

Digital System Design & DICA Laboratory

The students are required to design and draw the internal structure of the following Digital Integrated Circuits and to develop VHDL source code, perform simulation using relevant simulator and analyze the obtained simulation results using necessary synthesizer. Further, it is required to verify the logic with necessary hardware.

List of Experiments:

Realization of Logic Gates

3 to 8 Decoder- 74138

8*1 Multiplexer-74151 and 2*1 De-multiplexer-74155

4-Bit Comparator-7485.

D Flip-Flop- 7474

Decade Counter- 7490

4 Bit Counter-7493

Shift Register-7495

Universal shift register-74194/195

Ram (16*4)-74189 (read and write operations)

ALU

Equipment Required:

Xilinx ISE software-latest version

Personal computer with necessary peripherals

Hardware kits- Various FPGA families.