***SUBJECT NO-EC39003, SUBJECT NAME- DIGITAL ELECTRONIC CIRCUITS LAB.***

***LTP- 0-0-3,CRD- 2***

**SYLLABUS :-**

**1. Familiarization with 7-segment (common-anode) light-emitting diode (LED) display and IC 7447 (BCD-to-7-segment decoder/driver).2. Familiarization with 7493 (mod-16 counter) and 7490 (mod-10 counter).3. Familiarization with IC 74181 (4-bit ALU).4. To verify the truth table of the 4-bit adder IC 7483, and using quad 2-to-1 Multiplexer IC 74157, display each of the 4-bit inputs and the output, one at a time by a 7-segment LED display.5. Use IC 74173 (quad DFF) and IC 74374 (octal DFF) to build a calculator.6. Implementation of a (4 X 4) Ã¢ÂÂbit multiplier using registers and a down-counter.7. BCD addition (add two BCD numbers to produce a valid BCD result) Apparatus: IC 7483, IC 7432, IC 7408, IC 7447, digital development kit, connecting wires8. Implementing an excess 3 to BCD code converter and display the output on 7-segment display.9. Implement binary to BCD conversion.10. Repetitive display of a studentÃ¢ÂÂs roll number on 7-segment display.11. Measure and plot TTL inverter (IC 7404) transfer characteristic. Also, measure the propagation delay of a TTL gate by a ring oscillator arrangement.12. Simulate a serial communication link. Assume RS-232 data format consisting of a low start bit, 4 data bits, a parity bit and 2 high stop bits. Apparatus: 8-bit PISO register (IC 74165), a JK Flip-Flop, 8-bit SIPO register (IC 74164), 4-bit PIPO register, hex keypad, gates, IC 7447 chip, one 7-segment LED display, breadboard, connecting wires**