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
   a. Why Red Hat Linux and Fedora has been so successful? Explain.
   b. Explain any five commands to view the contents of text files.
   c. Explain cut copy, paste and deleting operation in Vi editor.
   d. What do you understand by mounting devices? Give example of mounting a USB flash drive.
   e. How to set up your own repository?
   f. Explain installing and updating packages with yum.

2. Attempt any three of the following: 15
   b. What is a swap space? Write procedure to add swap space.
   c. What is NetworkManager configuration file? Explain any five network configuration file variables.
   d. Write steps to enable and test the ssh server.
   e. Explain different fields of /etc/passwd.
   f. Write short note on connecting to an LDAP Server.

3. Attempt any three of the following: 15
   b. Write short note on IP Masquerading.
   c. Write steps to encrypt and decrypt files using GPG.
   d. Explain subdirectories need to store the certificate. Write procedure to create your own Certificate Authority.
   e. Explain setting up NFSv4 with export options.
   f. Write steps to set up a Samba server with example.

4. Attempt any three of the following: 15
   a. Explain the DNS lookup process.
   b. Write short note on DHCP (Dynamic Host Configuration Protocol).
   c. Explain different parameters used in the /etc/postfix/main.cf file.
   d. Explain components play role in the process of Internet mail.
   e. What are modes of Apache? Explain some performance parameters for these modes.
   f. How configure an Apache server to use LDAP?

5. Attempt any three of the following: 15
   a. What are different ways to execute shell script? Explain in detail.
   b. What is boot loader? Explain content of grub.conf file.
   c. Explain different standard components (items) used in HA (High-Availability) cluster.
   d. Write tips for Troubleshooting a Non-operational Cluster.
   e. Explain setting up the network installation server.
   f. Explain kickstart file to perform an automated installation.