

Course Code	Course Name	Credits
26PH159	DIGITAL ELECTRONICS LAB	02

Objective

The objective of this laboratory course is to enable students to understand and verify fundamental principles of digital electronics through experimental methods. Students will develop practical skills in conducting experiments, taking accurate measurements, analyzing data, and interpreting results.

1. BCD to Binary Number conversion
2. Excess-3 to BCD & Vice versa
3. Verification of truth tables of basic logic gates using the kit.
4. Verification of truth tables of basic logic gates using ICs.
5. Verification of De Morgan's theorem using using ICs.
6. Use of NAND gate as universal gate.
7. Use of NOR gate as universal gate.
8. Calibration of XNOR and XOR gate using universal gate.
9. Calibration of XNOR and XOR gate using basic logic gate.
10. Half adder using basic logic gate ICs
11. Half subtractor using basic logic gate ICs
12. Encoder/ Decoder
13. Flip – Flops
14. Counters
15. Shift registers
16. Ring counters
17. Microprocessor 8085 – addition (8 bit only)
18. Microprocessor 8085 –subtraction (8 bit only)
19. Microprocessor 8085 – largest and smallest of numbers (8 bit only)
20. Microprocessor 8085 - sum of a string of data.

Students are required to perform and record at least eight experiments in the laboratory manual as part of the course requirements.