Worksheet: System of Particles and Rotational Motion

Bihar State Board · Class 11 · Physics · 5 questions · 16 marks

Name: _____	Date: _____	Score: _____ / 16

Q1. Masses 2 kg and 3 kg are at (1,0) and (4,0) m. Find the centre of mass. *[2 marks]*

Q2. A disc has I = (1/2)MR^2 about its central perpendicular axis. Find I about a parallel axis at the rim. *[3 marks]*

Q3. A torque of 10 N m acts on a body with I = 5 kg m^2 for 4 s from rest. Find the angular velocity attained. *[3 marks]*

Q4. A diver with I = 15 kg m^2 spins at 3 rad/s tucked, then straightens to I = 25 kg m^2. Find the new angular velocity. *[3 marks]*

Q5. A solid sphere rolls down a 10 m high incline. Find its speed at the bottom (g = 10 m/s^2). *[5 marks]*