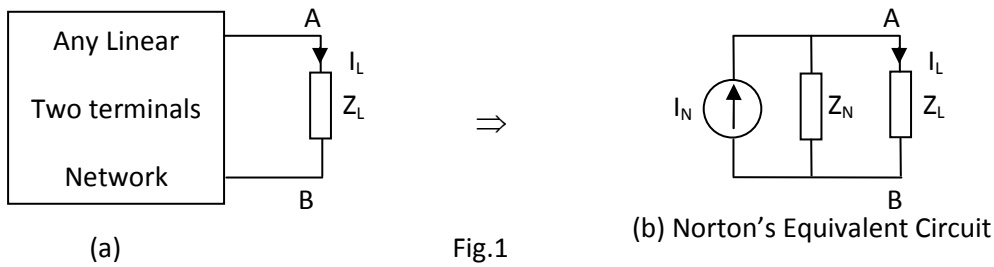# EXPEREMENT-3

AIM: To verify the Norton's Theorem with independent & dependant sources using MULTISIM software.

SOFTWARE REQUIRED: MULTISIM software.

THEORY:

Norton's theorem: "Any linear two terminal circuits can be replaced by an equivalent network consisting of a current source (I_N) in series with impedance Z_N (or R_N for DC network)."
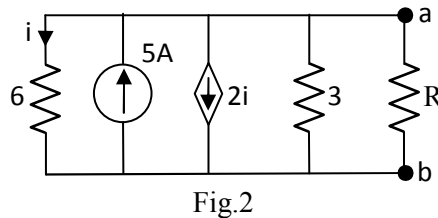

Fig.1

Where I_N = Short circuit current at load terminals

Z_N (or R_N) = Equivalent Impedance (or Resistance) of the network at load terminals when the sources are made in-operative = Z_{Th} (or R_{Th})

And $$I_L = \frac{Z_{Th}}{Z_{Th} + Z_L} I_N$$

Circuits: Find out current in R in the circuit shown in figure 2 by Norton's theorem. Assume value of R= your class roll no.

Fig.2

SOFTWARE CIRCUITS:

CALCULATIONS:

RESULT: The following circuit verifies the superposition theorem.

PRECAUTION:

1. Ground the circuit before simulation.

2. Design circuit carefully.

3. Save the file properly

4. Don't change the setting the software and computer.