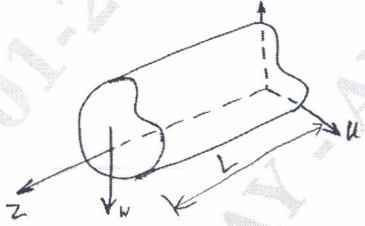
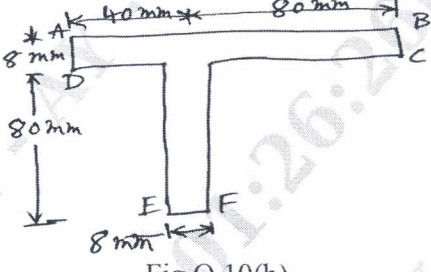


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Module – 5

Q.9	a.	Derive an equation for direct stress due to bending in an unsymmetrical section.	8	L2	CO3
	b.	The I section beam with flanges $200 \text{ mm} \times 20 \text{ mm}$ and web $260 \text{ mm} \times 25 \text{ mm}$ is subjected to a bending moment of 100 kNm applied in a plane parallel to the longitudinal axis of the beam but inclined at 30° to the left of the vertical. The sense of the bending moment is clockwise when viewed from the left hand edge of the beam section. Determine the distribution of stress.	12	L3	CO3

OR

Q.10	a.	Determine the horizontal and vertical components of the tip deflection of the cantilever shown in Fig.Q.10(a) The second moments of area of its unsymmetrical section are I_{XX} , I_{YY} and I_{XY} .	8	L3	CO3
		 <p>Fig.Q.10(a)</p>			
	b.	A beam having cross section as shown in Fig.Q.10(b) is subjected to bending moment of 1500 Nm in a vertical plane. Calculate the maximum direct stress due to bending stating the point at which it acts.	12	L3	CO3
		 <p>Fig.Q.10(b)</p>			
