1. **Unit 2-Basic Concepts & Circuit Analysis:** *DC Circuit Analysis (V-I Relation of Electrical Network by Mathematical Equations to Analyze the Network):* Star-Delta Transformation (Star to Delta & Delta to Star Conversion), Network Theorems (Super position Theorem, Thevenin's Theorem, Norton's Theorem, Maximum Power Transfer Theorem), *AC Circuits:* Generation of AC Signal, AC Waveform Definitions (Cycle, Frequency, Instantaneous Amplitude, Peak Amplitude, Phase), Concept of Leading and Lagging Quantities, Values of Alternating Voltage & Current (Peak Value, Average Value, RMS Value, Form Factor, Peak Factor), Phasor Representation in Polar & Rectangular Form, *AC Circuit Analysis:* Analysis of purely Resistive Circuit, Analysis of purely Inductive Circuit, Analysis of purely Capacitive Circuit, Concept of Impedance, Admittance, Active Power & Reactive Power, Analysis of Series R-L Circuit, Analysis of Series R-C Circuit, Analysis of series R-L-C Circuit & Resonance, Analysis of Parallel R-L-C Circuit & Resonance