

Assignment

Name: Puspita Das

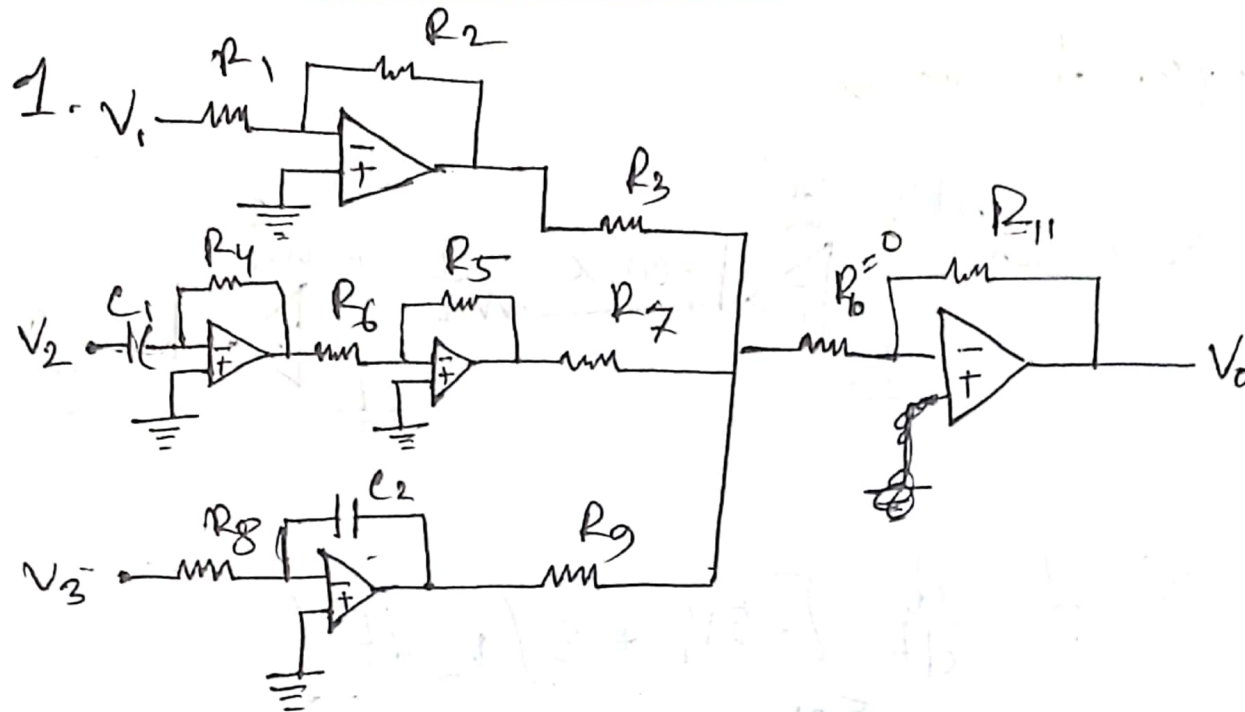
ID : 20301246

Sec : 04

Course: CSE251

SUBJECT : _____

DATE : ____/____/____

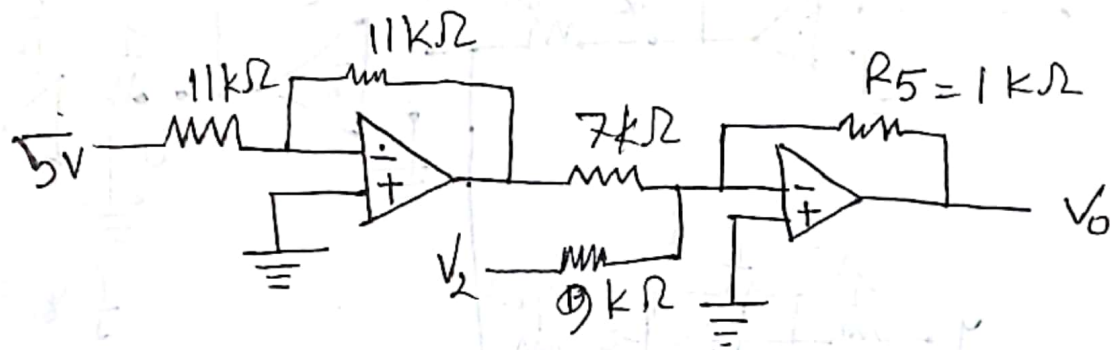


$$\begin{aligned}
 V_0 &= -\frac{R_{11}}{R_3} \times \left(-\frac{R_2}{R_1} \times V_1 \times \frac{1}{R_3} \right) - \frac{R_{11}}{R_7} \times \left(R_4 C_1 \frac{dV_2}{dt} \times \frac{R_5}{R_6} \times \frac{1}{R_7} \right) \\
 &\quad - \frac{R_{11}}{R_9} \times \left(-\frac{1}{R_8 C_2} \int V_3 dt \times \frac{1}{R_9} \right) \\
 &= \frac{R_{11} R_2}{R_1 R_3} V_1 - \frac{R_{11} R_4 R_5 C_1}{R_6 R_7} \frac{dV_2}{dt} + \frac{R_{11}}{R_8 R_9 C_2} \int V_3 dt
 \end{aligned}$$

