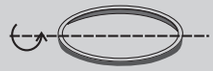
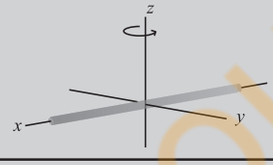
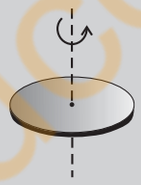
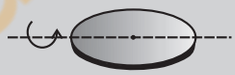
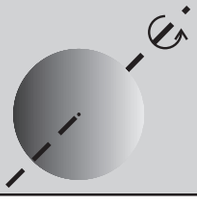
Table 7.1 Moments of inertia of some regular shaped bodies about specific axes

Z	Body	Axis	Figure	*I*
(1)	Thin circular ring, radius *R*	Perpendicular to plane, at centre		MR^2
(2)	Thin circular ring, radius *R*	Diameter		$MR^2/2$
(3)	Thin rod, length *L*	Perpendicular to rod, at mid point		$ML^2/12$
(4)	Circular disc, radius *R*	Perpendicular to disc at centre		$MR^2/2$
(5)	Circular disc, radius *R*	Diameter		$MR^2/4$
(6)	Hollow cylinder, radius *R*	Axis of cylinder		MR^2
(7)	Solid cylinder, radius *R*	Axis of cylinder		$MR^2/2$
(8)	Solid sphere, radius *R*	Diameter		$2MR^2/5$

Theorem of perpendicular axes

This theorem is applicable to bodies which are planar. In practice this means the theorem applies to flat bodies whose thickness is very small compared to their other dimensions (e.g. length, breadth or radius). Fig. 7.29 illustrates the theorem. It states that **the moment of inertia of a planar body (lamina) about an axis perpendicular to its plane is equal to the sum of its moments of inertia about two perpendicular axes concurrent with perpendicular axis and lying in the plane of the body.**