



# THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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

## Backlog Arrear Examination, March 2021

**Course Code: PHY 1482/ 1562/ 1382**

**Time: 3 hours**

**Course Title: Physics for Chemistry - II**

**Max. Marks: 75**

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- I. Answer **ANY FIVE** questions. **(5 × 15 =75)**
1. Derive an expression for electric field density for a line of charge using coulombs law.
  2. Explain the effective resistance of the resistor in series and parallel network.
  3. Describe the different types of magnetic materials.
  4. Explain full wave rectifier and derive its efficiency.
  5. Explain Hartley Oscillator with a neat circuit diagram.
  6. Describe the different types of logic gates with its Boolean expression, truth table and diagram.
  7. Describe the working of half adder and full adder with its neat circuit diagram and truth table.
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