DIGITAL ELECTRONICS LAB
PCC-ECE203-P

Course Credits: 1 Contact Hours: 2/week per group(L-T-P: 0-0-2) Mode: Lab Work	**Course Assessment (Internal: 30; External: 70)**

Course Outcomes:

Sr. No.	At the end of the semester, students will be able to:	RBT Level
CO 1	Describe the various digital IC's and understand their operation.	L1
CO 2	Understand Boolean Laws to simplify the digital circuits.	L2
CO 3	Demonstrate basic combinational circuits and verify their functionalities.	L3
CO 4	Develop the design procedures to design basic sequential circuits.	H3

List of Experiments

1. Study of TTL gates – AND, OR, NOT, NAND, NOR, EX-OR, EX-NOR. Realization of basic gates using Universal logic gates.
2. Design & realize a given function using K-maps and verify its performance.
3. Design and realize adder and subtractor circuits.
4. Design and realize comparator and parity generator circuits.
5. Design and realize 3 bit binary to gray code converter.
6. Implementation of multiplexer/encoder using logic gates.
7. Implementation and verification of Decoder/De-multiplexer.
8. To verify the truth tables of S-R, J-K, T & D type flip flops.
9. Design a 4-bit shift-register and verify its operation.
10. Design, and verify the 4-bit synchronous counter.
11. Design, and verify the 4-bit asynchronous counter.
12. Design, and verify the 4-bit ring counter and twisted ring counter.
13. To design and verify the operation of synchronous decade counter using J K flip-flops.
14. To design and verify the operation of asynchronous decade counter using T flip-flops.
15. Simple project (Any topic related to the scope of the course).

NOTE:
At least eight experiments are to be performed in the semester, out of which atleast six experiments should be performed from above list. Remaining experiments may either be performed from the above list or designed & set by the concerned institution as per the scope of the syllabus.