Syllabus and Scheme of Examination for the Post of Junior Technical Superintendent, School of Computing and Electrical Engineering
Advertisement No. IIT Mandi/Recruit./NTS/2023/06 dated May 17, 2023

**Date:** 12.10.2023  
**Time:** 02:00 p.m. onwards

Venue: Hall A, North Campus, IIT Mandi

There will be a two-stage examination.

**Stage I : Written Examination**

**Stage II : Skill/Trade Test**

<table>
<thead>
<tr>
<th>Stage-1</th>
<th>Written Examination (Total Marks: 100, Time Duration: 02 hours)</th>
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<tbody>
<tr>
<td><strong>Section-1</strong></td>
<td>Will be of 60 marks, and questions will be MCQ type.</td>
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<tr>
<td><strong>Section-2</strong></td>
<td>will be of 40 marks and will be descriptive type questions comprising 4 questions each of 10 marks.</td>
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<tr>
<td><strong>Syllabus</strong></td>
<td>a.) Technical Skills</td>
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| | **Control Systems:** Open loop and closed loop control systems Concept of linear and nonlinear systems. Properties of LTI systems, Laplace and Fourier transforms, Transfer functions and block diagrams. Signal flow graph. Time response: transient analysis of feedback systems - First and second-order systems)  
Steady-state error and error coefficients, frequency response: polar plots, bode plots |
| | **Microcontroller & Microprocessor:** Microprocessor architecture and microcomputer systems, memory systems, input and output Devices. Study of microprocessor (8085), Introduction to 8086/186/286. Introduction to microcontroller: Introduction to digital circuit parameters & study of 8051 microcontroller, Comparison of various microcontrollers. Bi-directional data ports, internal ROM and RAM, counters/timers. Oscillator and clock, Microprocessor Versus Microcontrollers. |
| | b) Office Skills |
| | Test Knowledge of MS Office, proposal Writing, letter writing, drafting emails, organizing departmental events, preparing budgets, administrative work, purchasing, comparative making, knowledge of tendering process, GeM, organizing departmental events, Workshops, training programs, conferences, Dealing/handling and negotiating with vendors, estimating and costing software installation, maintaining stocks records, etc. |
Stage-2 – Skill/Trade Test

Skill/Trade test will be conducted after completion of written examination

**Syllabus**
## General information about the exam

- The MCQs-based part will have 60 questions, each carrying 1 mark.
- The MCQs have negative markings for wrong answers. For a correct answer, 1 mark will be awarded, while for every wrong answer, 0.25 marks will be deducted. The unanswered questions will not be considered for evaluation. (i.e., no marks will be awarded for any question not attempted).
- Only one best-suited answer has to be given for any MCQ. More than one answer will be treated as a wrong answer.
- Use of only a blue or black ballpoint pen is permitted to answer the questions and fill the form in the exam hall. Use of ink pen/gel pen/pencil/whitener is not permitted.
- Use of calculators, cell phones, logbooks, periodic tables, and any type of electronic device, etc., are strictly prohibited.
- Medium of instructions/answers will be English only.
- Involvement in any malpractice will lead to disqualification
- Any additional instructions given during the selection process must be adhered/complied.
- Examinations for Stage-I (Written Exam) and Stage-II (Skill Test) will be conducted for all the candidates.

## Final selection

- Final Selection will be made on the scores obtained in Stage-I (Written Exam), as Stage-II (Skill Test) is of a qualifying nature. But if a candidate fails to qualify in Stage-II (Skill Test), her/his candidature will not be considered further.
- Please note that for consideration in the merit list, a candidate has to secure minimum marks fixed by the committee in both exams at Stage-I and Stage-II.