SUBJECT : _____

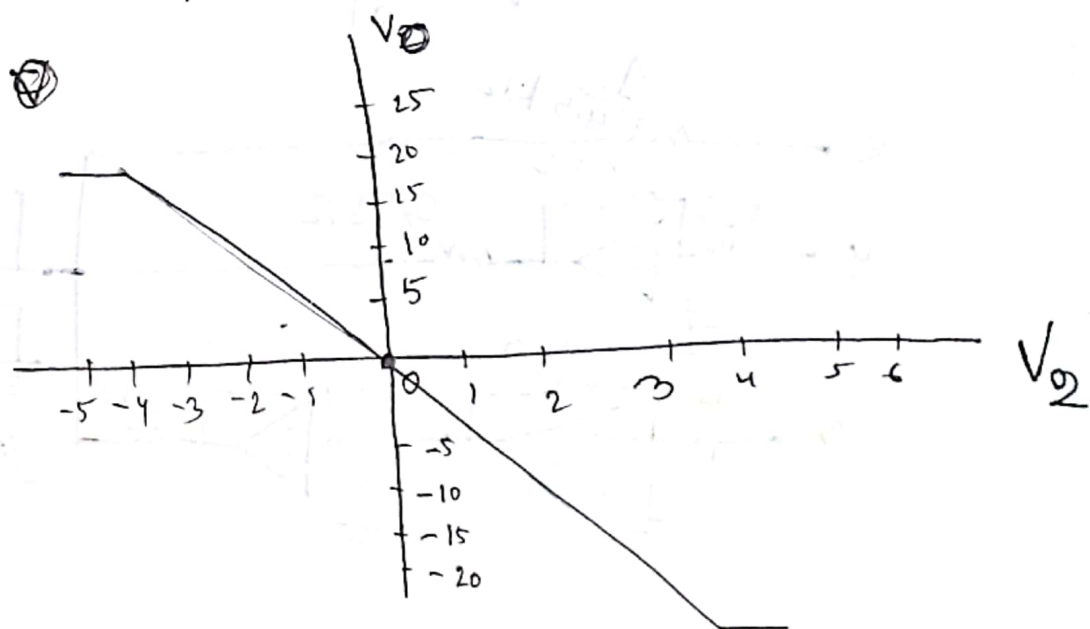
DATE : ____/____/____

2. a) Gegeben,
 $R_1 = 11 \text{ k}\Omega$, $R_2 = 11 \text{ k}\Omega$, $R_3 = 7 \text{ k}\Omega$, $R_4 = 9 \text{ k}\Omega$,
 $V_1 = 5 \text{ V}$



$$V_0 = \frac{R_5}{7} \times 5 - \frac{R_5}{9} V_2 = \frac{5}{7} - \frac{V_2}{9}$$

