



THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

Backlog Arrear Examination, March 2021

Course Code: PHY 2481/2561

Time: 3 Hrs

Course Title: Physics for Maths I

Max. Mark: 75

Answer any FIVE of the following questions

5x15=75

1. For an oblique projection obtain the expression for maximum height, horizontal range and time of flight of a projectile.
2. State and prove work energy theorem.
3. Show that the linear momentum of system of particles is conserved.
4. Explain Kepler's laws of planetary motion.
5. Show that the total energy of a simple harmonic oscillator is conserved.
6. Discuss the theory of Doppler effect in detail
7. Explain how standing waves can be produced in air columns trapped in tubes of cylindrical shapes.
