

Department of Electronics & Telecommunication Engineering
➤ List of Major Equipment/Facilities

| Sr. No. | Name of Equipment / Instrument | Cost (Rs.) | Present Condition |
|----------------|--|-------------------|--------------------------|
| 1. | Pspice Software | 2,04,300 | Working |
| 2. | ModelSim with Lionardo Spectrum Version | 1,92,500 | Working |
| 3. | Mat Lab 6.1 wit Toolboxes | 4,43,454 | Working |
| 4. | Oracle 8i | 1,12,000 | Working |
| 5. | CRO, 50 MHz with trolley, Sr. No. 688/127 | 67,315 | Working |
| 6. | Spray painting with roller tinning machine | 53,900 | Working |
| 7. | Vertical process camera | 96,140 | Working |
| 8. | AM/FM signal generator, 1292/30 | 60,294 | Working |
| 9. | Spectrum Analyzer | 350000 | Working |
| 10. | Digital Storage Oscilloscope | 150000 | Working |

➤ **List of Experimental Setup**

LIST OF EXPERIMENTS

SEMESTER - III

SUBJECT: EDC 1

LIST OF EXPERIMENTS

- 1) To study forward characteristics of Semiconductor Diode.
- 2) To study characteristics of Zener Diode.
- 3) To study different types of Rectifiers such as half wave rectifier, full wave rectifier, bridge rectifier.
- 4) To study different types of filter circuits.
- 5) To study characteristics of transistor in common emitter mode.
- 6) To plot frequency response of RC coupled amplifier and determine bandwidth.
- 7) To plot frequency response of transformer coupled amplifier and determine bandwidth.
- 8) To study Collpitt's Oscillator.
- 9) Introduction to Work-Bench.
- 10) Study of various semiconductor devices.

SEMESTER - III

LIST OF EXPERIMENTS

SUBJECT: INSTRUMENTATION

- 1> To study characteristics of LVDT.
- 2> Shaft speed measurements using stroboscopic method
- 3> To study input / output characteristics of capacitive pick –up
- 4> Speed measurement using magnetic pick – up & photo transistor.
- 5> To study input / output characteristics of LDR
- 6> Displacement measurement using inductive pick – up.
- 7> Measurement of frequency by Lissajous pattern on CRO.
- 8> To study of recorders.
- 9> Temperature measurement using Thermistor.

SEMESTER - III

LIST OF EXPERIMENTS

SUBJECT: ELECTRICAL ENGG. – III

- 1> Measurement of high resistance by loss of charge method.
- 2> To measure 3 phase power using two wattmeter method.
- 3> Measurement of insulation resistance using megger.
- 4> Calibration of single-phase energy meter at unity, 0.5, lag & 0.5 lead power factor.
- 5> To perform load test on 3 phase induction motor.
- 6> To study Scott –connection of transformers.
- 7> To study methods of speed control of DC shunt motor.
- 8> To study running and reversing of D.C. Motor.
- 9> To study the rheostatic/dynamic breaking of D.C. shunt motor.

SEMESTER – IV

SUBJECT: COMPONENT DEVICE TECHNIQUE

LIST OF EXPERIMENTS

- 1> To study the resistor.
- 2> To study the capacitor.
- 3> To study the inductor.
- 4> Design of simple transformer.
- 5> To study the component testing using millimeters.
- 6> To study the component testing using CRO.
- 7> To design a PCB.
- 8> To design a given project with design of PCB.
- 9> To study different types of switches and relays.

SEMESTER – IV

SUBJECT: NETWORK ANALYSIS

LIST OF EXPERIMENTS

- 1> Study of Mesh analysis
- 2> Study of node analysis.
- 3> To verify the Thevenins for a DC linear network.
- 4> To verify Norton's for a DC linear network
- 5> Verification of maximum power transfer theorem.
- 6> Verification of reciprocity theorem.
- 7> Determination of open ckt impedance (z) parameters of given network.
- 8> Determination of short ckt admittance (y) parameter of given network.

