Basic Electronics LAB

(Core Subject)

Course Code:	**15B11EC471**	**Semester:**	**4th Semester, B. Tech (BI& BT)**
Credits:	**1**	**Contact Hours:**	**L-0, T-0,P-2**

Course Objectives

1. To have understanding of Ohm's law, Kirchhoff's current and voltage laws.
2. Introduce the working, the characteristics and the applications of electronic devices.
3. To have basic understanding of digital electronics.
5. To analyze digital circuits with logic gates.

Course Outcomes

1) After studying this course the students would gain enough knowledge analyze and design various electrical circuits
2) To implement various electronic circuits using discrete components and to understand their applications.
3) To implement Boolean expressions using logic gates and understand their application in logic design.

List of Experiments

1. Introduction to power supply, Multimeter, CRO & Function Generator.

2. To determine the equivalent resistance of a circuit using colour code and to verify it using a multimeter.

3. To verify Kirchoff's Voltage Law(KVL).

4. To verify Kirchoff's Current Law(KCL).

5. To plot the characteristics of a diode in forward and reverse biased conditions.

6. To plot input and output characteristics of a transistor in common-base configuration

7. To plot the drain and transfer characteristics of a JFET in common - source configuration

8. To implement Logic gates using TTL ICs.

9. Implementation of combinational circuits using MSI Logic.

10. To verify NAND and NOR gates as a universal gates.

Evaluation Scheme

1. Mid Sem Evaluation	20 Marks
2. End Sem Evaluation	20 Marks
3. Attendance	15 Marks
4. Class response	30 Marks
5. File	15 Marks
Total Marks	**100 Marks**

Text Books

1. Basic Electrical Engineering D C Kulshreshtha tata Mc Graw Hill
2. Electronic Devices and circuit theory : Boylestad and Nashelsky PHI
3. Digital Fundamentals Floyd