

Syllabus for the post of Workman Trainee Electrician (Total 100 Marks)

(Total 80 marks)

Electrician Theory

- Occupational Safety and Health
- Conductor, semiconductors
- Insulator and electric cables
- Tools for an Electrician
- Soldering and D.C theory
- Basic Electricity
- Electrical accessories
- Electro-chemical effect and chemical cell
- Magnetism and electromagnetism
- Alternating current theory
- Earthing and Basic electronics.
- Transistor, Amplifiers, Oscillators
- Specific solid-state devices
- Digital electronics, Electrical wiring
- Direct current generator
- Direct current motor
- Transformer and Electrical measuring instruments
- 3-Phase induction motors
- Single-phase induction motors
- Alternator, Synchronous motor
- Converters, D.C. machine, and short transformer winding
- A.C. machine winding
- Illumination, Industrial wiring
- House wiring layout.
- Machine control panel
- Electrical instrument
- Electrical power generation
- Electrical power transmission
- Underground cables, Power distribution
- Speed control and maintenance of electric machines
- Electronic theory and communication

Engineering Drawing

- Engineering drawing – Drawing instruments – Lines, Drawing of geometrical figures
- Lettering and numbering, dimensioning
- Drawing sheets, Freehand drawing
- Presentation of engineering drawing – And Symbolic representation.
- Construction of scales
- Lettering and title block
- Dimensioning practice – Construction of geometrical drawing figures, Drawing of solid shapes
- Freehand sketch and measuring tools – Projection and Drawing details.
- Alternating current based electrical circuit drawing
- Electronic circuit and auxiliary component
- Electrical wiring and earthing
- Freehand sketch of D.C. machines
- Transformer, Illumination.
- Three-phase induction motor – Alternator, Winding diagram – Control panel, Distribution of power

Workshop calculation and Science

- Units, Fraction, Square root
- Ratio and proportion
- Percentage, Material science
- Mass, weight, and density
- Speed and velocity, Work
- Power and energy.
- Basic electricity
- Levers and simple machines.
- Electrical connections, Elasticity
- Materials, Magnetism
- Pressure, Heat treatment.
- Friction, Pressure, Heat treatment
- Force, Centre of gravity

Electrical Practical

- Trade safety and first aid
- Tools, wire, and joints
- Allied trades, Resistor, and capacitor
- Alternating current (A.C.) circuit
- Cell and battery, Magnetic field
- Earthing and Semi-conductor diode.
- Electrical measuring instruments
- Transformer, Direct current (D.C.) machines
- Electrical wiring, Transistor
- Logic gates and their circuits.
- Winding-rewinding
- Alternator, Synchronous motor
- Alternating current motor
- Converters, Electric lamp, and lightening decoration
- Industrial wiring.
- Machine control
- Electrical controlling components
- Wiring related practical applications
- Domestic electrical appliances
- Power production
- Electric power transmission
- Power distribution
- Speed control and maintenance of appliances

PART-B (20 marks)

- Logical Reasoning (5 questions)
- Quantitative Aptitude (5 questions)
- English (5 questions)
- General Knowledge/ Awareness (5 questions)