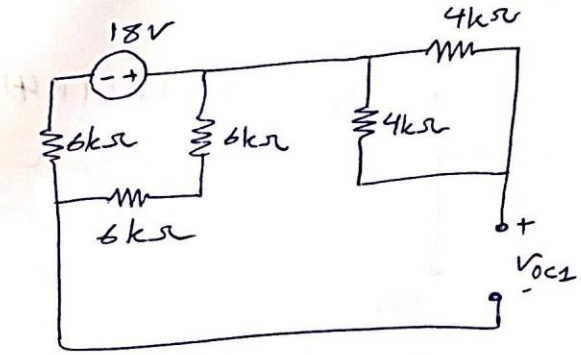
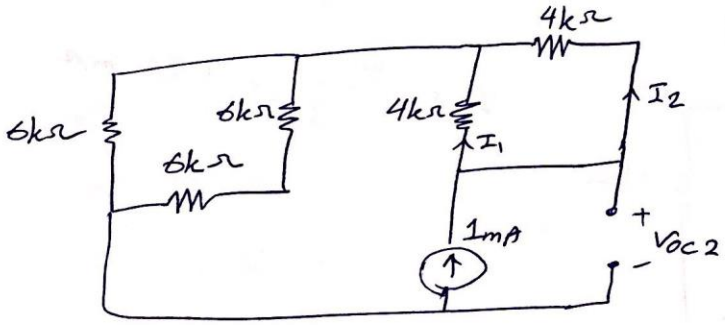
Question 2, Version 1:



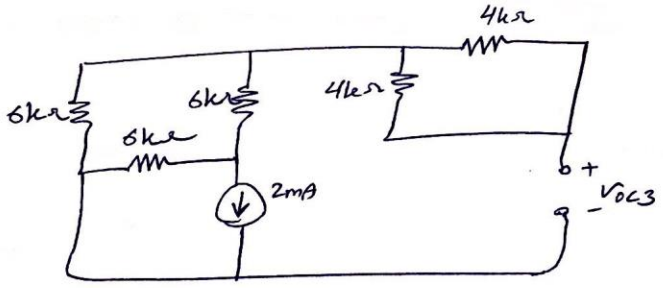
$$V_{OC1} = \left(\frac{12k}{12k+6k}\right)(18) = 12V$$

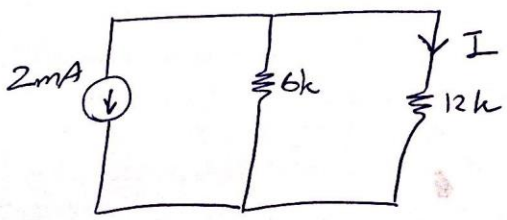


$$I_1 = I_2 = \left(\frac{4k}{4k+4k}\right)(1mA) = 0.5\ mA$$

KVL: $V_{OC2} = 4k(0.5mA) + 4k(1mA)$

$= 6V$

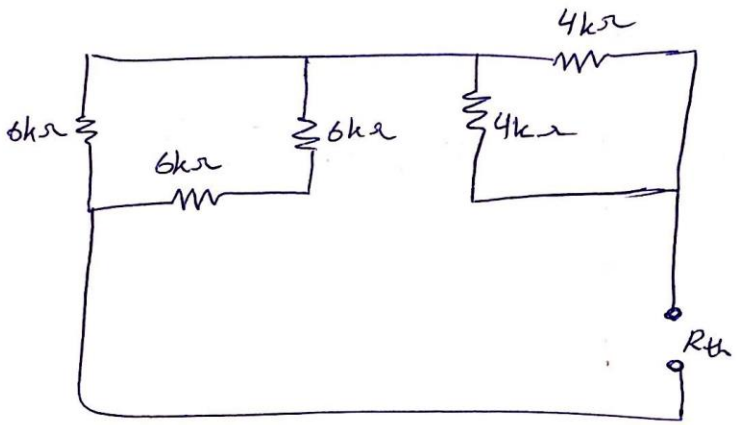




$$I = \left(\frac{6k}{6k+12k}\right)(-2mA) = -0.67\ mA$$

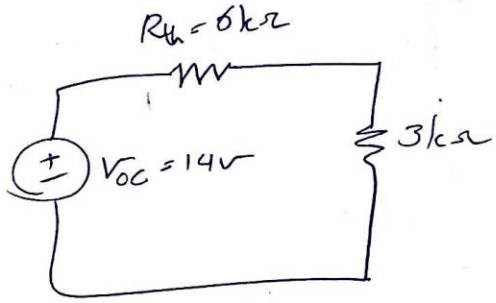
$$V_{OC3} = 6k(-0.67m) = -4V$$

$$V_{OC} = V_{OC1} + V_{OC2} + V_{OC3} = 14V$$



$R_{th} = (6 \| 12) + (4 \| 4)$

$= 6k\Omega$



$I_o = \frac{14}{6k + 3k} = 1.56\ mA$