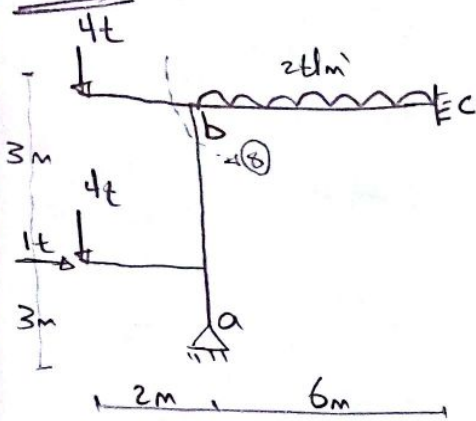


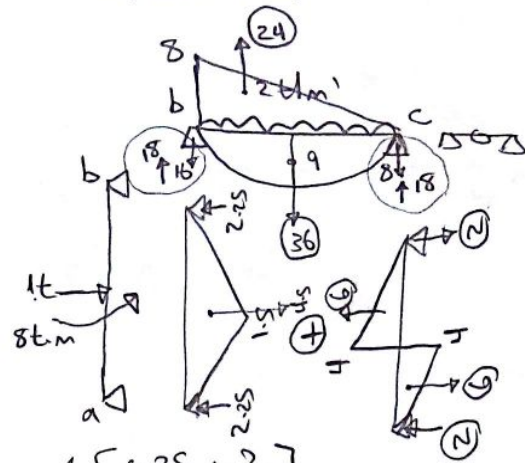
lec 8

structure



$M_a = 0$ (Pole)

M_c, M_b (Joints)



* 3 Mo. eq at (b):-

$$M_a \left[\frac{6}{I} \right] + 2M_b \left[\frac{6}{I} + \frac{6}{I} \right] + M_c \left[\frac{6}{I} \right] = -6 \left[\frac{0.25 + 2}{I} \right]$$

$$24M_b + 6M_c = -13.5 \rightarrow (1)$$

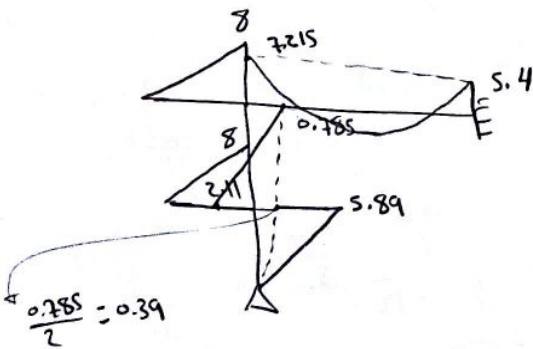
* 3 Mo. eq at (c):-

$$M_b \left(\frac{6}{I} \right) + 2M_c \left(\frac{6}{I} + 0 \right) + 0 = -6 \left(\frac{10}{I} + 0 \right)$$

