

Module 1.1 : BASICS

Analog Electronics

Fundamental of Electronics.

Concept of Electronics, Energy, Material, Force, Atomic Structure, Voltage, Current, Ohm's Law, Voltage Drop, Direction of Current, Polarity of Voltage Drop, Power, fuse, Soldering and Desoldering, Practical and Troubleshooting.

Passive Components.

Resistance, Capacitors, Magnet, Coil, Inductance, Transformer, Eddy Currents, Characteristics with Frequency and Voltage, Practical and Troubleshooting, Testing

Semiconductor.

Definition, Intrinsic And Extrinsic, Doping, Concept Of Holes And Electrons, Current In Semiconductors, Structure Of Semiconductors, P-Type, N-Type Materials, Diode, Types Of Diode, Meter Checking Of Diode, Rectifier Circuits, Zener Diode As Regulator, Transistor And Its Working, Meter Checking Of Transistor, Amplification, Gain, FET, MOSFET, CMOS, HMOS, Oscillators, Transducers, Integrated Circuits, Projects And Troubleshooting.

Study Of Power Electronic Devices

SCR, Diac, Triac

Relays And Switches

Definition of Relay and Switch, Types, Working and Application, Current Rating and Advance Applications, Classification of Relays, Introduction to Switches, Types of Switches, Applications of Switches, Practical.

Digital Electronics

Logic Circuits and Applications

Definition of Digital Logic, Logic Circuits, Boolean algebra, Number system, Grey code, ASCII code, Parity bit and study of other related terms.

Logic Circuits and Gates

Gates, Latch, Buffer, D flip-flop, T flip-flop, R-S, J-K F/F, Use of all Gates and Flip-Flops, SOP, POS, DE-MORGAN theorems, K-Map, Multiplexer, Demultiplexer, Encoder, Decoder, Seven Segment Display, Counters, Flip-flops, Registers, Practical training and Project studies.

Logic Gates And Semi Conductor Memories

RTL, TTL, ECL, CMOS, DTL, I²L and digital IC's, theoretical study in detail. Memories. RAM, ROM, EPROM, EEPROM, SRAM, DRAM, SIMM, DIMM, RIMM, EEPROM, Concept of EDO and non-EDO, Primary and Secondary Memories.

Multivibrators

Ic555 architecture and working principle. Using IC 555 as a monostable and astable multivibrator, multi vibrator using gates.

Microprocessor Architecture :

(8085 & 8086)

Microprocessor 8085, 8086, Definition, Flags, Interrupts, Dma, Address And Data Uses, And General Microprocessor.