

2018-2019
M. Sc. Electronics (3rd Semester)
Course Code: ELE-17303C
Course Title: Digital Signal Processing (DSP)

S. No	EXPERIMENT	DEMONSTRATOR
1	Write Matlab code to generate some basic signals	<i>Dr. Shabir A. parah</i>
2	Write a MATLAB code to find the autocorrelation and cross correlation of two finite length sequences.	
3	Write a MATLAB code for design of chebyshev type-1 digital filter.	
4.	Realization of FIR filters using windowing techniques.	
5.	Write a MATLAB code to find the circular convolution of two sequences.	<i>Er. Essar Farooq</i>
6.	Realization of active digital filters (bandpass and bandstop) using DSP boards.	
7.	Write a MATLAB code for design of butterworth digital IIR filter.	
8.	Write a MATLAB code to find the N-point DFT, IDFT.	<i>Er. Abida Yousuf</i>
9.	Realization of active digital filters (lowpass and highpass) using DSP boards.	
10.	Generation of basic signal sequences using DSP boards.	
11.	Write a MATLAB code to find the linear convolution of two finite length sequences.	

M. Sc. Electronics (3rd Semester)
Course Code:-ELE-17304C
Course Title: Computer Networks

S. No	EXPERIMENT	DEMONSTRATOR
1.	FDMA for the combination of different users	<i>Dr. Mehboobul Amin</i>
2.	TDMA for combination of different users.	
3.	CSMA/CSMA CD /CR Systems	
4.	Sampling and Quantization using PCM (Simulink Model)	
5.	Verifying accuracy for Data Communication system using BER tool	
6.	Detection and Correction of Errors using Encoding Techniques (Convolutional Encoding)	<i>Er. Abida Yousuf</i>
7.	Use of Packet Tracer for Computer Networks.	
8.	Study of Mesh, ring, Star Topologies using Packet Tracer	
9.	To connect the two different networks using Router	
10	Configuring of wireless LAN's using packet tracer	
11.	To study the various IP addresses and CIDR notation using packet tracer	<i>Er. Essar Farooq</i>
12.	To study the DHCP server using packet tracer	
13.	To configure various Networks with CLI's using packet tracer	

M. Sc. Electronics (3rd Semester)
Course Code: ELE-17310DCE
Course Title: RF Engineering

S. No	EXPERIMENT	DEMONSTRATOR
1.	Study of S parameters, characteristics impedance and VSWR	<i>Dr. Javaid A. Sheikh</i>
2.	Design development of FM wireless transmitter	
3.	Design audio amplifier	
4.	Design of RF oscillator	
5.	Design RF amplifier	
6.	Design RF mixer	
7.	Design RF multiplier	
8.	Design of frequency synthesizer	
9.	Design RF low pass filter	
10	Design RF band pass filter	

M. Sc. Electronics (3rd Semester)

Course Code: ELE-17306DCE

Course Title: CMOS VLSI and Nano-Electronics-III (Analog and Mixed IC Design)

S. No	EXPERIMENT	DEMONSTRATOR
1.	Design and simulation of current mirror and analyze the response with appropriate waveforms.	<i>Er. Sanna Mairaj</i>
2.	Verify characteristics of a MOS diode.	
3.	Determine gain, magnitude and phase shift of a Common source amplifier using AC spice simulation.	
4.	Simulation and design of a Differential amplifier.	
5.	Simulate the open loop response of an operational transconductance amplifier (OTA) in Hspice.	
6.	Design and simulation of a cascode current mirror.	<i>Er. Shazia Rashid</i>
7.	Design of an Operational amplifier and estimation of various performance related parameters.	
8.	Estimate frequency response of a Source follower (Common Drain amplifier).	
9.	Simulation of various Translinear elements in Hspice.	<i>Dr. Farooq Ahmad Khanday</i>
10.	Design and analysis of Sample and hold circuit.	
11.	Design of a flash type Analog to digital converter (ADC) in Hspice.	
12.	Design and simulation of Gilbert cell in Hspice.	

M. Sc. Electronics (3rd Semester)

Course Code: ELE-17302C

Course Title: Control System Engineering

S. No	EXPERIMENT	DEMONSTRATOR
1.	Calculate RC time constant using RC circuit on breadboard	<i>Er. Shazia Rashid</i>
2.	Design and analyze the first order circuit	
3.	Design and analyze the second order system	
4.	Design and analyze Lag compensator on breadboard	
5.	Analyze the PID controller using active and passive elements (breadboard)	<i>Dr. Mehboob ul Amin</i>
6.	Calculate rise time, peak time, maximum overshoot and settling time using PID controller	
7.	Design and analyze PI controller using op-amp on breadboard	
8.	Design and analyze PD controller using op-amp on breadboard	<i>Ms. Farhat Roohi</i>
9.	Design and analyze PID controller using op-amp on breadboard	
10.	Design and analyze Lead compensator on kit	

M. Sc. Electronics (3rd Semester)

Course Code: ELE-17305DCE

Course Title: Microcontroller Architecture and Programming

S. No	EXPERIMENT	DEMONSTRATOR
1.	Write an Alp to add, subtract, multiply, and divide two 8 bit numbers using 8051(micro-vision keil)	<i>Er. Abida Yousuf</i>
2.	Generate a square wave on pin 1.0 using timers and hence calculate delay.	<i>Er. Tamanna Nazeer</i>
3.	Program to receive data serially using interrupts and send it to port 0.	
4.	Interfacing LCD with 8051 microcontroller	
5.	Write a program to toggle ports 1 and 2 of 8051 with delay	
6.	To study, implementation and interfacing of stepper motor 8051.	
7.	Generate a square wave using 8051 interrupts	<i>Er. Essar Farooq</i>
8.	To study, implementation and interfacing of seven segment display.	
9.	Write a program to continuously get 8-bit data from port 1 and send it to port 0 and generate clock on pin 2 simultaneously.	
10.	Interfacing Elevator control with 8051 microcontroller	<i>Er. Abida Yousuf</i>
11.	Interfacing Traffic light with 8051 microcontroller	<i>Er. Abida Yousuf</i>
12.	Interfacing DC Motor with 8051 microcontroller	
13.	Interfacing ADC with 8051 microcontroller	
14.	Interfacing DAC with 8051 microcontroller	