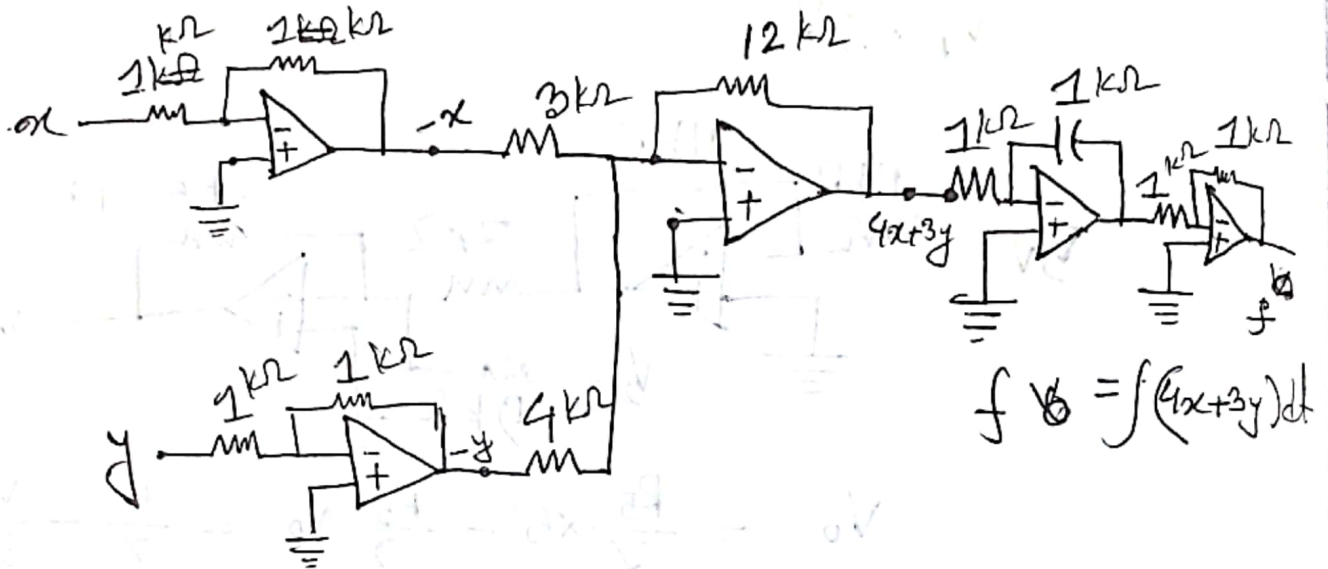
b) $V_0 = \frac{5}{7} - \frac{V_2}{9}$, $V_2 =$