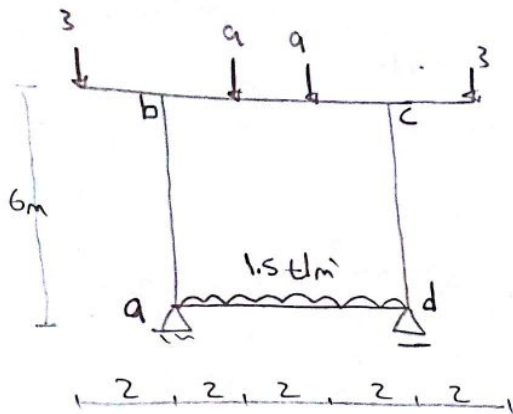
$$6M_b + 12M_c = -60 \rightarrow (2)$$

$$\therefore M_b = 0.785$$

$$M_c = -5.4$$



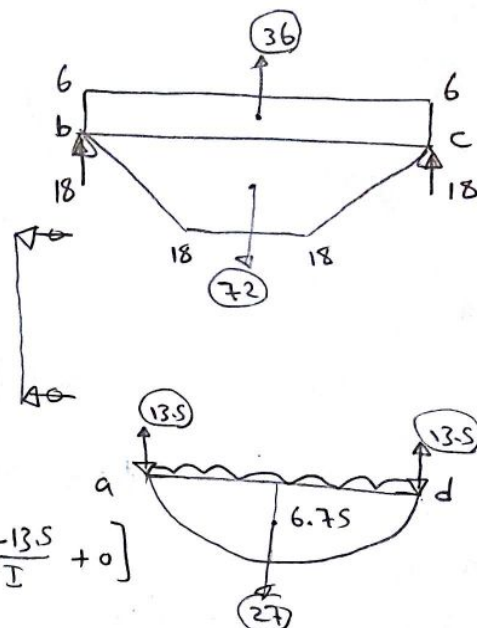
B.M.D



M_a, M_b, M_c, M_d دوجو

$$M_a = M_d$$

$$M_b = M_c \quad \text{چونکہ } \Delta \text{ متساوی الساقی ہے}$$



* 3 Meq at (a) :-

$$M_d \left(\frac{6}{L} \right) + 2M_a \left(\frac{6}{L} + \frac{6}{L} \right) + M_b \left(\frac{6}{L} \right) = -6 \left(\frac{-13.5}{L} + 0 \right)$$

$$30M_a + 6M_b = 81 \rightarrow (1)$$

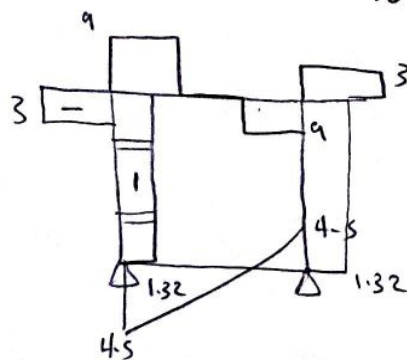
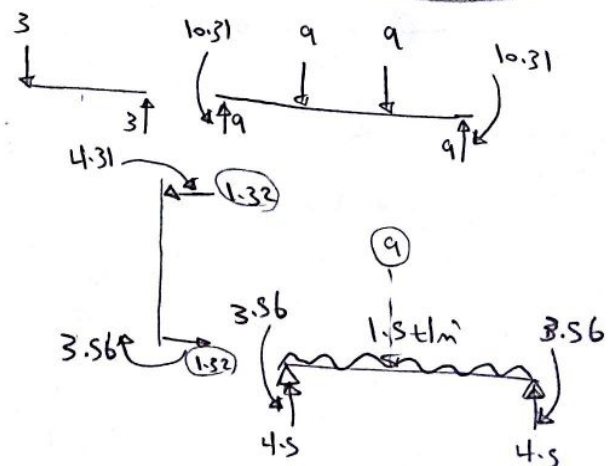
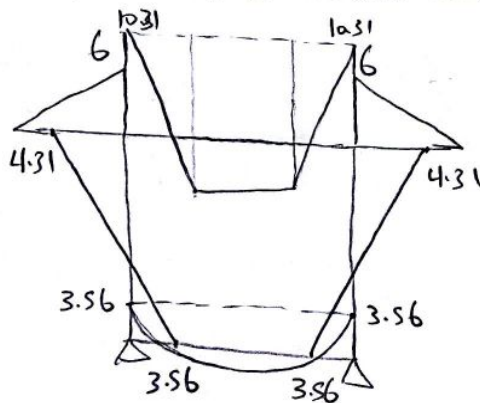
* 3 Meq at (b) :-

$$M_a \left(\frac{6}{L} \right) + 2M_b \left(\frac{6}{L} + \frac{6}{L} \right) + M_c \left(\frac{6}{L} \right) = -6 \left(0 + \frac{18}{L} \right)$$

