(2 ½ Hours)   **[Total Marks: 75]**

N.B.   1) All questions are compulsory.
         2) Figures to the right indicate marks.
         3) Illustrations, in-depth answers and diagrams will be appreciated.
         4) Mixing of sub-questions is not allowed.

Q. 1   Attempt All (Each of 5Marks)   **(15)**
(a)   Multiple Choice Questions:
         i)   Which of the following is commercial Distro?
              a)   Fedora
              b)   OpenSuSE
              c)   Ubuntu
              d)   RHEL
         ii) _____ is an automatic updater and package
              installer/remover for RPM systems.
              a)   apt-get
              b)   yum
              c)   dpkg
              d)   dpms
         iii) What is the last field in the below record of /etc/group file
              represents?
               bin:x:1:**root,bin,daemon**
              a)   groups belonging to group 'bin'.
              b)   groups belonging to user 'bin'.
              c)   users belonging to group 'bin'.
              d)   Users created by user 'bin'.
         iv) The _____ option tells showmount to show the NFS server's
              export list.
              a)   –r
              b)   –e
              c)   –c
              d)   -h
         v)   LDAP stands for _____
              a)   Lightweight Dictionary Access Protocol
              b)   Light Directory Access Protocol
              c)   Lightweight Directory Access Protocol
              d)   Light Dictionary Access Protocol

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(b) **Fill in the blanks:**
(4, Greate Unified Booter, 1 , forward resolution, 2 , ssh, reverse resolution, dhcp, Grand Unified Bootloader)

i) _____ converts names into IP addresses.

ii) To set SetUID bit, we have to add value _____ before the access permission in chmod command

iii) GRUB stands for _____

iv) process ID of INIT process is _____ .

v) Configuration file for _____ is sshd_config.

(c) **Short Answers:**
i) Define RPM.

ii) Write the syntax of mount command.

iii) What is the use of runlevel 0?

iv) Define Active FTP.

v) What is SNAT?

Q. 2 Attempt the following (Any THREE)(Each of 5Marks) (15)

(a) Explain the format of following files:
   i)   /etc/passwd
   ii) /etc/shadow

(b) What is GNU public license? Explain advantages and disadvantages of open source software.

(c) List and explain network security tools.

(d) Diagrammatically explain the steps involved in creating a logical volume.

(e) Define the following terms:
   i)   Physical Volume
   ii) Logical Volume
   iii) Volume Group
   iv) Physical Extents
   v)   Logical Extents

(f) Write a short note on cron program.

Q. 3 Attempt the following (Any THREE) (Each of 5Marks) (15)

(a) Explain the following in regards with DNS:
   i)   Use of DNS
   ii) Root domain
   iii) Top-level domain
   iv) Second-level domain
   v)   Third-level domain

(b) What is OpenSSH? List and explain any 3 OpenSSH programs.

(c) Define Apache. Explain its advantages.

(d) Write use of SMTP? List and explain the key components that are essential for email to work.

(e) Discuss FTP.

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(f)   Write any 5 DNS record types.

Q. 4   Attempt the following (Any THREE) (Each of 5Marks)   (15)
(a)   List and explain any 4 components of NFS.
(b)   Define MySql. Explain in short InnoDB and MyISAM database engines.
(c)   Discuss any 5 common dhcpd.conf options.
(d)   Explain the following servers required for running chat applications.
      i)   IRC server
      ii)   Jabbar Instant Messaging server.
(e)   Write steps to create Share in Samba.
(f)   What is LAMP? Write the steps to install LAMP applications.

Q. 5   Attempt the following (Any THREE) (Each of 5Marks)   (15)
(a)   What is ARP? Explain the steps of ARP.
(b)   How user management helps to secure Linux server from security threats?
(c)   Discuss the importance of NIS. Explain Daemons and processes associated with NIS.
(d)   Write a short note on INIT process.
(e)   What is NFS? Explain the versions of NFS.

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