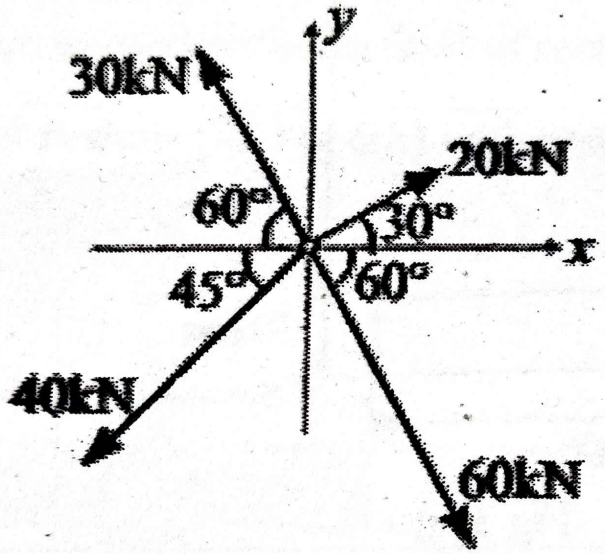
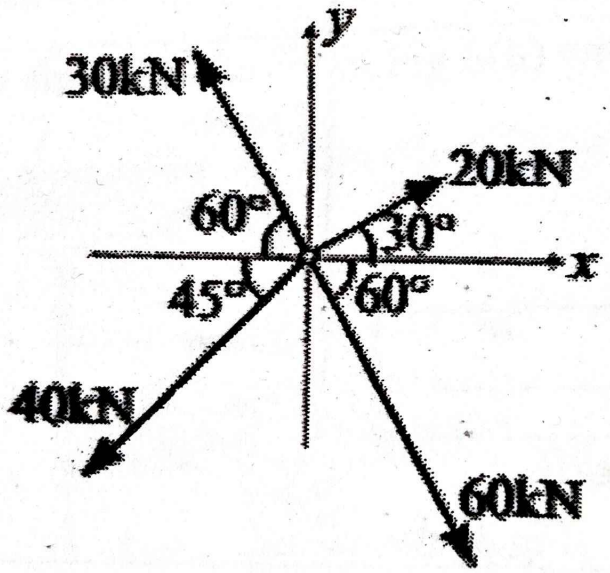
1a	Explain i) Principle of Transmissibility of forces ii) Principle of Superposition of forces iii) Principle of Physical Independence of forces	08	L2	CO3
1b	Solve for the magnitude and direction of the resultant for the force system shown in Fig 1(b)  Fig. 1(b)	09	L3	CO3
	OR			

	OR			
2a	**Explain** **i) Coplanar concurrent force systems** **ii) Non coplanar force system** **iii) Like parallel force system** **iv) Collinear force system**	**08**	**L2**	**CO3**
2b	**Four forces acting on a hook are shown in Fig 2(b). Determine the direction of the force 125 N such that the hook is pulled in the x-direction. Determine the resultant force in the x-direction**	**09**	**L3**	**CO3**

Q. No.	Question	M	L	C
1a	Explain i) Principle of Transmissibility of forces ii) Principle of Superposition of forces iii) Principle of Physical Independence of forces	08	L2	CO3
1b	Solve for the magnitude and direction of the resultant for the force system shown in Fig 1(b)  Fig. 1(b)	09	L3	CO3

2a	Explain i) Coplanar concurrent force systems ii) Non coplanar force system iii) Like parallel force system iv) Collinear force system	08	L2	CO3
2b	Four forces acting on a hook are shown in Fig 2(b). Determine the direction of the force 125 N such that the hook is pulled in the x-direction. Determine the resultant force in the x-direction	09	L3	CO3

