Mugberia Gangadhar Mahavidyalaya
Department of Physics
1st Internal assessment, Semester II
Paper Name: Quantum Waves and Optics (C4)
Full Marks: 10; Time: 30 minutes

Answer any five of the following questions

1. Write the superposition principal of wave.
2. Write the Huygens Principle.
3. Write the difference between the Temporal and Spatial Coherence.
4. Drive the expression of Superposition of two collinear oscillations having equal frequencies.
5. Define the phase velocity and group velocity. Drive the relation between group velocity and phase velocity.
6. Show that the intensity for a plane progressive harmonic wave is the product of the r.m.s acoustic pressure and r.m.s particle velocity.

7. Prove that $\frac{\partial^2 \Delta}{\partial t^2} = c^2 \frac{\partial^2 \Delta}{\partial x^2}$