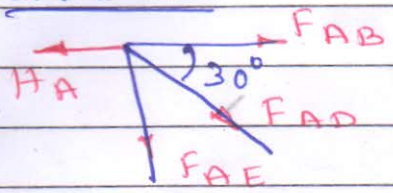
DATE

Joint A



$\Sigma F_y = 0$

$F_{AE} + F_{AD} \sin 30° = 0$

$F_{AE} = -(-19.62m) \sin 30°$

$= 19.81 m\ N$

SL NO.	Member	Force	Type
1	BC	19.62 m	Tensile
2	CD	17 m	Compression
3	AB	17 m	Comp
4	BD	9.81 m	Tensile
5	AD	19.62 m	Compressive
6	DE	34 m	Tensile
7	AE	9.81 m	Tensile

maximum tensile force $= 19.62m = 24 \times 1000\ N$

$\therefore m = \frac{24000}{19.62}$

$= 1223.24\ kg$

maximum compressive force $= 34m = 35 \times 1000$

$m = \frac{35000}{34}$

$= 1029.41\ kg$

$\therefore$ The largest permissible mass m = least of the two mass $= 1029.41\ kg$

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