CITY COLLEGE
Internal Examination 2020−2021
Physics (Hons.) CBCS Semester 1
Paper: CC2 (Mechanics)
Time: 1 Hour; Full Marks: 20

Answer any <u>ten</u> questions from the following: $\qquad$ 10×2=20

1. What is Galilean transformation?
2. Define centre of mass.
3. What is meant by conservative force?
4. What is the expression for velocity in polar co-ordinates?
5. Define a central force.
6. Show that motion of a particle in a central force field lies on a plane.
7. What is Coriolis force?
8. What is reduced mass?
9. Show that moment of inertia tensor is symmetric.
10. What are the principal axes of a rectangle?
11. What is Reynold's number?
12. State Bernoulli's theorem.

Answer script must be emailed to **sem1hcityphysics@gmail.com** within 15 minutes of the end of the examination.