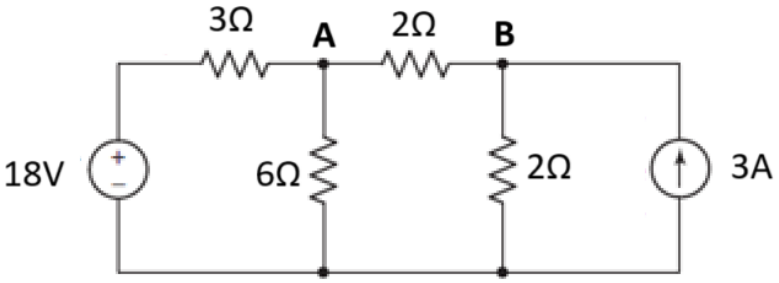
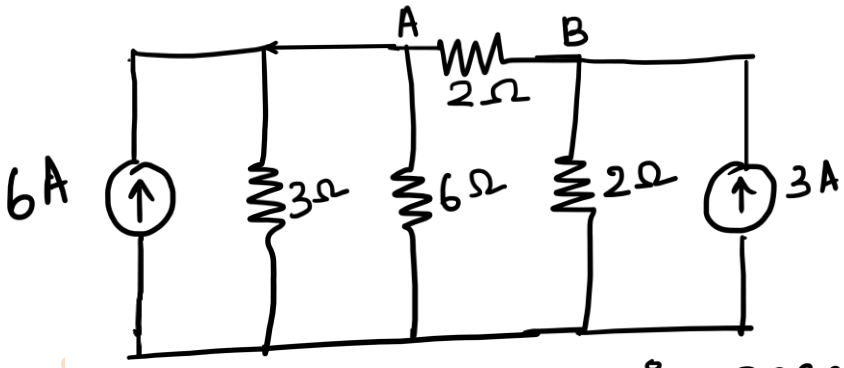
Lecture 6

1. **Apply Source Transformation to find the current flowing through branch AB in the given network.**



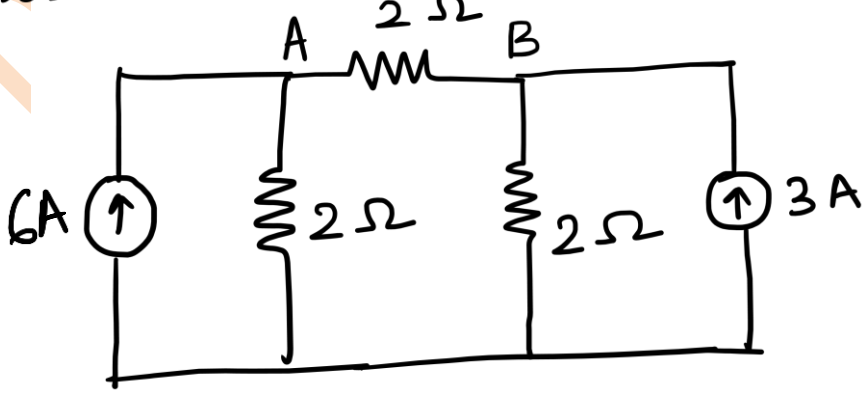
Solution : **(Ans : 1A)**

Step 1 : Converting 18V voltage source to current source

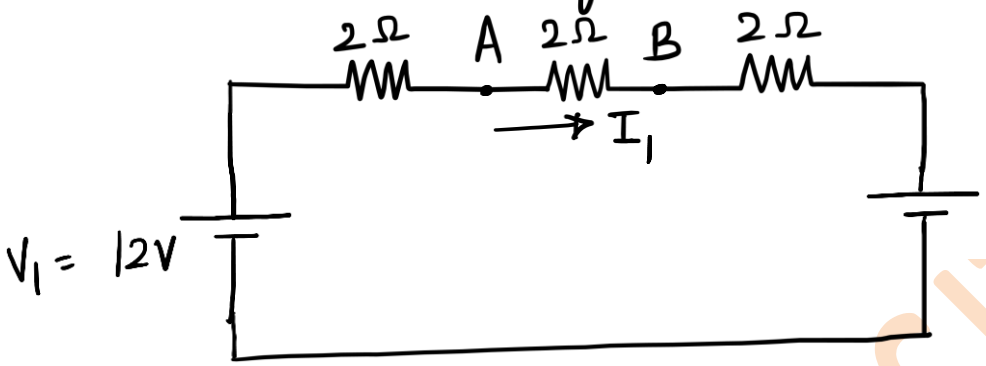


$I = \frac{18}{3} = 6A$

Resistances 3 & 6 are in parallel $(3 \| 6) = 2\,\Omega$



Step 2 : Converting 6A & 3A current source to voltage source



Apply KVL

$12 - 6I_1 - 6 = 0$

$6I_1 = 6$

$I_1 = 1A$

$V_1 = 6 \times 2 = 12V$

$V_2 = 3 \times 2 = 6V$