

Technician Grade II Exam

1. Core Subject Knowledge (Electrical) - 60 Marks

This is the main section of the exam, focusing on technical knowledge. Key topics include:

- **Basic Electrical Concepts:**
 - Ohm's Law, Kirchhoff's Laws, and circuit basics.
 - Series and parallel circuits, power calculations, current, voltage, and resistance.
- **Electrical Machines:**
 - Transformers: types, principles, efficiency, and applications.
 - DC Motors and Generators: types, working principles, and maintenance.
 - AC Motors (Induction and Synchronous): operation, types, and applications.
- **Power Systems:**
 - Basics of power generation: thermal, hydro, nuclear, and renewable sources.
 - Transmission and distribution of electrical power, AC/DC transmission, substations.
- **Switchgear and Protection:**
 - Circuit breakers, relays, fuses, and protection systems.
 - Earthing, grounding, and safety practices in electrical installations.
- **Basic Electronics:**
 - Semiconductors, diodes, transistors, rectifiers, and applications in circuits.
 - Basic digital electronics: logic gates, flip-flops, and circuits.
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- **Electrical Measurements and Instruments:**
 - Principles of voltmeters, ammeters, wattmeters, and energy meters.
 - Measuring accuracy, precision, and error analysis.
- **Wiring and Lighting Systems:**
 - Domestic and industrial wiring, wiring diagrams, electrical symbols.
 - Lighting systems: types of lights (incandescent, fluorescent, LED), installation methods.
- **Control Systems and Basics of PLC:**
 - Introduction to control systems, feedback systems, and basics of PLC (Programmable Logic Controller).

2. General Knowledge and Awareness - 20 Marks

- **Current Affairs:** Recent events, especially in science, technology, and energy sectors.
- **General Science:** Basic concepts in physics, chemistry, and environmental science.
- **Indian History and Geography:** Major historical events, Tamil Nadu's historical role, and geography.
- **Economy:** Basic economic concepts, focusing on the energy and power sector.

3. Aptitude and Mental Ability - 20 Marks

- **Numerical Ability:**
 - Simplification, fractions, percentages, ratio and proportion, averages.
 - Time and distance, profit and loss, simple and compound interest.
- **Logical Reasoning:**
 - Coding-decoding, analogies, series, and patterns.
 - Puzzles, blood relations, directions, and sequences.
- **Spatial and Mechanical Reasoning:**
 - Basic concepts of gears, levers, pulleys, and visualization of 3D shapes.

Preparation Tips

- **Reference Materials:** Use ITI textbooks or diploma-level electrical engineering books for the technical sections. Books on general knowledge, current affairs magazines, and reasoning practice guides can also help.
- **Practice Previous Papers:** Go through previous years' TNEB exam papers, as they often include a mix of questions similar to those in Technician Grade II exams.
- **Stay Updated:** Follow current events, especially in the energy sector, and keep up-to-date with any relevant policies in Tamil Nadu and at the national level.
- **Regular Practice:** Practicing aptitude and logical reasoning can help you manage time effectively during the exam.