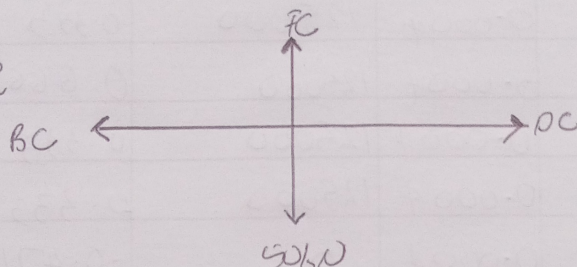


EBONN VICTORY VINCENT

17/SC14/009

ASSIGNMENT

At point C



from previous calculated examples

$$BC = 50kN$$

$$\therefore -BC + DC = 0 \text{ (Resolving to horizontal)}$$

$$-50 + DC = 0$$

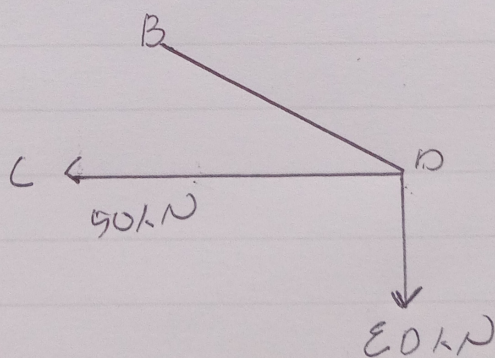
$$DC = 50kN \text{ (Tension)}$$

Resolving to vertical

$$\rightarrow -50kN + FC = 0$$

$$FC = 50kN \text{ (Tension)}$$

At point D



$$\text{Resolving to horizontal} = -50kN - DE \cos 45 = 0$$

$$50kN = -DE \cos 45$$

$$DE = \frac{50}{-0.7071} = -70.7$$

$$-0.7071$$

$$DE = 70.7 \text{ (Compression)}$$



Member	P (kN)	L (cm)	q (m <sup>-1</sup> )	P = P <sub>0</sub> q (kN/m <sup>2</sup> )	u	P <sub>uL</sub>
AF	-70.71	4.24	0.0004	-176775	-0.471	853026.75
AB	50	3	0.0004	125000	0.333	124875
BC	50	3	0.0004	125000	0.666	249750
BF	50	3	0.0004	125000	0.333	124875
FE	50	3	0.0004	125000	0.333	-124875
BE	0	4.24	0.0004	0	-0.471	0
EC	90	3	0.0004	125000	1.006	375006
ED	-70.71	4.24	0.0004	-176775	-0.942	706052.492
CD	90	3	0.0004	125000	0.666	249750

$$\Sigma = 2058495.29$$

$$\frac{\Sigma P_u L}{\Sigma} = \frac{2058495.29}{200000} = 10.2924775$$