Fundamentals of Electronics Engineering Lab

1.1 Course Number: ECE102L

1.2 Contact Hours: 0-0-2   Credits: 2

1.3 Semester-offered: 1st Year-Odd

1.4 Prerequisite: None

1.5 Syllabus Committee Member: Dr. Umakant Dhar Dwivedi, Dr. Sajal Agarwal, Dr. Abhishek Kumar Singh, Dr. Shivanshu Shrivastava and Dr. Amarish Dubey

2. **Objective:** To introduce the students to the basics of practical aspects of a broader area of electronics engineering.

3. **Course Content:**

   Laboratory Works:

   1. Familiarization with the instruments, electronic components, and passive components.
   2. Verification of Thevenin's and Super position theorem.
   3. To study V-I Characteristics of Diode
   4. Application of diode in clipper and clamper circuit.
   5. Application of diode in half wave and full wave rectification circuit (unregulated rectification).
   6. Application of common emitter configuration of bipolar junction transistor for amplification of given AC signal.
   7. Application of Op-Amp as an inverting and non-inverting amplifier.
   8. Verification of truth table for the logic gates: AND, OR, NOT, NAND, NOR, Ex-OR.
   9. Design and implementation of half/full adder using logic gates.
   10. Design and implementation of half/full subtractor using logic gates.

4. **Outcome of the Course:** After successful completion of the course students will gain knowledge of basic electronic components, tools used for assembly and design of electronic circuits, procedure to handle equipment and instruments. They will also get hands-on experience with building of simple electronic circuits.