

Paper-I

1. **Electric Circuit** - Network Theory, Network Response to Step Ramp, Impulse and Transient Analysis, Frequency Impact Area Analysis, Network Synthesis, Two port Network, Single Outlay.
2. **Electro Magnetic Theory** - Electro Magnetic Theory-Study of Static Electricity by Gauss Method and Study of Magneto Statics, Field Study of Di-Electric Conductor and Magnetic Materials, Time Varying Field, Maxwell's Equation, Flow of Plane Wave in Conducting and Di-Electric Medium, Properties of Transmission Line.
3. **Material Science (Electric material)** - Band Theory, Properties of Di-Electric Material in Static and Alternating Field, Conduction of Piezo-Electric Materials, Magnetic Properties of Super Conducting Materials, Ferro and Ferri-Magnetism, Conduction in Semiconductor, Hall effect.
4. **Electrical Measurement** - Principles of Measurement, Bridge Measurement of Circuit Parameters, Measuring Instrument, B.I.B.A. and C.B.O., F.E.T. Analysis, Measurement in Transducer and Non-Electric Material, Digital Measurement, Telemetry, Data Recording and Display.
5. **Components of estimation** - Digital Methods, Algorithms, flowcharting, storage, type Statement-Organized Condensation, Mathematical Expression, Logical Expression, Allocation Description, Program Structure, Scientific and Engineering Uses.

Paper-II

**6. Power Equipment and Methodology** - Electric mechanism, Principle of Electro Mechanical Energy Conversion, Analysis of D.C. Machines, Synchronous Machine and Induction Machine, Differential Power meter, Machines in Control Systems, Selection of Motor in Transformer Magnetic Circuits and Driving Power System, Generation and Transmission of Hydro Electricity and Nuclear Electricity, Corona Bundled Conductor, Electrical Safety, Economical Operation, Load-Frequency Control, Stability Analysis.

**7. Control System**- Open-loop and closed-loop system, Response Analysis, Root Level Technical Stability, Compensation and Design Technique, State Variable Approach.

**8. Electronic and Communication** - Electronic-Solid State Devices and circuits, Boolean Algebra, Logic, Logic and Sequential Circuits, Communication Signal Analysis, Signal Transmission, Modulation Research, Functions and types of Various Communication System.