

## **Module 1.1 : BASICS**

### **Analog Electronics**

#### **FUNDAMENTALS OF ELECTRONICS**

Concept of Electronics, Energy, Material, Force, Atomic Structure, Voltage, Current, Ohm's Law, Voltage Drop,

#### **PASSIVE COMPONENTS**

Resistance, Capacitors, Magnet, Coil, Inductance, Transformer, Resistors, Inductors, Capacitors, Transformers

#### **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, PN junctions Diodes & Thyristors Rectifiers

#### **F.E.T's**

Meter Checking of Transistor, Amplification, Gain, FET, MOSFET, CMOS, HMOS, Oscillators, Transducers, Integrated Circuits,

### **Digital Electronics**

#### **LOGIC CIRCUITS AND APPLICATIONS:**

Definition of Digital Logic, Logic Circuits, Boolean algebra, Logic gates , Universal gates,

**Number system**, Grey code, ASCII code, Parity bit and study of other related terms.

**Flip-flops**, MUX, DEMUX