

$$\therefore \frac{1}{R_p} = \frac{1}{10} + \frac{1}{20} + \frac{1}{40}$$

$$= \frac{4 + 2 + 1}{40}$$

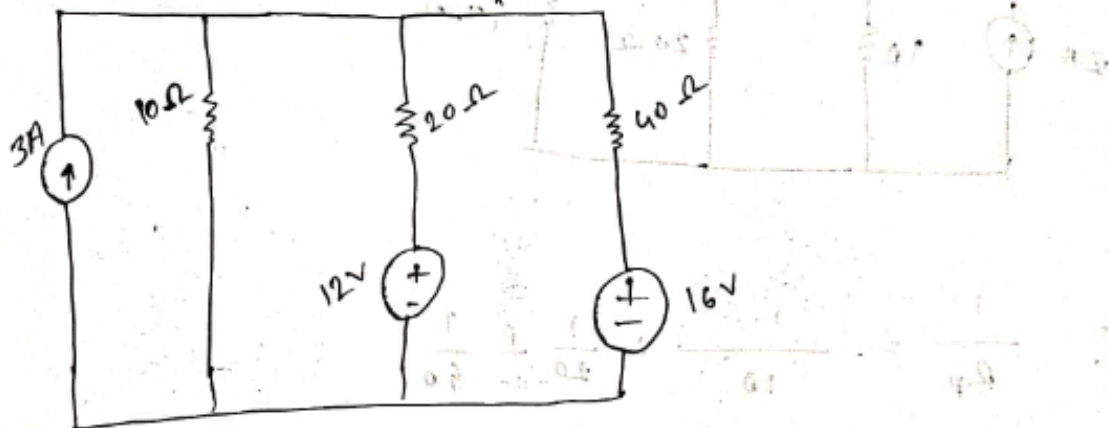
$$= \frac{7}{40}$$

$$\therefore R_p = 5.72$$

$$\begin{aligned} \therefore V_o &= I R_p \\ &= 2 \times 5.72 \\ &= 11.43 \end{aligned}$$

Ans

② use Source transformation to reduce the circuit in a single voltage source and a single resistor



$$I_2 = \frac{V_2}{R_2} = \frac{12}{20} = 0.6$$

$$I_3 = \frac{V_3}{R_3} = \frac{16}{40} = 0.4$$

$$I_1 = 3A$$

$$\therefore I_L = I_1 - \{(I_2 + I_3)\}$$

$$= 3 - (0.6 + 0.4)$$

$$= 3 - 1$$

$$= 2$$