

CHOITHRAM SCHOOL MANIKBAGH INDORE**CLASS XI Session: 2017-18****Subject: Physics****Allotment Date: 10 /11/2017****Assignment No: III****Submission Date: 20/11/17**

Type e S.No	QUESTION	MARKS	LEVEL
OBJECTIVE TYPE			
1.	State theorem of parallel axes.	1	Knowledge
2.	The moment of inertia of a ring about its geometrical axis is I, what is the moment of inertia about its diameter?	1	Understanding
3.	The moment of inertia of a uniform circular disc about a diameter is I. What is its moment of inertia about an axis perpendicular to its plane and passing through a point on its rim?	1	hot
SHORT ANSWER TYPE I			
4.	Define terms torque and moment of inertia. Establish the relation between these quantities.	2	knowledge
5.	A particle moves in a circular path with decreasing speed. What happens to its angular momentum?	2	understanding
6.	A particle performs uniform circular motion with an angular momentum L. If the angular frequency of the particle is doubled, and kinetic energy is halved, what will be its angular momentum?	2	logic
7.	Two rods of length l and mass m are in L shape. Find the moment of inertia about an axis passing the point of joining and perpendicular to the plane of the L-section.	2	Hot
SHORT ANSWER TYPE II			
8.	Energy of 484 Joule is spent in increasing speed of a flywheel from 60rpm to 360 rpm. Calculate the moment of inertia of the wheel.	3	understanding
9.	If the earth were to suddenly contract to $\frac{3}{4}$ of the present radius, without any change in its mass, then what will be the effect on the duration of the day?	3	Multi conceptual
10.	Radha found the wheel getting detached from her uncle's car . She took it to workshop and got it repaired. She informed her uncle, who is a mechanical engineer, about this matter. (a) What according to you the values displayed by Radha? (b)A thin wheel can stay up-right on its rim for a considerable length of time when rolled with a considerable velocity, while it falls from its upright position at the slightest disturbance, when stationery. Explain.	3	Value based
11.	Discuss rolling without slipping of a cylinder down a rough inclined plane and obtain an expression for the coefficient of friction necessary for the same.	5	Logic
12.	A meter stick is balanced on a knife edge at its centre. When two coins, each of mass 5g, are put one on top of the other at the 12 cm mark, the stick is found to be balanced at 45 cm. What is the mass of the meter stick?	5	Hot