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$$W = 500(9.81) = 4905 \text{ N}$$

First draw a free-body diagram of joint A , and write the equations of equilibrium

$$\rightarrow \Sigma F_x = 0: \quad T_{AC} + T_{AB} \cos 30^\circ = 0$$

$$\uparrow \Sigma F_y = 0: \quad T_{AB} \sin 30^\circ - W = 0$$

$$T_{AB} = 9810 \text{ N} = 9.81 \text{ kN (T)} \dots\dots\dots \text{Ans.}$$

$$T_{BC} = -8495.709 \text{ N} \cong 8.50 \text{ kN (C)} \dots\dots\dots \text{Ans.}$$

Next, from a free-body diagram of joint C ,
the equations of equilibrium give

$$\rightarrow \Sigma F_x = 0: \quad T_{AC} + T_{BC} \cos 60^\circ + T_{CD} \cos 45^\circ = 0$$

$$\uparrow \Sigma F_y = 0: \quad T_{BC} \sin 60^\circ - T_{CD} \sin 45^\circ = 0$$

$$T_{BC} = -6219.291 \text{ N} = 6.22 \text{ kN (C)} \dots\dots\dots \text{Ans.}$$

$$T_{CD} = -7617.044 \text{ N} \cong 7.62 \text{ kN (C)} \dots\dots\dots \text{Ans.}$$

