

Course Code	Course Name	Credits
26PH652	SPECIAL ELECTRONICS LAB	02

Objective

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

1. Construction of relaxation oscillator using UJT
2. Study of R-S, clocked R-S and D-Flip flop using NAND gates
3. Study of J-K, D and T flip flops using IC 7476/7473
4. Arithmetic operations using IC 7483- 4-bit binary addition and subtraction
5. Study of Arithmetic logic unit using IC 74181
6. SCR – Characteristics and Applications
7. Shift Registers using Flip-Flop & ICs
8. Design of ROM and RAM using diode / OR gate and flip flop
9. Design of Encoder and Decoder
10. Design of Multiplexer and De-multiplexer
11. Digital to Analog Converters design
12. Design of Asynchronous Counter
13. Op-amp: Solving I order Simultaneous Equation
14. Analog to Digital Converter design
15. Design of Synchronous Counter
16. Combinational logic circuit Design
17. Microprocessor interfacing Traffic control
18. Microprocessor interfacing voltmeter
19. Microprocessor interfacing – Analog to Digital Converter ADC 0809
20. Microprocessor interfacing Digital to Analog Converter DAC 0800

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