

Chapter 07

Short Questions with Answers

Q1: Describe Unix/Linux system administration?

- It involves managing users, files, devices, and services.
- Ensures system runs smoothly, securely, and efficiently.
- Example: Adding users, monitoring CPU usage.

Q2: Describe tasks of Unix/Linux system administration?

- User management, file system management, backups.
- Device configuration, performance monitoring, security.
- Example: Installing printer, creating backup of /home.

Q3: Identify hardware requirements of Unix/Linux system?

- **Basic PC requirements:** CPU, RAM, hard disk, network card.
- Depends on distribution (Ubuntu needs 2 GB RAM minimum).
- Example: Linux server may require 8 GB RAM + 500 GB storage.

Q4: Describe how to Install Unix/Linux?

- Boot from CD/USB → Select partition → Install base system.
- Configure root password, network, and packages.
- Example: Installing Ubuntu from bootable USB.

Q5: How to add and maintain new users in the system?

- Use `useradd` to create new user.
- Set password using `passwd`.
- Example: `useradd ali` → `passwd ali`.

Q6: Describe set permission to the users?

- Use `chmod`, `chown`, `chgrp` commands.
- Permissions: read (r), write (w), execute (x).
- Example: `chmod 755 file.txt` gives full access to owner.

Q7: How to create a file system?

- Use `mkfs` command.
- **Syntax:** `mkfs -t ext4 /dev/sda1`.
- Example: Create ext4 file system on partition /dev/sda1.

Q8: How to manage and repair file systems?

- Use `fsck` for checking and repairing.
- Use `mount` and `umount` to manage.
- Example: `fsck /dev/sda2` repairs corrupted partition.

Q9: Describe performance monitoring in Unix/Linux?

- Use commands like `top`, `vmstat`, `iostat`.
- Monitor CPU, memory, disk, and network usage.
- Example: `top` shows running processes in real-time.

Q10: Describe services facility provided by Unix/Linux?

- Provides services like web hosting, FTP, email, printing.

- Managed using `systemctl` or `service` command.
- Example: `systemctl start apache2` starts web server.

Q11: Describe device administrative tasks?

- Configuring and managing hardware devices.
- Includes drivers, storage, printers.
- Example: Mounting USB drive using `mount /dev/sdb1 /mnt`.

Q12: How to Install printer to Unix/Linux system?

- Use CUPS (Common Unix Printing System).
- Add printer via `system-config-printer` tool or `lpadmin`.
- Example: `lpadmin -p HP -E -v usb:/dev/usb/lp0`.

Q13: Describe email facility of Unix/Linux?

- Uses **mail servers** to send/receive emails.
- Programs: `sendmail`, `postfix`.
- Example: `mail -s "Hello" user@example.com`.

Q14: Describe mail transfer agents?

- MTAs move emails between servers.
- Examples: `Sendmail`, `Postfix`, `Exim`.
- Example: `Postfix` delivers mail from local PC to Gmail.

Q15: UUCP stands for?

- **Unix-to-Unix Copy Protocol**.
- Used for file transfer and email in early UNIX.
- Example: Transfers files between remote UNIX systems.

Q16: Describe UUCP administration?

- Configure UUCP for remote file and mail transfer.
- Requires setting up UUCP configuration files.
- Example: `uucp file.txt remote!~/`.

Q17: Describe FTP administration.

- FTP = File Transfer Protocol service.
- Admin manages users, permissions, and logs.
- Example: `vsftpd` server handles FTP users.

Q18: Describe FTP protocol?

- Transfers files between client and server.
- Works on port **21 (control)** and **20 (data)**.
- Example: `ftp 192.168.1.10` connects to FTP server.

Q19: Explain purpose of backup?

- To protect data against loss, corruption, or system failure.
- Ensures recovery in case of accidents.
- Example: Backing up `/home` directory to external drive.

Q20: Describe Back-up and restore Unix/Linux system.

- Use `tar`, `cpio`, `rsync` for backup.
- Restore by extracting backup files.
- Example: `tar -cvf backup.tar /home` → backup, `tar -xvf backup.tar` → restore.

📖 Long Questions with Answers**Q1: Explain the System Administration Task.**

- **User Management:** Adding, removing, setting permissions.
- **File System Management:** Create, mount, repair file systems.
- **Device Management:** Configure printers, storage devices.
- **Performance Monitoring:** Using `top`, `vmstat`.
- **Backup & Security:** Ensure data safety.
 - ☐ *Example: Creating users for students in a lab system.*

Q2: What is Resource and User Administration?

- **Resource Administration:** Managing CPU, memory, disk, and I/O.
- **User Administration:** Creating accounts, assigning permissions.
- Ensures fairness and security.
 - ☐ *Example: Limiting student user disk quota to 1 GB.*

Q3: Explain File System and Disk Administration.

- **File System Creation:** `mkfs -t ext4 /dev/sda1`.
- **Mounting/Unmounting:** `mount /dev/sda1 /mnt`.
- **Repair:** `fsck /dev/sda1`.
- **Disk Management:** Partitioning using `fdisk` or `parted`.
 - ☐ *Example: Repair corrupted partition with fsck.*

Q4: Explain the System Accounting and Performance Monitoring.

- **System Accounting:** Tracks resource usage for billing or analysis.
- **Performance Monitoring:** Tools → `top`, `sar`, `iostat`.
- Helps identify bottlenecks and optimize system.
 - ☐ *Example: `sar -u` shows CPU utilization history.*

Q5: Explain UUCP and FTP services.

- **UUCP:** Early protocol for file/email transfer between UNIX machines.
- Used mostly before the internet.
- **FTP:** Transfers files between client and server.
- Still widely used for file sharing.
 - ☐ *Example: FTP uploads website files to hosting server.*

Q6: What are the steps involved in backing-up and restoring the system?

1. **Choose method:** `tar`, `cpio`, `rsync`.
2. **Perform backup:** `tar -cvf backup.tar /home`.
3. **Store backup safely:** external drive or cloud.
4. **Restore:** `tar -xvf backup.tar -C /`.
 - ☐ *Example: Backup /etc configs before updating Linux.*