



सीएसआईआर - केंद्रीय विद्युतरसायन अनुसंधान संस्थान
CSIR - CENTRAL ELECTROCHEMICAL RESEARCH INSTITUTE



(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद/Council of Scientific & Industrial Research)

कारैकुडी-630 003, तमिलनाडु, भारत / Karaikudi-630 003, Tamil Nadu, India

Advertisement No.02/2021

**Intimation regarding Syllabus for the Competitive Written
Examination for the posts of Technician**

Syllabus for Paper - I, Paper – II and Paper – III for the Competitive Written Examination for the posts of Technician hereby notified as annexure.

Candidates are requested to check the CECRI website for any further updates which will be updated from time to time.

No further interim enquiries will be entertained.


Administrative Officer 5/14/2021

For Technician Posts:

Mode of Examination	OMR based or Computer based objective Type Multiple choice examination.
Medium of Questions	The questions will be set both in English and Hindi except the questions on English Language
Standard of exam	SSC+ITI /XIIth Standard
Total No. of Questions	150
Total time Allotted	2 hours 30 minutes

PAPER – I (Time Allotted – 1 hour)

Subject	No. of questions	Maximum Marks	Negative Marks
Mental Ability Tests*	50	100 (two marks for every correct answer)	There will be no negative marks in this paper.

*Mental Ability Test will be so devised so as to include General Intelligence, Quantitative Aptitude, Reasoning, Problem Solving, Situational Judgment, etc.

PAPER – II (Time Allotted – 30minutes)

Subject	No. of questions	Maximum Marks	Negative Marks
General Awareness	25	75 (three marks for every correct answer)	One negative mark for every wrong answer
English Language	25	75 (three marks for every correct answer)	One negative mark for every wrong answer

PAPER – III (Time Allotted – 1 hour)

Subject	No. of questions	Maximum Marks	Negative Marks
Concerned Subject	50	150 (three marks for every correct answer)	One negative mark for every wrong answer

PAPER - I

Mental Ability Test:

It would include questions of both verbal and non-verbal type. The test will include questions on analogies, similarities and differences, space visualization, problem solving, analysis, judgement, decision making, visual memory, discriminating observation, relationship concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series, non-verbal series etc. The test will also include questions designed to test the candidate's abilities to deal with abstract ideas and symbols and their relationship, arithmetical computation and other analytical functions.

PAPER - II

General Awareness:

Questions will be designed to test the ability of the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspects as may be expected of an educated person. The test will also include questions relating to India and its Neighbouring countries especially pertaining to Sports, History, Culture, Geography, Economic scene, General Polity including Indian Constitution, and Scientific Research etc. These questions will be such that they do not require a special study of any discipline.

English Language:

In addition to the testing of candidates' understanding of the English Language, its vocabulary, grammar, sentence structure, synonyms, antonyms and its correct usage, etc.

PAPER - III

T01 – Electrician:

Safety practice & Hand tools – Workshop Practice (Allied Trade) – Wires, Joints – Soldering – U.G. Cables – Electrical Practice – Magnetism & Capacitors – AC circuits – Cell & Batteries – Wiring Practice – Wiring Installation & Earthing – Illumination – Measuring Instruments – Domestic Appliances – Transformer.

DC Generator – DC Motor – AC Three Phase Motor – AC Single Phase Motor Alternator – Synchronous Motor & MG Set – Electronic Practice – Control Panel Wiring – AC/DC Motor Drives – Inverter & UPS – Power Generation & Substation Transmission & Distribution – Circuit Breakers & Relays.

T02 - Wireman:

Safety practice & Hand tools – Wiring Joints & Soldering – Basic Electrical Practice – Basic Wiring Practice – Cells & Batteries – Basic Workshop practice – Magnetism & Capacitor – AC Circuits – Earthing – Basic Electronics – Measuring Instrument – Electrical Wiring System – Domestic Wiring Practice – Illumination – Industrial Wiring Practice – Commercial Wiring – Commercial Wiring II – Computer Practice.

Electronic Components – Electrical Appliances – DC Generator – DC Motors – Three Phase Circuits – AC Generator – AC Single Phase Induction Motors – AC Three Phase Induction Motors – Power Wiring for DC & AC Motors – Transformer – Generation & Transmission – Distribution & Protection – Substation & Equipment – UG Cable – Synchronising of Alternator – Control Panel Wiring & Maintenance – Estimation & Costing of Wiring.

T03 – R&AC

Fitting & Sheet Metal – Electrical – Electronics – Welding – Basic Refrigeration – Refrigeration Direct Cool – Frost free Refrigerator/Inverter Refrigerator – Compressor & Motors – Condenser, Expansion Valve & Evaporator – Refrigerant & Insulation – Window Air Conditioner – Split AC – Multi Split AC & Car Air Conditioning.

Commercial Compressors – Water Cooled Condensers – Expansion Valve – Evaporators – Coolers – Ice making System – Cold Storage – HVAC plant – Package Air Conditioner – Central Air Conditioning – Direct Expansion Air Conditioning – Chiller system – Mobile Air Conditioning.

T04 – Fitter

Safety – Basic Fitting – Sheet Metal – Welding – Drilling – Fitting Assembly Turning – Basic Maintenance – Assembly – Gauges – Pipe & Pipe Fitting – Drill Jig – Repairing Technique – Hydraulic & Pneumatics – Preventive Maintenance – Erection & Testing.

T05 – Machinist

Safety – Basic Fitting – Measuring Instrument Tools – Drilling & Taper – Fittings – Turning – Lathe Part & Specification – Work Holding Device & Lathe Operation – Taper Turning – Thread Cutting & Sine Bar – Slotting – Milling – Milling Machine – Jigs, Fixtures & Indexing – Turning Threads, Grinding.

Tool & Cutter Grinding - Milling Operations – Measuring, Checking Tools & Geometrical Tolerances – Rack – Spur Gear Milling – Boring & Checking Gear Tooth – Helical Gear - Flutes Milling, Reamers & Twist Drills – Basic Electrical Equipments & Sensors – CNC Turning Centre – Elements – Programming & Operations – Programs Editing, Setting & Simulation – Program Writing – Tools Selection & Execution – CNC Vertical Machining Centre – VMC Tooling system & part programming – Process Planning & Simulation – Part Program Execution on VMC – VMC Various Cycles – Documentations Maintenance & Repair – Milling, Cutters, Gear & Cams Worms & Keys.

T06 – Welding

Induction Training & Welding Process – Welding Techniques – Weldability of Steel – Inspection & Testing – Gas Metal Arc Welding – Gas Tungsten Arc Welding – Plasma Arc Cutting & Resistance Welding – Repair & Maintenance.

T07 – COPA

Safe Working Practice & Introduction to Computer Components – Windows Operating System – Computer Basics & Software Installation – DOS & LINUX Operating Systems – Word Processing Software – Spread Sheet Application – Image Editing – Presentation – Database Management Systems – Networking Concepts & Internet Concepts – Designing Static Web Pages – Javascript & Creating Web Page Programming with VBA – Using Accounting Software – E-Commerce – Cyber Security.