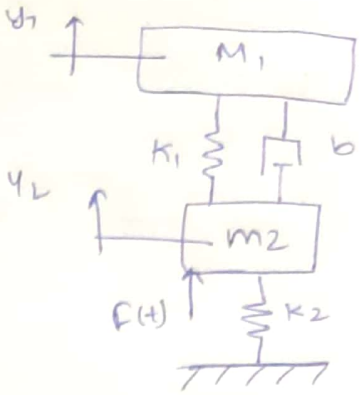
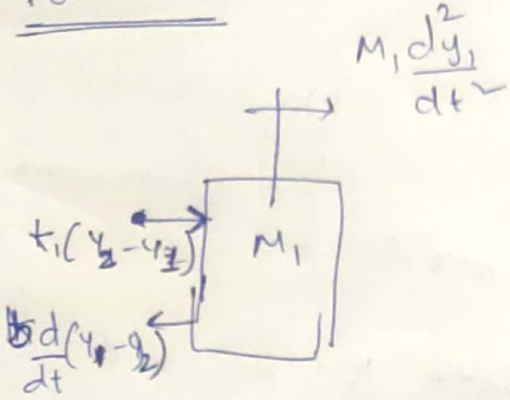
2.)



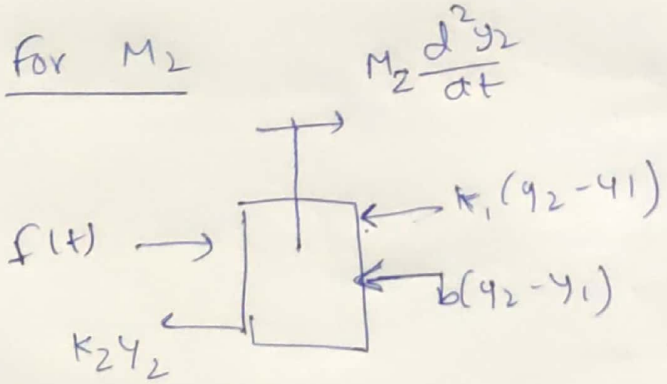
for M_1



$$M_1\frac{d^2y_1}{dt^2} = K_1(y_2-y_1) + b\frac{d}{dt}(y_1-y_2)$$

$$\Rightarrow M_1\frac{d^2y_1}{dt^2} + K_1(y_1-y_2) + b\frac{d}{dt}(y_1-y_2) = 0 \quad \rightarrow (1)$$

for M_2



$$F(t) - K_1(y_2-y_1) - b\frac{d}{dt}(y_2-y_1) - K_2y_2 = M_2\frac{d^2y_2}{dt^2}$$

$$M_2\frac{d^2y_2}{dt^2} + K_1(y_2-y_1) + b\frac{d}{dt}(y_2-y_1) + K_2y_2 = F(t)$$

$\rightarrow (2)$

We can Model the system using eq(1) and eq(2)