DIGITAL SIGNAL PROCESSING & e-CAD LAB

Note: Minimum 12 Experiments have to be conducted (eight from each part)

Part-A: DSP Lab Experiments

1. Generation of Sinusoidal waveform / Signal based on recursive difference equations.
2. To Find DFT/IDFT of given DT signal
3. Implementation of FFT of given sequence
4. Determination of Power Spectrum of a give signal (s)
5. Implementation of LP & HP FIR filter for a given sequence
6. Implementation of LP& HP IIR filter for a given sequence
7. Generation of DTMF signals
8. Implementation of I/D sampling rate converters
9. Noise removal: Add noise above 3 KHz and then remove, interference suppression using 400 Hz tone.
10. Impulse response of first order and second order systems.

Part-B: e-CAD Lab Experiments

1. HDL code to realize all the logic gates
2. Design of the 2 to 4 decoder
3. Design of 8 to 3 encoder (without and with parity)
4. Design of 8 to 1 multiplexer&1 to 8 Demultiplexer
5. Design of 4 bit binary to gray converter
6. Design of 4-bit comparator
7. Design of full adder using 3 modeling styles
8. Design of flip flops SR, D, JK, and T
9. Design of 4 bit binary, BCD counters (synchronous/asynchronous reset)
10. Finite state machine design