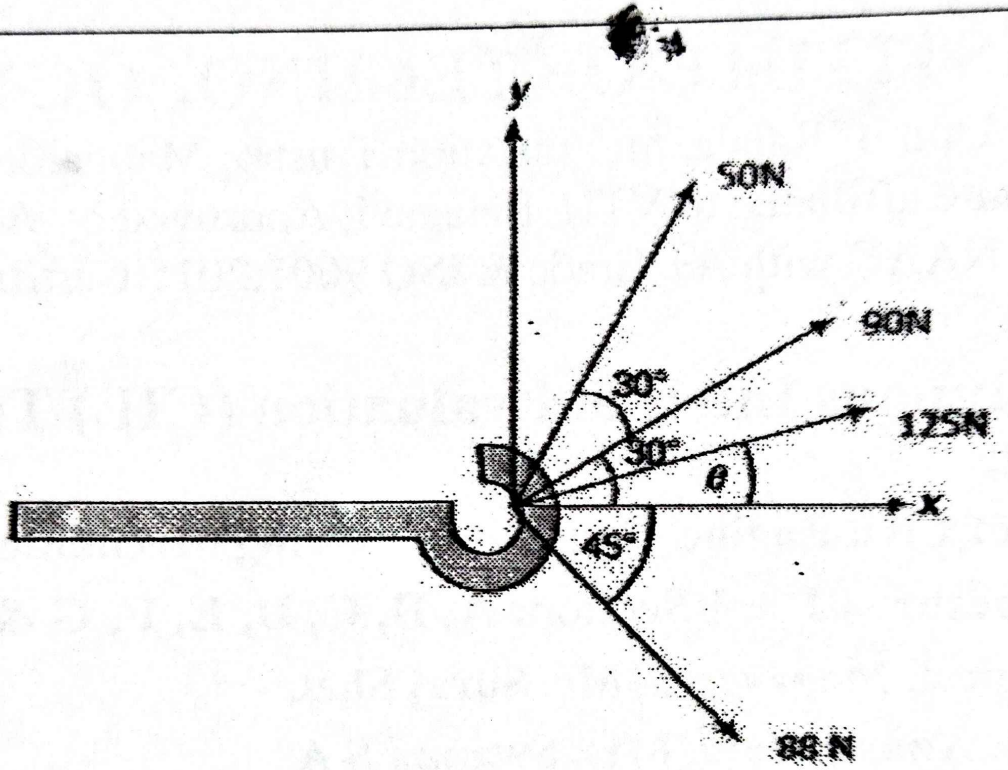
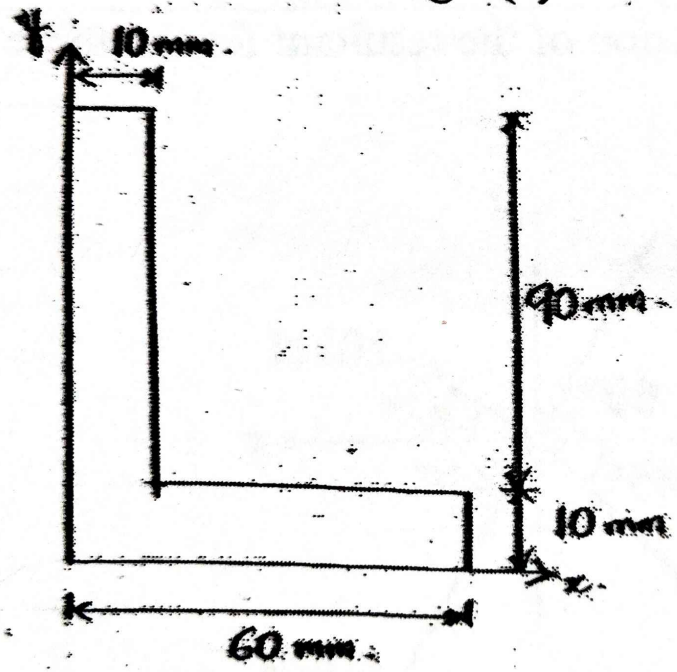
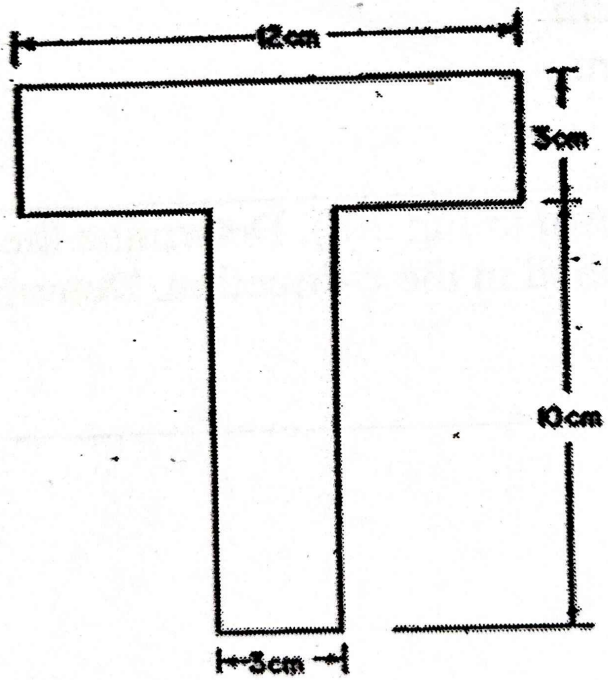
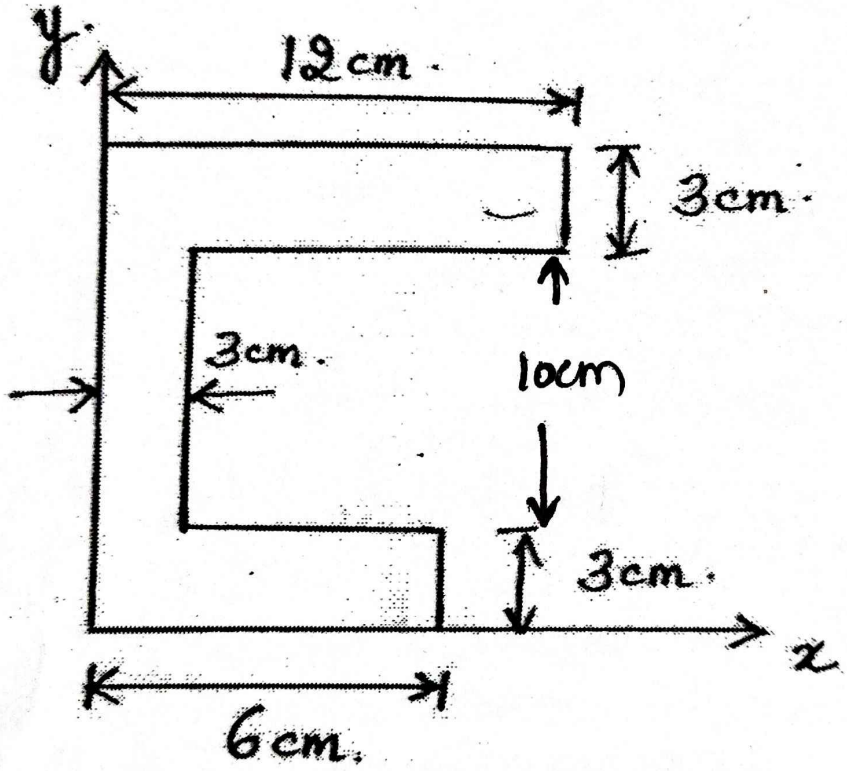


