

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc.DEGREE EXAMINATION –PHYSICS

SECOND SEMESTER – APRIL 2019

PH 2500– MECHANICS & SOUND

Date: 02-04-2019

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART - A

Answer any **FOUR** questions

(4×10=40)

1. Write down the relation between the displacement and velocity.
2. Write the formula for centripetal acceleration.
3. What are concurrent forces?
4. What is meant by holonomic constraints?
5. What are generalized coordinates?
6. What is meant by beats?
7. Write down the expression for Hooke's law.
8. Mention any two applications of ultrasonics.

PART - B

Answer any **THREE** questions

(3×20=60)

9. Draw distance-time graph, velocity-time graph and acceleration-time graph for a particle falling towards the earth. Ignore the effect of air.
10. Explain in detail Toricelli's theorem.
11. Set up the Lagrangian for a simple pendulum from first principle.
12. Discuss in detail the projectile motion.
13. State and prove the Bernoulli's theorem.
14. With a neat diagram, explain the working of Melde's apparatus.
