**Syllabus and Scheme of Written Examination for the Post of Technical Officer-
Office of Dean of Digital & Computing Services.
Advertisement No. IIT Mandi/Recruit./NTS/2023/05 dated 13.05.2023**

**Date of Selection Process: 24.01.2024
Reporting Time: 09:00 a.m.**

**Total MCQ questions: 50**
**Total Marks: 100 (02 marks for each correct choice and Negative 01 mark for each incorrect choice)**
**Duration: 120 minutes.**

**System Administration:**

- Linux Filesystem Management and System Administration
- Database System Design and RDBMS
- Overview of LDAP, Proxy Server, File Server
- DNS Services, Email Servers (Postfix, Dovecot etc.)
- Overview of Linux Virtualization - Hypervisor Concept - type 1 & type 2,Containerization, BASH Shell scripting
- Web Servers - Virtual hosts, reverse proxy.
- Backups and restore - Automating backups and restores, incremental backups, Backup and restore tools - dd, remastersys, clonezilla etc.
- Tools for system administration - nslookup, dig, hosts, Wireshark, tcpdump, webmin etc.

**Network Management:**

- Network Architecture - Tier 2 and Tier 3 planning, Planning the addressing structure, subnetting, Switching in an enterprise network (VLAN, VTP, NATs, DMZ etc.), Static routes, ACLs.
- Network Monitoring Tools (Nagios, Cacti, Zabbix, SNMP etc.),
- Network Simulations - NS3.
- Concepts of Cloud Computing
- Network and Cyber Security

**High-Performance Computing**

- Components of a high-performance distributed computing system
- Basics of serial and parallel programming
- Cluster management tools like Apache Mesos, YARN Hadoop