

General Guidelines

- The duration of written Test will be of two hours. The written examination will consist of multiple choice based objective type questions
- Candidates should bring their own Non Programmable Calculator.
- Questions will be in English.
- There will be negative marking of 0.50 marks for each wrong answer.
- In questions involving numerals etc., only the Metric system of weight and measures will be used.
- Only those candidates who secure at least the minimum qualifying marks in the written examination as may be fixed by the Institute at its discretion, will be eligible to appear at the Interview.

SYLLABUS FOR THE POST FOR JUNIOR ENGINEERS(ELECTRICAL)

Part-A

- General Intelligence, Reasoning and General Awareness

(i) **General Intelligence & Reasoning** : Analogies, similarities, differences, space visualization, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series etc.

(ii) **General Awareness:**

- Environment and its application to society.
- Observations and experience on scientific aspects
- India and its neighbouring countries pertaining to History, Culture, Geography, Economic Scene, General Polity, and Scientific Research, etc.
- Current Affairs

PART B- General Engineering (Electrical)

Basic Electrical Engg. And Elect. Measurements: Concepts of currents, voltage, resistance, power and energy, their units, Ohm's law.

Circuit Law: Kirchooff's law, solution of simple network problems, Network theorems and their applications, Electro-magnetism concept of flux, emf, reluctance, magnetic circuits, Electro-magnetic induction, self and mutual inductance.

A.C. fundamentals, instantaneous, peak, r.m.s. and average values of alternating waves, Equation of sinusoidal wave form, simple series and parallel a.c. circuits consisting of R.L. and C. Resonance.

Measurement and measuring instruments, Moving coil and moving iron ammeters and voltmeters, Extension of range, Wattmeters, Multimeters, megger, Basic Electronics.

Electrical machines: Basic principles D,C motors of generators, their characteristics,