



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: PGP 4523/PGP 4423/PGP 569

Time: 3 hours

Course Title: Analog and Physical Electronics/Physical Electronics

Max. Marks: 75

I. Answer **ANY FIVE** questions.

(5 × 15 =75)

1. With a neat circuit diagram explain current to voltage and voltage to current converters.
 2. Explain inverting and non inverting amplifiers and derive an expression for gain.
 3. Explain first order low pass and high pass filter with its neat circuit diagram and frequency response curve.
 4. With a neat circuit diagram explain Wein Bridge oscillator and derive the necessary condition for a Wein Bridge to oscillate. Also find the frequency of oscillation.
 5. Derive an expression for electron concentration in an intrinsic semiconductor.
 6. Discuss in detail the principle, construction and working of a Light Emitting Diode. Draw schematic diagrams wherever necessary.
 7. Explain the fabrication of CMOS with diagrams.
-