

(2½ Hours)

[Total Marks: 75]

- N. B.: (1) **All** questions are **compulsory**.  
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.  
(3) Answers to the **same question** must be **written together**.  
(4) Numbers to the **right** indicate **marks**.  
(5) Draw **neat labeled diagrams** wherever **necessary**.  
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt **any three** of the following:

- Explain the duty of the Linux system administrator in configuring a secure system.
- Write short note on Piping and Redirection.
- Explain Bash shell in detail.
- Explain cron in detail for job scheduling.
- Give differences between symbolic and Hard Links.
- Write steps to Create and Manage Repositories.

2. Attempt **any three** of the following:

- List and explain different File Systems supported by Linux.
- What are Snapshots? Give steps to Manage Snapshot.
- How can rc scripts be managed using chkconfig?
- What are different SSH security settings? Explain.
- Explain group configuration file.
- What are file and directory permissions? How to change permissions.

3. Attempt **any three** of the following:

- What is Firewall? How to allow basic services through firewall?
- What is NAT? Give steps to Configure NAT.
- Write steps for Creating and Managing Self-Signed Certificate.
- How to Encrypt Files with GPG?
- What is NFS? What are advantages and disadvantages of NFS?
- Give Steps to Configure Samba Server.

4. Attempt **any three** of the following:

- What is DNS server? List and explain DNS server Types.
- Write steps for Setting Up a Cache-Only Name Server.
- Explain the components of email delivery process.
- Explain different Secure Internet Configurations for Postfix.
- What are modes of Apache? Explain some performance parameters for these modes.
- What is Apache Module? How to add modules in Apache web server?

5. Attempt **any three** of the following:

- What are different ways to execute shell script? Explain in detail.
- Write a script to accept the number from user and print its multiplication table.
- How will you setup bonding?
- Explain Configuration of GFS2 File Systems.
- Write steps for Configuring the DHCP Server for PXE Boot.
- Explain kickstart file to perform an automated installation.