Linux+ (V8) objectives summary

System Management (23%)

- **Linux basics:** Identify boot process steps, kernel, filesystems, and architectures.
- **Device management:** Manage kernel modules, hardware components, and device utilities.
- **Storage management:** Configure LVM, RAID, partitions, and mounted storage.
- **Network configuration:** Set up hosts, DNS, interfaces, and network tools.
- **Shell operations:** Use navigation, editing, redirection, and environment variables.
- **Backups and restores:** Perform archiving, compression, and data recovery.
- **Virtualization:** Deploy hypervisors, create VMs, and manage disk images.

Services and User Management (20%)

- **Files & directories:** Control permissions, create links, and manage special files.
- **Account management:** Add, remove, and modify users and groups.
- **Process control:** Monitor states, adjust priorities, and schedule jobs.
- **Software management:** Install, update, or remove packages and repositories.
- **Systems management:** Start, stop, and review services, logs, and timers.
- **Containers:** Operate container runtimes, manage images, and create networks.

Security (18%)

- **Auth & accounting:** Configure PAM, LDAP, Kerberos, and enable auditing.
- **Firewalls:** Set firewalls using iptables, nftables, UFW, and zone rules.
- **OS hardening:** Apply permissions, configure sudo, and secure remote access.
- **Account security:** Enforce password policies, restrict shells, and enable MFA.
- **Cryptography:** Encrypt files, use hashing, and manage certificates.
- **Compliance:** Verify integrity, run scans, and maintain standards.

Automation, Orchestration, and Scripting (17%)

- **Automation:** Automate tasks with Ansible, Puppet, and CI/CD tools.
- **Shell scripting:** Write and troubleshoot variables, functions, and logic flows.
- **Python basics:** Develop scripts using environments, packages, and data types.
- **Version control:** Manage code with Git workflows and tagging.
- **AI best practices:** Apply code generation and prompt engineering responsibly.

Troubleshooting (22%)

- **System monitoring:** Monitor health, logs, and event alerts.
- **Hardware/storage:** Diagnose boot, mount, and repair issues.
- **Networking:** Resolve firewall, routing, DNS, and connectivity problems.
- **Security:** Fix SELinux, permission, and vulnerability issues.
- **Performance:** Analyze CPU, memory, I/O, and optimize response times.