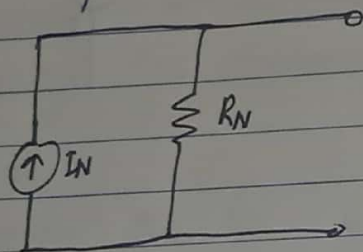


## # Norton's Theorem:

Norton's theorem states that, "Any two terminal linear bilateral dc network can be replaced by an equivalent circuit consisting of a current source and a parallel resistor."



### \* Procedure:

(i) Remove the portion of the network across which the Norton equivalent circuit is found

(ii) Mark the terminals of the remaining two terminals marks

(iii)  $R_N$ :

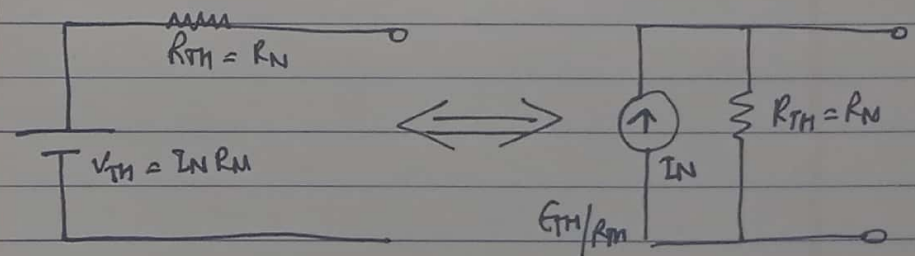
Calculate the  $R_N$  by setting all the sources to 0. (voltage source is replaced by <sup>short</sup> circuit and current source is

replaced by open-circuit) and then find the resulting resistance between the marked terminals.

(iv)  $I_N$ :

Calculate  $I_N$  by first resulting all sources to their original position and then find short circuit current between the marked terminals.

(v) Draw the Norton's equivalent circuit with the portion of the circuit previously removed replaced between the terminals of the equivalent circuit.



Bq: Converting between Thevenin's equivalent circuit and Norton's equivalent circuit.

Num. No. 54/55/56/57  $\Rightarrow$  In numericals only