

Syllabus and Scheme for the Post of Junior Laboratory Assistant (Technical)
School of Mathematical & Statistical Sciences
Post Code- 015
Advertisement No. IIT Mandi/Recruit./NTS/2025/05 dated 17.12.2025

There will be two-stage examination.

Stage I: Written Examination (Objective type)

Stage II: Skill/Trade Test

Syllabus:

- General English, Current Affairs/ General Knowledge
- Quantitative Aptitude, Analytical Reasoning
- Programming Fundamentals: Java, Javascript, Python, C++, HTML, PHP, CSs, SQL, NoSQL, etc.
- Data Structures: Arrays, Lists and strings, stacks, queues, and linked lists; hash tables/maps/dictionaries, trees (binary trees and binary search trees); basic graph concepts.
- Web and Network Basics: Fundamentals of HTTP/HTTPS; client-server architecture; basics of RESTful APIs.
- Operating Systems:
 - Windows:** Windows architecture, file systems and directory structure; users and groups; file permissions (ACLs); basic windows commands (CMD, Powershell); process and task management; systems configuration tools; basics of batch and powershell scripting; software installation; networking basics; system security features.
 - Linux:** Linux directory structure; users and groups; file permission (read, write, execute); commonly used Linux commands; package managements tools (APT, YUM, DNF, dpkg); basics of shell scripting.
 - Computer Networks Fundamentals:** Basics of computer networking; Network types; LAN, WAN, MAN, WLAN; OSI and TCP/IP models; IP addressing (IPv4/IPv6) and subnetting concepts; MAC addressing and ARP; Common network devices; hub, switch, router, firewall, access point; TCP and UDP concepts; Common protocols: HTTP/HTTPS, FTP, SFTP, SMTP, POP3, IMAP, DNC, DHCP, SNMP.
 - Switching and Routing Basics:** Ethernet concepts; VLANs; Static and dynamic routing (basic concepts); NAT and PAT; Overview of routing protocols such as RIP and OSPF.
 - Server Services Management:** Web servers (Apache/Nginx- basic configuration concepts); File servers (NFS, Samba- basic concepts); Mail server fundamentals; Database server basics; DNS and DHCP server fundamentals; Backup and restore concepts.
 - Storage and Backup Strategy:** Storage types: DAS, NAS, SAN; RAID concepts and RAID levels; Backup strategies and tools; Basis of data recovery.

Important Instructions for candidates:

General information about the exam:

- The MCQs have negative marking for wrong answers. 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 wrong answer.
- Use of only 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 calculator, cell phones, log book, periodic table, and any type of electronic device etc., are strictly prohibited.
- Involvement in any malpractices will lead to disqualification
- Any additional instructions given during the selection process must be adhered/complied.

Final Selection:

- Examinations for Stage-I and Stage-II will be conducted for all the candidates or as decided by the selection committee.
- Final selection will be made on the scores obtained in the Stage-I, as the Stage –II is of qualifying nature. But if a candidate fails to qualify in Stage-II, 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 selection committee in both exams at Stage-I and Stage-II – failing which institute will not make an offer of appointment even if vacancies go unfilled.