Name:- Shreorang Mhatre
Class: Mechanics Practical
Roll no: 111056
Division: K3
Submitted to: Arunabh Pandey Sir

Experiment No-5

Determination of Moment of Inertia of Flywheel

* Questions -

Q1) what are the practical applications of the fly wheel?

Ans→ The practical applications of the fly wheel are-
① In wind turbines
② Along with motor driven generator to store energy.
③ In automobile engines
④ In electric cars to boost speed
⑤ In advanced locomotive propulsion systems
⑥ In advanced technology transit buses
⑦ In satellites to control direction
⑧ In Big electricity grids for protection against interruptions

Q2) what is the physical significance of the moment of inertia?

Ans→ The physical significance of the moment of inertia is similar to the mass in the translational motion. In translational motion, the mass of a body is used for measuring the inertia. As the mass increases, inertia becomes larger. The force required for producing the linear acceleration will also increase.

(Q3) What is the radius of gyration?

Ans-> Radius of gyration or gyradius of a body about the axis of rotation is defined as the radial distance to a point which would have a moment of inertia the same as the body's actual distribution of mass, if the total mass of the body were concentrated there.

(Q4) What is the parallel axis theorem of M.I?

Ans-> The parallel axis theorem states that, the moment of inertia of a body about any axis is equal to the moment of inertia about parallel axis through its center of mass plus the product of the mass of the body and the square of the perpendicular distance between the two parallel axes.

(Q5) What is the perpendicular axis theorem of M.I?

Ans-> The perpendicular axis theorem states that the moment of inertia of a planar lamina (i.e. 2-D body) about an axis perpendicular to the plane of the lamina is equal to the sum of the moments of inertia of the lamina about the two axes at right angles to each other at the point where the perpendicular axis passes through it.