ELECTRONICS ENGINEERING

SECTION - A

1. **Materials, components & Devices :** Structure and properties of Electrical and Electronic materials passive components-types and properties, Active components-types and properties, Solid state devices-physics, characteristics and models.

2. **Network Theory :** Network theorems, Steady state and transient response of electrical circuits, Network analysis, Elementary Network synthesis.

3. **Electromagnetic theory and Microwaves Engg :** Field theory, transmission line theory, Antenna theory. Propagation of electromagnetic waves in bounded and unbounded media, microwave components and microwave sources.

4. **Measurements & Instrumentation :** Measurement basis of electrical quantities, Measuring instruments and their principles of working, Transducers, Measurement of non-electrical quantities.

5. **Computer Architecture/Organization :** Concepts of architecture and organization, Memory organization, Processing unit, Arithmetic and logic operations, Hardware and micro program control, Different types of memory, Arithmetic circuits, instructions.

SECTION - B

1. **Linear & Nonlinear Analog Circuits :** Basis linear electronic circuits, Single stage and multi stage BJT amplifiers, Tuned and feedback amplifiers, MOS and FET based circuits, Pulse shaping circuits, Waveform generators, Stabilizers.

2. **Digital Circuits & Microprocessors :** Logic circuits and Gates, Combinational and Sequential circuits, DACs and ADCs, Microprocessors-evolution and generations, 8085 Microprocessors-Instruction sets, programming, Interrupts, Subroutines, peripherals Intel 8251, 8255 etc.

3. **Control systems :** Feedback theory, Control system components, Response of control systems, Design of practical systems.

4. **Communication systems :** Basic Information theory, Error detection and control coding principles, Modulation and detection process, Noises, Various types of communication systems-radio and line communications, Television and radar navigation, Satellite communication principles.