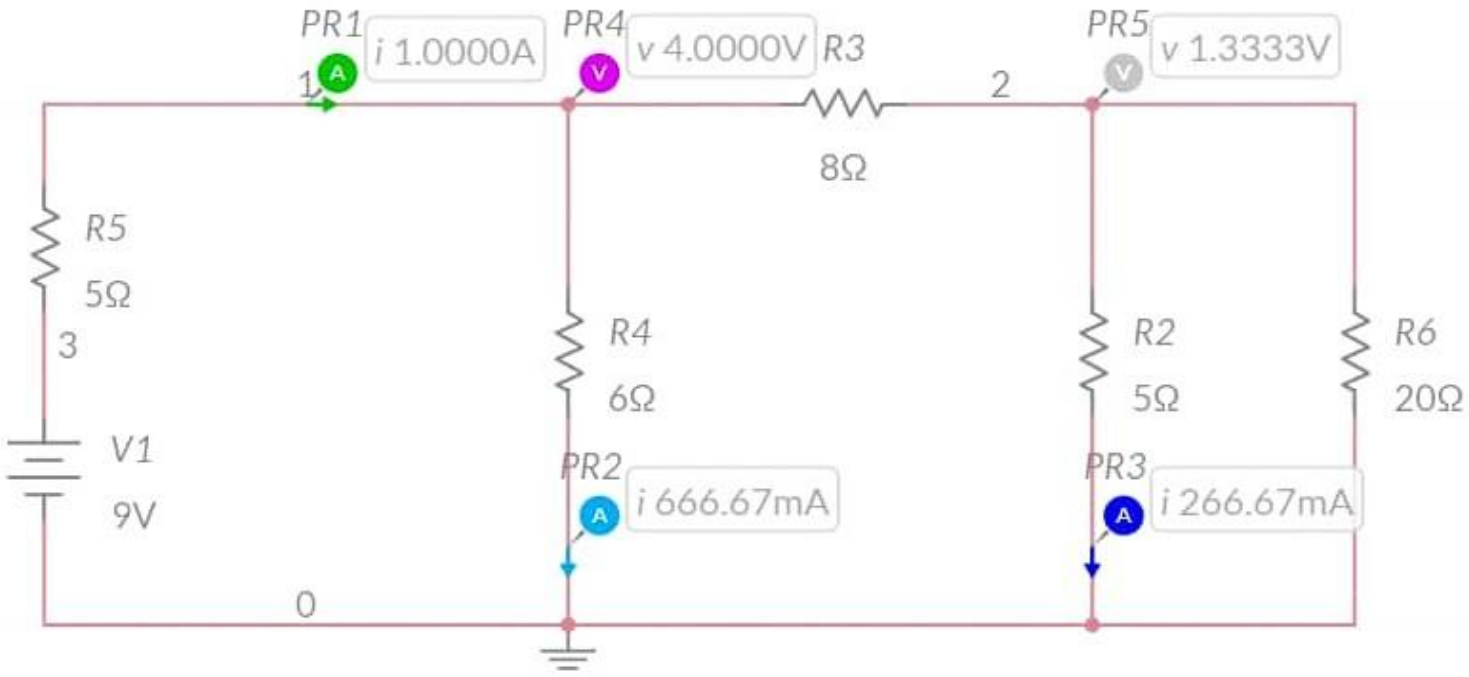
$R_{eq_3}$ and 5Ω are in series connection

$R_{eq} = 4+5 = 9\Omega$

$V = IR \Rightarrow I = \frac{V}{R}$

$I = \frac{9V}{9\Omega} = 1A$

MULTISIM:




CONCLUSION:

The current value calculated theoretically and through MULTISIM are the same. Therefore, the equivalent resistance calculated theoretically is correct.

Effective current value=1A & effective resistance value=9ohms

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