

BSC B.Ed. Sem II Examination, 2020
Subject: Physics
Course : CC2

Full Marks: 50

Time: 2 Hours

Answer any ten (10) questions from the following:

5X10=50

- 1) Show that for perfectly elastic collision the loss in kinetic energy is zero.
- 2) Find out the moment of inertia of a solid sphere about its diameter.
- 3) Describe briefly the method of determination of Young's modulus by bending of a beam.
- 4) Find out the expression for depression of cantilever when the load is fixed at the center.
State the expression if the bar is rectangular
- 5) Obtain the relation between Young's modulus Y , Rigidity modulus n and Poisson's ratio σ .
- 6) Using an expression for the velocity of the liquid flowing through a capillary tube, obtain Poiseuille's equation for the liquid.
- 7) What is torsional pendulum? Derive an expression for rigidity modulus by torsional oscillation.
- 8) Derive the expression for the gravitational potential and gravitational field due to a uniform sphere at a point inside the sphere.
- 9) Describe a laboratory method to determine coefficient of viscosity of water.
- 10) Explain the working principle of Foucault's pendulum.
- 11) Explain Coriolis force and Centrifugal force.
- 12) Show that the value of Poisson's ratio lies between -1 & $+1/2$.