

TYB.Sc (S.T) Sem V

5/12/23

(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:** 15
- Explain the duty of linux system administrator in monitoring and tuning Performance of a system.
 - Explain with the help of an example,
 - How pipe can be used to add functionality to a command.
 - How the result of a command can be sent to a file.
 - What is a linux distribution? State in brief the Linux support offered by Red Hat.
 - With the help of an example, explain how backup can be scheduled and automated using cron.
 - State the features of the two types of links. Show how a deleted file can be restored using a link.
 - Discuss how yum overcomes the limitations of a tar ball and rpm.
2. **Attempt any three of the following:** 15
- What is the difference between a partition and a logical volume? Highlight in brief the features of the different types of partitions.
 - Discuss the steps to create an encrypted volume.
 - Briefly explain the ifcfg configuration file variables.
 - With the help of an example, explain how to setup SSH port forwarding.
 - Explain the purpose and contents of the following files:
 - /etc/group
 - /etc/shadow
 - State the commands to do the following. Give an example for each.
 - Display ownership of file or directory
 - Change group ownership
 - Change user ownership
 - Set file permissions for user, group, and others using absolute mode
 - Set file permissions for user, group, and others using relative mode
3. **Attempt any three of the following:** 15
- What are tables, chains and rules in a firewall?
 - Enlist the steps to setup iptables logging.
 - State the reasons for which public/private keys are typically used. With the help of an example explain how public/private keys are used to encrypt traffic that is sent to a server.
 - What is GPG signing? State the commands to sign a file using GNU Privacy Guard.
 - Discuss the configuration of NFS server and client.
 - Discuss the generic Samba parameters in the global section of the samba configuration file.

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4. **Attempt any three of the following:** 15
- a. Write the steps to setup a secondary DNS server.
 - b. Explain in brief the most relevant parameters from the dhcpd.conf file.
 - c. Briefly discuss the three components play a role in the process of Internet mail.
 - d. Name and explain the parameters that should be configured for a mail server handling messages from the Internet.
 - e. List and explain the various performance parameters for Apache modes.
 - f. Explain the steps to setup a Protected Web Server.

5. **Attempt any three of the following:** 15
- a. What is a shell script? State the elements of a good shell script.
 - b. Demonstrate the use of pattern matching operators in a shell script.
 - c. Explain the steps to create an iSCSI target configuration.
 - d. Discuss the steps to troubleshoot a nonoperational cluster.
 - e. Explain the steps to perform a Virtual Machine Network Installation Using a Kickstart File.
 - f. List the steps to configure TFTP server for PXE boot.
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