



BIT 231

BASIC ELECTROINICS LABORATORY

Course Objectives:

1. To study the electronics components.
2. To study characteristics of semi-conductor devices and design rectifiers, filters and amplifiers.
3. To study simple electronic circuits.

List of Experiments

ANALOG:

1. CRO and its applications: Measurement of amplitude, frequency. Obtaining transfer characteristics and lissajous figures. Determination of unknown frequency using CRO.
2. Characteristics of pn junction diode , zener diode, BJT and FET. Applications: Half-wave and full-wave rectifiers, clipping and clamping circuits, BJT and FET as switches
3. Frequency response of Common Emitter amplifier
4. Hartley, colpitts and RC phase shift oscillators
5. Operational Amplifier as an adder, sub tractor, differentiator, integrator and comparator

DIGITAL:

6. Truth table verification of logic gates using TTL 74 series ICs. Transfer characteristics of a TTL gate using CRO
7. Half Adder, Full Adder, Decoder, MUX, implementation of Boolean logic using decoders and MUXes.
8. Truth table verification of D flip flop, T flip-flop and JK flip-flop
9. Counters
10. Shift Registers

SOFTWARE:

Any 3 experiments using PSPICE.

Note : All the experiments are compulsory