Answer on Question #65100-Physics-Other

A 5kg wheel is given an acceleration of 10rad/sec by an applied torque of 2N-m.Calculate its

(a) moment of inertia

(b) radius of gyration

Solution

(a) Moment of inertia is

$$I = \frac{T}{\alpha} = \frac{2}{10} = 0.2\ kgm^2.$$

(b) Radius of gyration is

$$R_g = \sqrt{\frac{I}{m}} = \sqrt{\frac{0.2}{5}} = 0.2\ m.$$