SYLLABUS
JUNIOR LAB ASSISTANT (PHYSICS)

- Electrical Circuits: Basic definitions, types of elements, Ohm's Law, resistive networks, inductive networks, capacitive networks, Kirchhoff's Laws, Series, parallel circuits and star delta transformations, Faradays law of electromagnetic induction.
- Instruments: Basic principles of indicating instruments, permanent magnet moving coil and moving iron instruments, types of wires and cables, earthing and knowledge of basic tools.
- Principle of operation DC Generator, EMF equation, types, DC motor types, torque equation applications, three point starter.
- Alternating quantities: sinusoidal AC voltage, average, RMS, form and peak factor, concept of three phase alternating quantity; Transformer: Principle of operation, EMF equation, losses, efficiency and regulation. Three phase induction motor: Principle of operation, slip, slip - torque characteristics, efficiency and applications, Alternator: Principle of operation, EMF Equation, efficiency, and regulation by synchronous impedance method.
- Semiconductor diode: P-N Junction diode, symbol, V-I characteristics, half wave rectifier, full wave rectifier, bridge rectifier and filters, diode as a switch, Zener diode as a voltage regulator.
- Bipolar junction: DC characteristics, CE, CB, CC configurations, biasing, load line, Transistor as an amplifier.
- General English, Quantitative Aptitude, Analytical Reasoning & General Knowledge / Current Affairs.