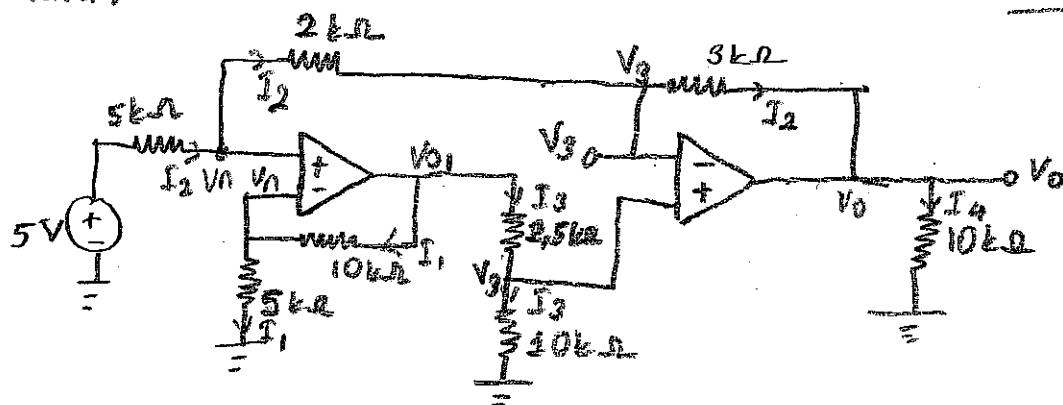


Ad Soyad :

Numara :

1	2	Top

1)

 $V_0 = ?$ $V_3 = ?$

$$I_2 = \frac{5 - V_n}{5k} \quad I_1 = \frac{V_{01}}{15k} = \frac{V_n}{5k}$$

$$I_2 = \frac{5 - V_n}{5k} = \frac{V_n - V_3}{2k} = \frac{V_3 - V_0}{3k}$$

$$I_3 = \frac{V_{01}}{12.5k} = \frac{V_3}{10k} \quad V_{01} = \frac{V_3}{10k} \cdot 12.5k = \frac{V_3 \cdot 5}{4}$$

$$V_{01} = 3V_n$$

$$3V_n = \frac{5V_3}{4} \quad V_n = \frac{5}{12} V_3 \quad V_{01} = \frac{5V_3}{4}$$

$$\frac{5}{5k} - \frac{5}{12 \cdot 5k} V_3 = \frac{5}{12 \cdot 2k} V_3 - \frac{V_3}{2k} \quad (12)$$

$$\frac{60 - 5V_3}{60k} = \frac{-7V_3}{24k}$$

$$120 - 10V_3 = -35V_3$$

$$120 = -25V_3$$

$$V_3 = -4.8V$$

$$V_n = -2V$$

$$\frac{-2 + 4.8}{2k} = \frac{-4.8 - V_0}{3k}$$

$$8.4 = -9.6 - 2V_0$$

$$-2V_0 = 18$$

$$V_0 = -9V$$