



Syllabus for the post of SENIOR TECHNICAL ASSISTANT (Computer Center)
(WRITTEN TEST & SKILL TEST)

WEB Technologies	
Basics	<p>Understanding and knowledge of Basic Technologies</p> <ul style="list-style-type: none">- Internet and World Wide Web- HTTP Servers- HTTP Sessions- SSL Certificates- HTTP and HTTPS Protocols- Web Browsers- URL- HTTP Error Codes- CSS (Cascading Style Sheets)- JavaScript- Frameworks and Libraries (CMS)- Responsive Web Design
Front End Technologies:	<ul style="list-style-type: none">- JavaScript Frameworks and Libraries<ul style="list-style-type: none">• React.js• Angular• Vue.js- Web Performance Optimization- Version Control Systems- Front-End Build Tools and Task Runners
Back-end Technologies:	<ul style="list-style-type: none">- Server-Side Languages:<ul style="list-style-type: none">• Node.js• Python• Java• PHP- Databases<ul style="list-style-type: none">• SQL Databases (MySQL, PostgreSQL)• NoSQL Databases (MongoDB, Redis)- Server-Side Frameworks<ul style="list-style-type: none">• Spring Boot• Django- APIs- Authentication and Authorization
Platforms and Servers	<ul style="list-style-type: none">- Web Servers:<ul style="list-style-type: none">• Apache HTTP Server• Nginx• Microsoft Internet Information Services (IIS)- Deployment of linux and windows hosting<ul style="list-style-type: none">• Web Server Options• Deployment Steps• Database Option

	<ul style="list-style-type: none"> • Security • Monitoring and Maintenance
Programming Languages:	
Python & Shell	<ul style="list-style-type: none"> - Variables and Data Types - Control Flow - Functions - Lists and Dictionaries - File Handling
Java	<ul style="list-style-type: none"> - Development Environment - Basic Syntax and Structur - Variables and Data Types - Control Flow Statements - Object-Oriented Programming (OOP) Concepts - Methods and Functions, Exception Handling & Arrays - Java APIs and Libraries
PHP	<ul style="list-style-type: none"> - Basic Syntax - Variables and Data Types - Control Structures - Functions, Arrayys - Forms Handling, File Handling, Error Handling - PHP Frameworks <ul style="list-style-type: none"> • Laravel, CodeIgniter, etc
SEO:	
Search Engine Optimization Techniques	<ul style="list-style-type: none"> - On-Page SEO <ul style="list-style-type: none"> • Content Optimization, Technical SEO, Internal Linking - Off-Page SEO <ul style="list-style-type: none"> • Link Building, Online Reputation Management - User Experience (UX) <ul style="list-style-type: none"> • Site Navigation, Bounce Rate, Mobile-Friendliness - SEO Tools and Analytics
Network and System Administration:	
Network Fundamentals	<ul style="list-style-type: none"> - Introduction to the OSI Model - Introduction to IPv4 (Internet Protocol) - IPv4 Packet Header - Address Resolution Protocol (ARP) - Introduction to TCP and UDP - TCP Header - Introduction to ICMP - Introduction to DNS - User mode and Privileged mode
VLANs	<ul style="list-style-type: none"> - VLANs Basic - How to configure VLANs

Wireless	<ul style="list-style-type: none"> - Introduction to Wireless Networks - Introduction to Wireless LANs - Wireless LAN 802.11 Service Sets - Introduction to Wireless Security - Wireless Authentication Methods - Wireless Encryption and Integrity - Wi-Fi Protected Access (WPA) - WLC WPA2 PSK Authentication
IP Connectivity	<ul style="list-style-type: none"> - Introduction to Routers and Routing - Router Basic Configuration - Introduction to Wide Area Networks (WAN)
IPv4 Subnetting	<ul style="list-style-type: none"> - Introduction to Subnetting - Basics of Binary Numbers - Subnetting in Binary, Decimal (Fast Method) - Classless Inter-Domain Routing (CIDR) - Variable Length Subnet Mask (VLSM) - Route Summarization - Hexadecimal to Binary and Decimal Conversion - Create a Subnetting Cheat Sheet
Linux System Administration	<ul style="list-style-type: none"> - Understanding Linux - Command Line Interface (CLI) - User and Permissions Management - Package Management - System Monitoring - Networking - Security
Windows System Administration	<ul style="list-style-type: none"> - Understanding Windows Operating System - Graphical User Interface (GUI) and Command Line Interface (CLI) - User and Group Management - File System and Permissions - Roles and Features - Remote Management - Security
Additional Requirement:	
Productivity Tools	<ul style="list-style-type: none"> - MS Office or Other Office suites - Version Control Systems (Ex. Git) - Collaborative Tools (Slack, Overleaf, Microsoft Teams, etc.)
Support for online meetings/ video conferencing	<ul style="list-style-type: none"> - Knowledge of online meeting software (e.g., Cisco WebEx, Microsoft Teams, Google Meet) - Troubleshoot issues related to audio, video, screen sharing, etc.
Technical Documentation	<ul style="list-style-type: none"> - Understanding and Creating UML/BPMN Documentation - Creating Technical Diagrams: Vector Diagrams such as EPS, SVG - Generate different charts from the data - Creation of Technical Presentations