SEMESTER – IV
SUBJECT: COMPUTER PROGRAMMING & APPLICATIONS
LIST OF EXPERIMENTS

- 1> To find largest among four numbers.
- 2> To display the name of days in week.
- 3> Display sum of 100 numbers.
- 4> Find square without return.
- 5> To exchange content by using call by value / reference.
- 6> Static numbers as counter.
- 7> Initialization of object using constructor.
- 8> Multiplication using single inheritance.
- 9> Display roll no., name, date of birth and marks of student.
- 10> Addition and subtraction of matrices.
- 11> To add two private data members using friend function.
- 12> Call by value

SEMESTER – V
SUBJECT: EDC – II
LIST OF EXPERIMENTS

- 1> To study of RC low pass circuit.
- 2> To study of RC high pass circuit.
- 3> To study of clamping circuit.
- 4> To study of clipping circuit.
- 5> Verification of truth table of logic gates i.e. NOT, AND, NAND, NOR, EXCLUSIVE-OR.
- 6> To study of Monostable Multivibrator.
- 7> Study of half adder circuit.
- 8> Study of Full Adder Circuit.
- 9> Study of Asynchronous Down Counter.
- 10> Study of Astable Multivibrator
- 11> Study of Bistable Multivibrator
- 12> Study of TTL logic Family.

SEMESTER – V
SUBJECT: COMMUNICATION ENGG. – I
LIST OF EXPERIMENTS

- 1> To study amplitude modulation using constant modulating signal.
- 2> To study amplitude modulation using constant carrier signal.
- 3> To study frequency modulation.
- 4> To study amplitude demodulation.

- 5> To obtain selectivity curve for radio receiver.
- 6> To obtain sensitivity curve for radio receiver.
- 7> To obtain fidelity curve for radio receiver.
- 8> To study FM discriminator & sketch its waveform.

SEMESTER – V

SUBJECT: POWER ELECTRONICS.

LIST OF EXPERIMENTS

- 1> To study characteristics of thyristor
- 2> To study characteristics of DIAC
- 3> To study cumulative triggering circuit for thyristor
- 4> To study characteristic of TRIAC
- 5> To study UJT time delay circuit for thyristor control
- 6> To study SCR for power supply
- 7> To study single phase AC regulator
- 8> To study application of SCR as flasher.
- 9> O study D.C. chopper circuit.
- 10>Study of single phase half controlled symmetrical and asymmetrical bridge converter.
- 11>To study operation of single phase fully controlled bridge converter.

SEMESTER – VI

SUBJECT: COMMUNICATION ENGG. –II

LIST OF EXPERIMENTS

- 1> Verification of sampling theorem
- 2> Study of PAM system.
- 3> Study of PWM technique.
- 4> To study ASK technique.
- 5> To study FSK technique.
- 6> To study PSK technique.
- 7> Verification of time division multiplexing technique using two-channel transmitter receiver.
- 8> To study FSK demodulator technique.
- 9> Study of optical fiber transmitter and receiver.
- 10>Study of SPC Exchange.

SEMESTER – VI
SUBJECT: INTRODUCTION TO MICROPROCESSORS.
LIST OF EXPERIMENTS

- 1> Simple ALP.
- 2> Arithmetic & logical data manipulation using ALP.
- 3> Looping and string manipulation using ALP.
- 4> Parity generator and insertion using ALP.
- 5> ASCII conversion using subroutine.
- 6> Finding square root using look up table.
- 7> PPI port identification.
- 8> Square wave generation on SOD.

