**ELECTRONICS**

**MID – 1 SYLLABUS**

**ELECTRONICS**

**SEMESTER – I**

**BASIC CIRCUIT THEORY**

**UNIT- 1:**

**SINUSOIDAL ALTERNATING WAVEFORMS:**

Definition of current and voltage. The sine wave, general format of sine wave for voltage or current, phase relations, average value, effective (R.M.S) values. Differences between A.C and D.C. Basic elements and phasors: V-I relations of R, L & C elements, frequency response of basic elements. (problems)

**UNIT-II:**

PASSIVE NETWORKS: (D.C) Kirchhoff’s current and Voltage Law’s ,Resistor, Capacitor, and Inductor, series and parallel networks. Mesh Analysis, Nodal Analysis, star to delta and delta to star conversions.

**UNIT-III:**

**NETWORKS THEOREMS: (D.C)**

Superposition Theorem, Thevenin's Theorem, Norton's Theorem,

**SEMESTER - III**

**ELECTRONICS**

**DIGITAL ELECTRONICS**

**Unit – I**

NUMBER SYSTEM AND CODES: Decimal, Binary, Hexadecimal, Octal, BCD, Conversions,

Complements (1’s and 2’s,), Addition, Subtraction, Gray, Excess-3 Code conversion from one

to another.

**Unit- II**

BOOLEAN ALGEBRA AND THEOREMS: Boolean Theorems, De-Morgan’s laws. Digital

logic gates, NAND & NOR as universal gates. Standard representation of logic functions (SOP

and POS), Minimization Techniques (Karnaugh Map Method: 4 variables),don’t care condition.

**Unit-III**

**COMBINATIONAL DIGITAL CIRCUITS**:

Adders-Half & full adder, Subtractor-Half and full subtractors, Parallel binary adder.

Multiplexers (2:1,4:1)) and Demultiplexers (1:2,4:1),

**SEMESTER – V**

**PAPER V - MICROPROCESSORS**

**UNIT- I**

**ARCHITECTURE OF 8085 MICROPROCESSOR**

Functional block diagram of Intel 8085-Register structure- multiplexing & Demultiplexing of

address / data bus - Control Signal Generation and status signals - 8085 pin-out diagram &

functions - Interrupts - Priority Concept

INSTRUCTION SET OF 8085 -Instruction set classification - addressing modes

**UNIT - II**

MEMORY-Instruction cycle - machine cycle - T-state -Timing diagrams for Opcode Fetch

Cycle Memory Read, Memory Write, I/O Read, I/O Write, - Functional explanation for RAM,

ROM, EPROM

**UNIT- III**

PROGRAMMING 8085- addition & subtraction(16-bit), multiplication, division

**PAPER VI - CONSUMER ELECTRONICS (60 HOURS)**

**UNIT-I (12 hrs)**

**MICROWAVE OVENS** - Microwaves (Range used in Microwave Ovens) – Microwave oven block diagram -LCD timer with alarm - Single-Chip Controllers - Types of Microwave oven - Wiring and Safety instructions -Care and Cleaning.

**UNIT-II**

**WASHING MACHINES** - Electronic controller for washing machines - Washing machine hardware and software- Types of washing machines - Fuzzy logic washing machines Features

of washing machines.

**UNIT-III**

**AIR CONDITIONERS AND REFRIGERATORS** - Air Conditioning - Components of air conditioning systems -All water air conditioning systems - All air conditioning systems - Unitary and central air conditioning systems -Split air conditioners.