Fig 2(b)

3a	Explain: i) Free body diagram with a neat sketch ii) Moment of a force iii) Composition of forces	07	L2	CO3
3b	Solve for the centroid for the area shown in Fig 3 (b) with respect to the axis shown  Fig 3(b)	10	L3	CO4

OR

4a	Explain i) Characteristics of force ii) Resolution of force	07	L2	CO3
4b	Solve for the centroid for the area shown in Fig 4(b) with respect to the centroidal axis  Fig 4(b)	10	L3	CO4

5a	Apply the method of integration to derive the centroid of semicircle.	06	L3	CO4
5b	Solve for the centroid for the area shown in Fig 5(b) with respect to the axis shown  Fig 5(b)	10	L3	CO4

6a	Apply the method of integration to derive the centroid of rectangle	06	L3	CO4
6b	Solve for the centroid for the area shown in Fig 6(b) with respect to the centroidal axis	10	L3	CO4

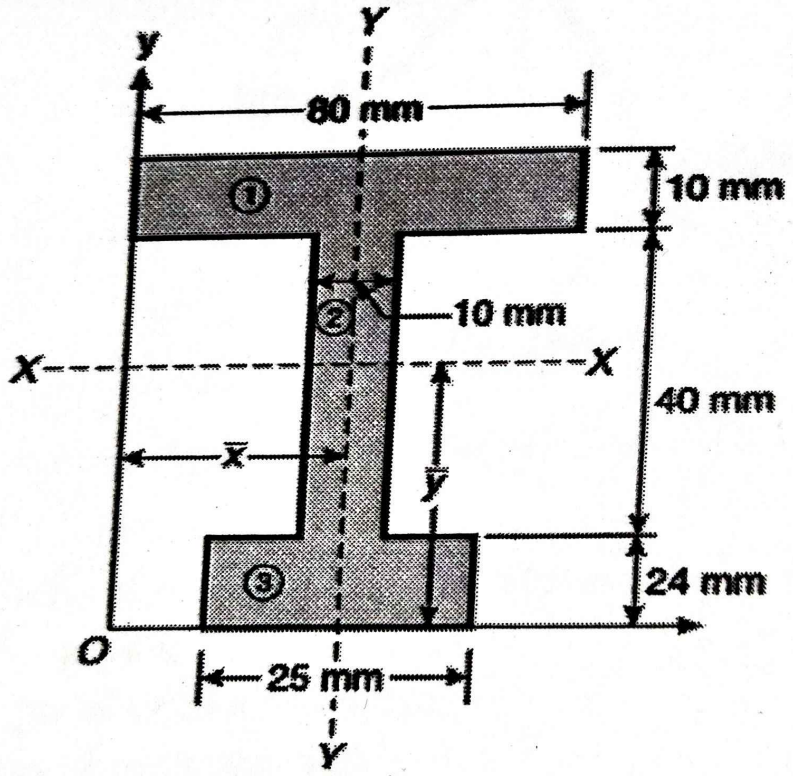


Fig 6(b)