

<b>COURSE TITLE</b>	<b>: DCP LAB</b>
<b>COURSE CODE</b>	<b>: 338</b>
<b>COURSE CATEGORY</b>	<b>: B</b>
<b>PERIODS PER WEEK</b>	<b>: 4</b>
<b>PERIODS/SEMESTER</b>	<b>: 72</b>
<b>CREDITS</b>	<b>: 2</b>

### **LIST OF EXPERIMENTS**

**(At least 12 experiments of the following type to be completed.)**

1. Familiarization of
  - (i) TTL and CMOS Logic IC's by Verification of Truth Tables.
  - (ii) Universal gates for implementing other logic functions.
2. Implementation of logic gates using discrete components.
3. Design & verify binary to gray and gray to binary converter.
4. Design, setup and verify the
  - (i) Half and full adder circuits
  - (ii) Half and full subtractor circuits
4. Design of combinational logic circuits from Boolean equation.
5. Four bit adder and subtractor using ICs 7483
6. Design BCD adder using IC 7483.
7. Design BCD to Seven Segment Decoder using 7447/7446 and Display
8. Design 4 to 1 MUX using NAND Gates
9. Study the multiplexer IC 74151
10. Implement combinational logic using multiplexer ICs
11. Verify the truth table RS, D, JK, M/S JK, T Flip flops using NAND gate
12. Design and construct asynchronous mod- N counter using flip-flops.
13. Design and construct synchronous mod - N counters using flip-flops.
14. Study of 7490 and 7492 counter ICs.
15. Design and construct 3-bit up/down counter
16. Design and construct 4 bit shift register using flip flops.
17. Study the operation of shift register ICs.
18. Construct Johnson counter and Ring counter.