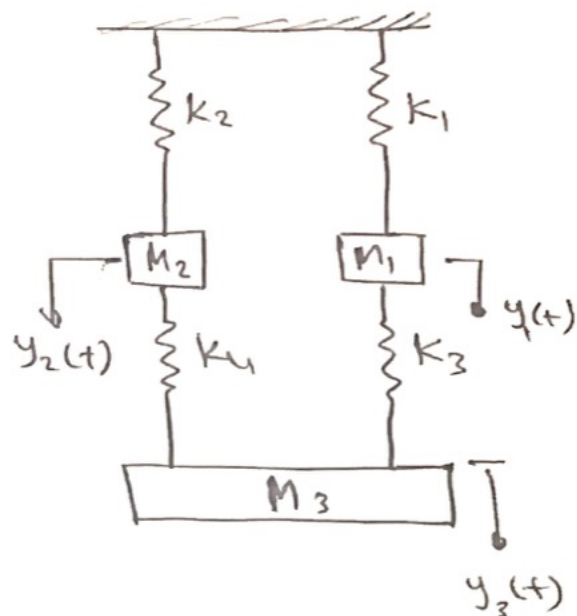
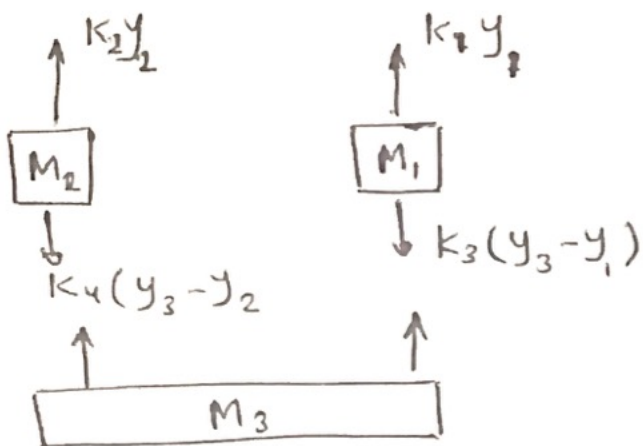


Ex 8

(11)



$$+\uparrow \sum F = M y'' \quad (\text{Dynamic})$$

* For mass ①

$$-k_1 y_1 + k_3 (y_3 - y_1) = M_1 y_1''$$

$$M_1 y_1'' + (k_1 + k_3) y_1 - k_3 y_3 = 0$$

$$[M_1 D^2 + (k_1 + k_3)] y_1 - k_3 y_3 = 0 \quad \text{--- ①}$$

For mass ②

$$-k_2 y_2 + k_4 (y_3 - y_2) = M_2 y_2''$$

$$M_2 y_2'' + (k_2 + k_4) y_2 - k_4 y_3 = 0$$

$$[M_2 D^2 + (k_2 + k_4)] y_2 - k_4 y_3 = 0 \quad \text{--- ②}$$

For mass ③

$$-k_4 (y_3 - y_2) - k_3 (y_3 - y_1) = M_3 y_3''$$

$$M_3 y_3'' + k_4 (y_3 - y_2) + k_3 (y_3 - y_1) = 0$$

$$[M_3 D^2 + (k_3 + k_4)] y_3 - k_3 y_1 - k_4 y_2 = 0 \quad \text{--- ③}$$