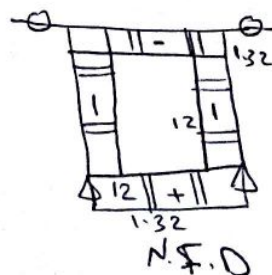
$$6M_a + 30M_b = -108 \rightarrow (2)$$

$$M_a = M_d = 3.56$$

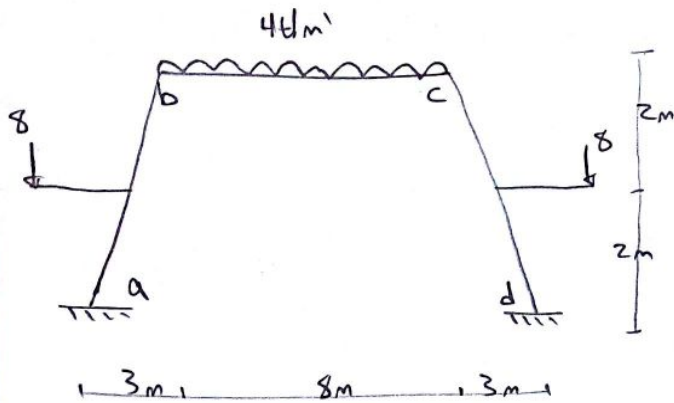
$$M_b = M_c = -4.31$$



S.F.D

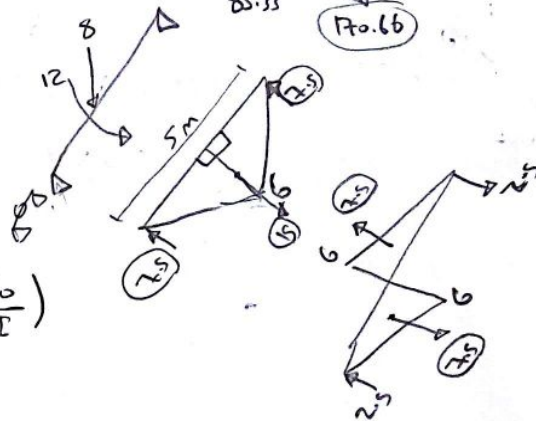
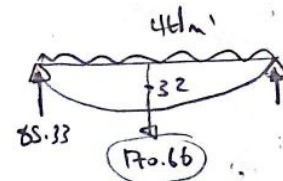


B.M.D



$$M_a = M_d \quad J_{90^\circ}$$

$$M_b = M_c$$



Σ M at (a):-

$$0 + 2M_a \left(0 + \frac{5}{1}\right) + M_b \left(\frac{5}{1}\right) = -6 \left(0 + \frac{10}{1}\right)$$

$$10M_a + 5M_b = -60 \quad \rightarrow (1)$$

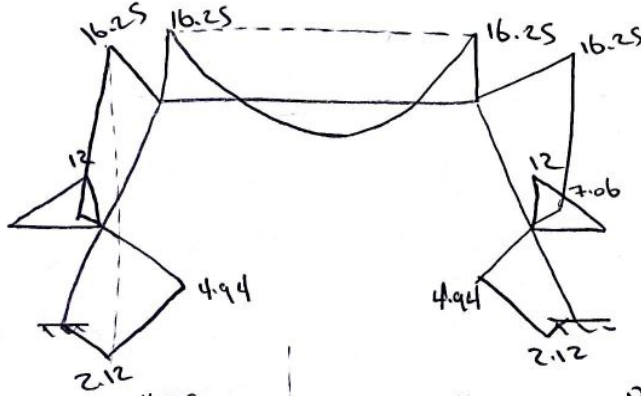
Σ M at (b):-

$$M_a \left(\frac{5}{1}\right) + 2M_b \left(\frac{5}{1} + \frac{8}{1}\right) + M_c \left(\frac{8}{1}\right) = -6 \left(\frac{5}{1} + \frac{85.33}{1}\right)$$