SEMESTER – VI
SUBJECT: LINEAR INTEGRATED CIRCUIT
LIST OF EXPERIMENTS

- 1> Study of Op-amp as an inverting amplifier.
- 2> Study of Op-amp as non – inverting amplifier.
- 3> Study of Op-amp as an integrator.
- 4> Study of Op-amp as differentiator.
- 5> Study of astable multivibrator.
- 6> Study of monostable multivibrator.
- 7> Study of Precision Rectifier.
- 8> To study voltage regulator using IC723.
- 9> To design weign bridge oscillator using IC 741.
- 10> Study of volatage to current converter.

SEMESTER – VII
SUBJECT: DIGITAL SIGNAL PROCESSING
LIST OF EXPERIMENTS

- 1> Generation of basic standard sequence.
- 2> Determination of linear convolution.
- 3> Determination of impulse and step response of system.
- 4> Determination of auto correlation of sequences.
- 5> Determination of cross correlation of sequences.
- 6> Determination of DFT and IDFT of the sequences.
- 7> Determination of Z- Transform & the ROC.
- 8> Digital filter design.

SEMESTER – VII

SUBJECT: MICROPROCESSOR PROGRAMMING AND APPLICATION LIST OF EXPERIMENTS

- 1> ALP practice.
- 2> Interfacing and programming of PPI 8255.
- 3> Interfacing and programming of timer counter IC (Intel 8253).
- 4> Interfacing and programming of DMA controller (8257/8237).
- 5> Interfacing and programming of D/A converter
- 6> Interfacing and programming of A/D converter.
- 7> Design and implementation of simple microprocessor based system.
- 8> To study and programming of microcontroller (Intel 8051).
- 9> Advanced programming of microcontrollers 8051.

SEMESTER – VII

SUBJECT: DIGITAL INTEGRATED CIRCUIT. LIST OF EXPERIMENTS

- 1> To study of various logic gates and truth tables.
- 2> To Design 16 bit binary counter.
- 3> Design of BCD to 7 segment decoder / driver.
- 4> To design the 4 bit comparator circuit.
- 5> Implementation of 4: 1 demultiplexer.
- 6> To design a water level controller circuit.
- 7> To design BCD to gray code converter.
- 8> To reduce given logical expression and to implement it.
- 9> To study octal to binary encoder(74148)
- 10>Simulation of digital circuits using work bench.

SEMESTER – VIII

SUBJECT: UHF & MICROWAVE LIST OF EXPERIMENT

- 1> Study of microwave component.
- 2> Study of V-I characteristic of gun diode.
- 3> Determination of voltage standing wave ratio (VSWR).
- 4> Study of slide screw tuner.
- 5> Calibration of variable attenuator.
- 6> Verification of the relationship between guide wave length and free space wavelength.
- 7> Study of directional coupler.
- 8> Determination of load impedance with help of Smith chart.
- 9> Study characteristic of reflex klystron.

SEMESTER – VIII
SUBJECT: ELECTRONICS CIRCUIT DESIGN
LIST OF EXPERIMENT

- 1> Design of wein bridge oscillator using IC 741.
- 2> Design of series pass voltage regulator using transistor.
- 3> Design of adjustable voltage regulator with S.C. protection using IC 723.
- 4> Design of a square and triangular wave function generator using IC 741.
- 5> Design of relay driver circuit using IC 555.
- 6> Design of a variable period time using IC 555
- 7> Design of square and triangular wave function generator using IC566.
- 8> Design of a variable frequency sweep generator.
- 9> To design a window detector circuit.
- 10> Implementation and simulation of various logic gates using VHDL
- 11> Implementation and simulation of D FF usng VHDL
- 12> Implementation and simulation of 4:1 and 8:1 multiplexer using structural and behavioral VHDL description.
- 13> Implementation and simulation of one hot to binary encoder using VHDL.
- 14> Implementation and simulation of 4 bit ALU using VHDL.
- 15> Implementation and simulation of 4bit and decade up counter.
- 16> Implementation and simulation of a decade up counter on FPGA/CPLD.
- 17> Implementation and simulation of logic gates on FPGA/CPLD kit.