Course No.:CS225 Name: Switching Theory Credits: 3-0-0-6 Prerequisites: NIL

Syllabus: Number Systems, Boolean algebra, logic gates, minimization of completely and incompletely specified switching functions, Karnaugh map and Quine-McCluskey method, multiple output minimization, two- level and multi-level logic circuit synthesis. Clocks, flip-flops, latches, counters and shift registers, finite- state machine model, synthesis of synchronous sequential circuits, minimization and state assignment, asynchronous sequential circuit synthesis. Programmable logic devices: memory, PLA, PAL. Representation of sequential circuits using ASM charts, synthesis of output and next state functions, data path control path partition-based design.

References:

1. Z. Kohavi, Switching and Finite Automata Theory, 2nd Ed, Tata McGraw-Hill, 1995.
2. M. M. Mano, Digital Design, 3rd Ed, Pearson Education Asia, 2002.
3. S. Brown and Z. Vranesic, Fundamentals of Digital Logic - With Verilog Design, Tata McGraw- Hill, 2002.
4. S. Brown and Z. Vranesic, Fundamentals of Digital Logic - With VHDL Design, Tata McGraw-Hill, 2002 .
5. J. P Uyemura, A First Course in Digital System Design - An Integrated Approach, Vikas Publishing House, 2001.