$$5M_a + 34M_b = -542 \quad \rightarrow (2)$$

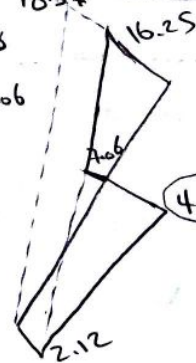
$$M_a = M_d = 2.12$$

$$M_b = M_c = -16.25$$

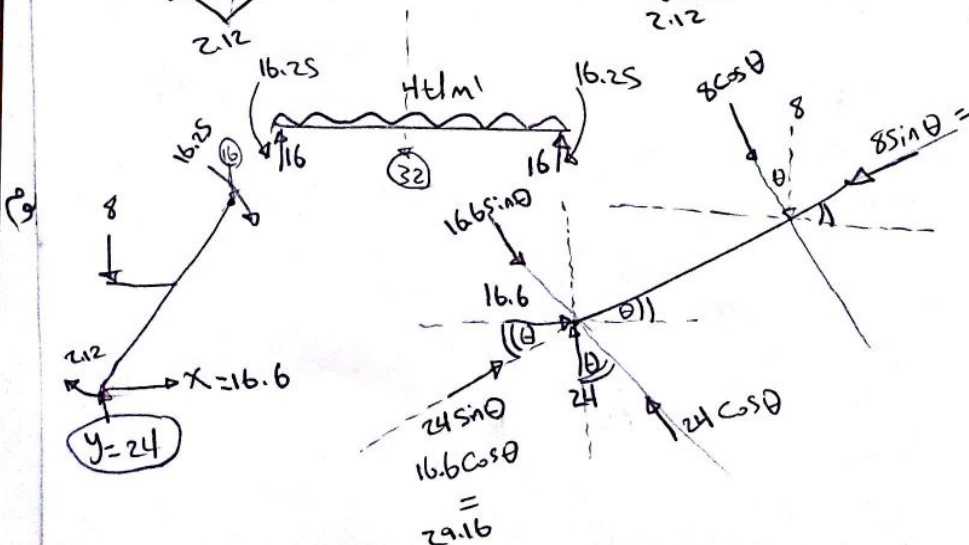


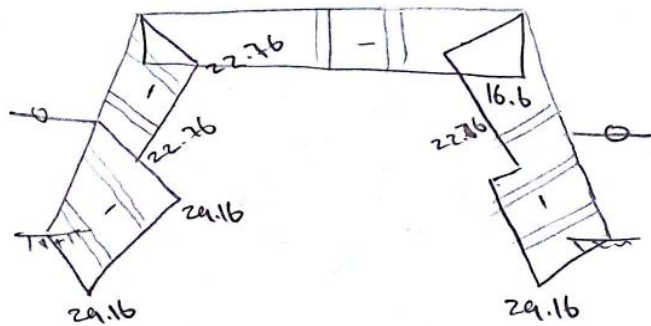
$$\frac{18.37}{2} = 9.18$$

$$9.18 - 2.12 = 7.06$$

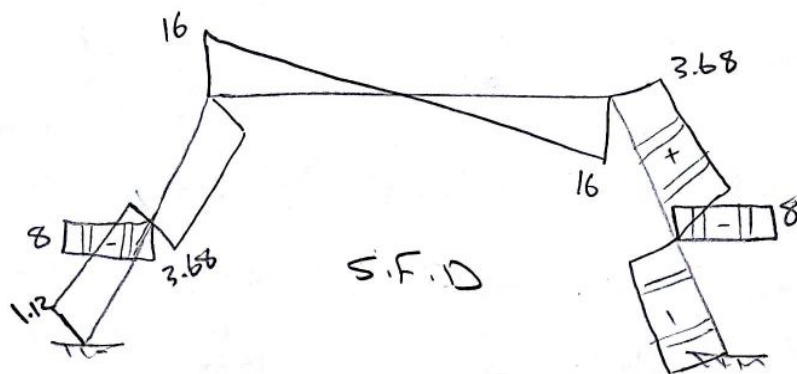


7.06
نزلت 12





N.F.D



S.F.D

