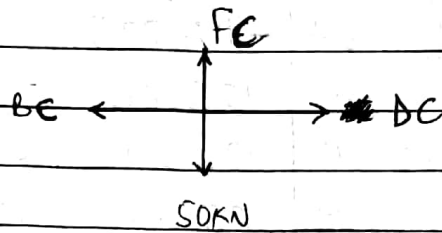


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17/ENG03/015

Assignment Answers

At Point C



From previous calculated examples

$$BC = 50\text{KN}$$

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

$$-50 + DC = 0$$

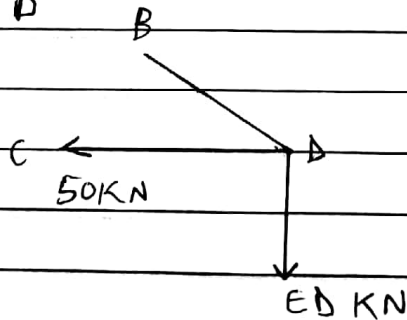
$$DC = 50\text{KN} \quad (\text{Tension})$$

Resolving to vertical

$$\Rightarrow -50\text{KN} + FC = 0$$

$$FC = 50\text{KN} \quad (\text{Tension})$$

At Point D



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

$$50\text{KN} = -DE \cos 45$$

$$DE = 50 = -70.7$$

$$-\cos 45$$

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

Member	P (kN)	L (m)	a (m ²)	$P = \frac{P}{a}$ (kN/m ²)	u	PuL
AF	-70.71	4.24	0.0004	-176775	-0.471	353026.75
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	50	3	0.0004	125000	1.000	375000
ED	-70.71	4.24	0.0004	-176775	-0.942	706053.492
CD	50	3	0.0004	125000	0.666	249750

$$S = 2058455.24$$

$$\sum PuL = \frac{2058455.24}{200000} = 10.29 \text{ mm}$$

$$\sum \quad \quad \quad 200000$$