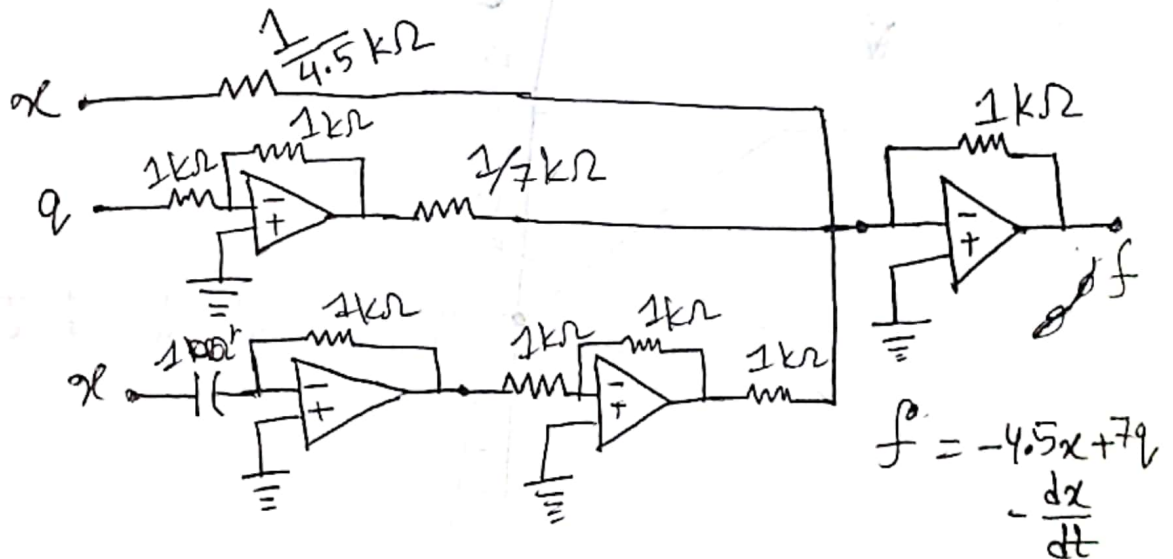
SUBJECT : _____

DATE : ____/____/____

3.① $f = \int (4x + 3y) dt$



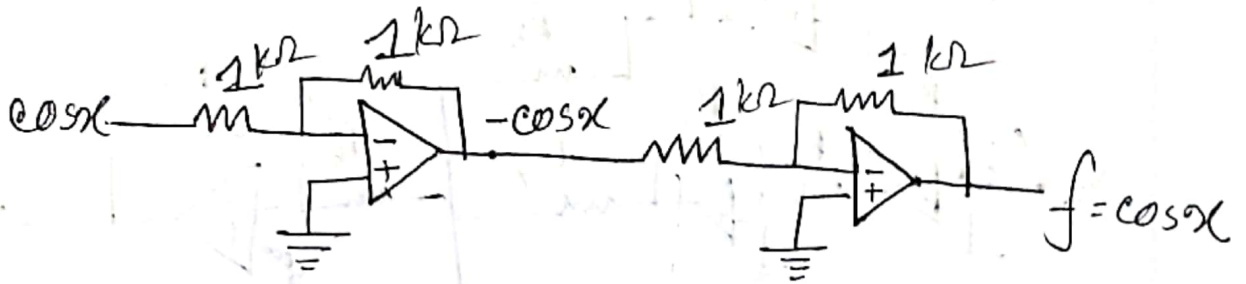
③ ② $f = -4.5x + 7y - \frac{dx}{dt}$



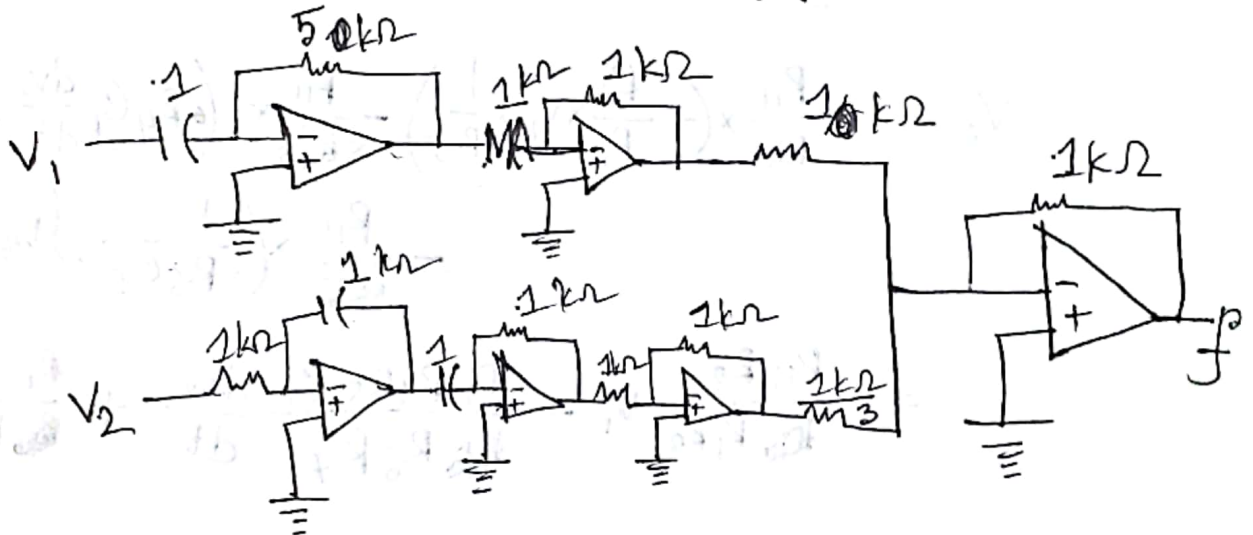
SUBJECT: _____

DATE: ____/____/____

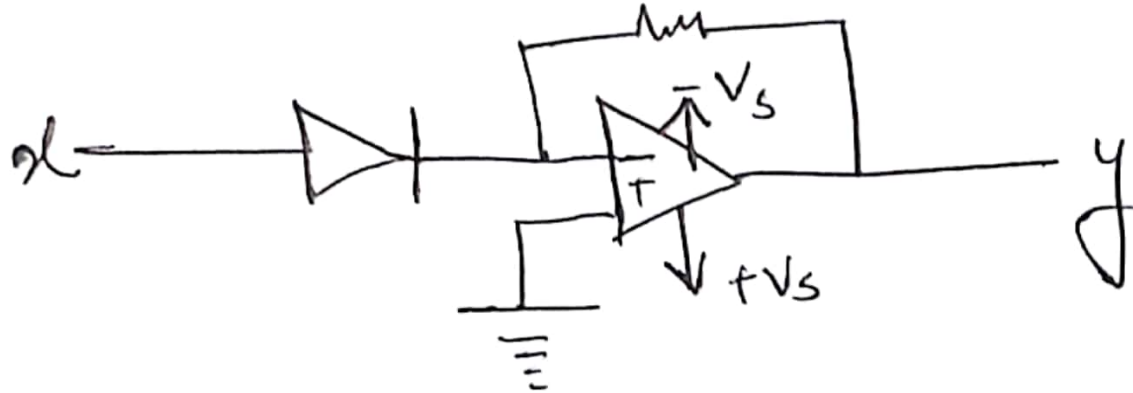
③③ $f = \cos x$



③④ $f = \frac{d}{dt} [-5V_1 + 3 \int V_2 dt]$



4.



$$\begin{aligned}
 y &= -I_s R \exp\left(\frac{x}{V_T}\right) \\
 &= -\exp x \\
 &= -e^x
 \end{aligned}$$

$$\begin{aligned}
 I_D &= I_s \exp\left(\frac{V_D}{V_T}\right), \\
 V_T &= 1, \\
 I_s R &= 1
 \end{aligned}$$