



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली
(शिक्षा मंत्रालय, भारत सरकार)
सैक्टर-81, नॉलेज सिटी, डा. घ. मनौली, सा. अ. सिं. नगर, मोहाली, पंजाब -140306

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

(Ministry of Education, Govt. of India)

Sector – 81, Knowledge City, P. O. Manauli, S. A. S. Nagar, Mohali, Punjab -140306

Dated: 28.11.2024

सूचना / NOTICE

Ref.: Advt. No. IISERM/NF (02)/Contractual/2024-25 Dated: 04.09.2024

**Pattern of written examination for the post of “Junior Engineer (Electrical)”
(Post Code – 03)**

1. The written examination will be a Multiple Choice Questions (MCQs) based exam and duration will be of **60 minutes**.
2. The question paper will consist of total **50 Multiple Choice Questions (MCQs)** with **total 100 marks** and candidates are required to attempt all the questions.
3. Each question will have 4 options i.e. A, B, C and D and only one correct answer.
4. The candidates will be awarded +2 marks for each correct answer encircled in the OMR sheet.
5. For each incorrect answer encircled in the OMR sheet, 0.5 marks will be deducted.
6. If a question is left blank/unanswered, there will be no penalty for that question.
7. If a candidate encircles more than one answer, it will be treated as wrong answer even if one of the given answers happens to be correct and there will be penalty of 0.5 marks deduction.

Syllabus for written examination:

1	Electrical & Electronics Engg. Materials Fundamentals of Engineering- Conducting Materials, Review of Semi-conducting Materials, Insulating materials; General Properties, Insulating Materials and their applications, Magnetic Materials, Special Materials, Materials for Electrical Machines
2	Industrial Electronics and Control Drives-PLC, Single phase drive, Three phase drive, AC/DC drive, variable drive, continuous drive.
3	Electrical Power-I (T&D) of Elect. Power – Substation end, generation end, receiving end of power station and load, transmission line system between power generation end and load end, network of further power distribution at the load end.
4	Non-Conventional Energy Resources-Solar power, geo thermal, hydro power
5	Electrical Measurements and Instruments- Current transformer, Potential transformer, Potential meter, transducer Volt meter, Ammeter, Earth resistance
6	Estimating & Costing in Electronics Engg.- Wiring inside the building, switches, sockets, MCCB, DB Box, insulation, costing of entire wiring, etc.
7	Basic of Management- Principles of Management, Functions of Management, Concept and Structure of an Organization, Hierarchical Management Structure
8	Utilization of Electrical Energy- Identify the different lighting accessories required for various types of lamps, identify the different lighting accessories required for various type of lamp fitting, Measure illumination at different places in college using luxmeter., Identify the different components required for various types heating furnaces, observe

	construction and working of various heating furnaces by watching video programmes.
9	Programmable Logic Controller & Microcontrollers- Introduction of PLC, application of PLC, Instruction set, working of PLC
10	Modern Electric Traction- Traction motors, traction system latest trends, feeding and distribution system, electrical machine
11	Electrical Machines – Motor, generator, AC/DC machine, transformer (single phase & three phase)
12	Digital Electronics and Microprocessors.- Microprocessor, Analog / Digital Communication, Power electronics, Wave propagation,
13	Energy Management- Energy Conservation, Energy Efficient Devices, Energy Audit, Environmental Impact Assessment
14	Profession related questions (GFR, CCS rules, RTI/CPWD etc.)
15	Language Competency – English Grammar, Comprehension etc.
16	Aptitude Test: quantitative, logical reasoning and verbal ability
17	General Knowledge and Current Affairs: General knowledge about India/World such as Politics, and Current affairs.

भर्ती प्रकोष्ठ / Recruitment Cell
भा. वि. शि. अ. सं. मोहाली / IISER Mohali
