



SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology
Second Year, Second Semester Examination – 2016
HNDIT 2402- Free & Open Source System

Instructions:

Part A is compulsory

Answer any four from part B

All questions carry equal marks

No. of questions: 06

No. of pages : 04

Time : Three (3) hours

PART A

Q1)

- I. Who found and develop Free Software Foundation?
 - a. Linus Torvalds
 - b. Richard Stallman
 - c. Bill Gates
 - d. Steve Jobs
- II. Which one is not a distribution of Linux tree?
 - a. Ubuntu
 - b. Knoppix
 - c. Suse
 - d. Longhorn
- III. Which one is the most widely used Open Source license?
 - a. Mozilla Public License
 - b. Apache Software License
 - c. General Public License
 - d. FreeBSD License
- IV. What is the correct directory which store configuration files and software packages?
 - a. /home
 - b. /var
 - c. /etc
 - d. /tmp
- V. What is the command to see the currently logged in user?
 - a. Who
 - b. Whoami
 - c. W
 - d. Groups
- VI. Which one is the true statement about Linux security model?
 - a. Default file permission 0660
 - b. Default file permission 0664
 - c. Default file permission 0644
 - d. Default file permission 0641

- VII. What is the correct process management command to filter "Firefox" process?
- Ps -aux
 - Ps -aux | filter "firefox"
 - Ps -aux | grep "firefox"
 - Ps -aux | find "firefox"
- VIII. What is the Linux command to see the IP address in your computer?
- Ipconfig
 - Ifconfig
 - Getip
 - Ping
- IX. What does yum stands for?
- Yellow Update Manager
 - Yellow Uninstall Manager
 - Yellowdog updater, Modified
 - Yellow Unix Multiplexer
- X. Which one is configure to use mail server in Linux environment?
- Exchange server
 - Samba sever
 - Dovcot
 - Squaremail

[Total Marks=2×10]

PART B

Q2)

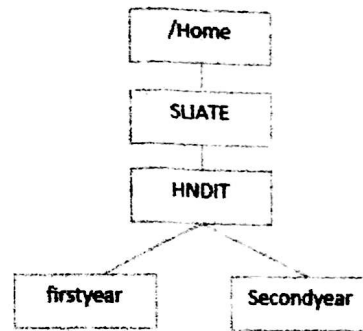
- Name two features of Linux Operating system. (02 marks)
- Compare and contrast between copyright and copyleft. (04 marks)
- Briefly explain FOSS business model. (06 marks)
- Briefly explain the following partitions related to Centos installation. (08 marks)
 - Swap
 - Boot
 - Root
 - Home

[Total 20 marks]

Q3)

- Name two types of shell in Linux Operating System. (02 marks)
- What is the purpose of following Linux features? (04 marks)
 - Pipeline
 - File redirection

III. Write down Linux commands by considering the following directory structure.



- a. Create the above directory structure. (04 marks)
- b. Create a file called "student.txt" in firstyear directory. (02 marks)
- c. Create a file called "result.txt" in Secondyear directory. (02 marks)
- d. Open "student.txt" in Vi editor, insert your name and save the file. (02 marks)
- e. Copy "student.txt" into Secondyear directory. (02 marks)
- f. Rename the file "student.txt" into "newstudent.txt." (02 marks)

[Total 20 marks]

Q4)

- I. What is root login in Linux Operating System? (02 marks)
- II. Define the following file permissions. (04 marks)
 - a. Read
 - b. Write
 - c. Execute
 - d. No permission
- III. Consider file name "foss.txt" with the following file permission attributes. Write down Linux commands followings.

^{4 2 4 2 4}
-rw-rw-r--

- a. View the file permission. (02 marks)
 - b. Add the execute permission to group category. (02 marks)
 - c. Add the write permission to other category. (02 marks)
 - d. Remove the write permission to group category. (02 marks)
 - e. Change the ownership to user saman. (02 marks)
 - IV. "Linux is better than Windows Operating System". Briefly explain the statement. (04 marks)
- [Total 20 marks]

Q5)

- I. Name two file compression commands. (02 marks)
- II. Compare and contrast between netmask and default gateway. (04 marks)
- III. List four features of a proxy server. (04 marks)
- IV. Write down commands to complete the following activities.
 - a. Install squid server. (02 marks)
 - b. Open squid configuration file. (02 marks)
 - c. Block the www.facebook.com. (02 marks)
 - d. Start the squid server. (02 marks)
 - e. Check the status of squid server. (02 marks)

[Total 20 marks]

Q6).

- I. Name two types of open source web servers. (02 marks)
- II. Briefly explain the following mail server services. (04 marks)
 - a. Postfix
 - b. Dovecot
- III. What are the features of SAMBA server? (04 marks)
- IV. The following diagram explain part of the dhcpd.conf file.

```
# A slightly different configuration for an internal subnet.
subnet 192.168.1.0 netmask 255.255.255.0 {
    range 192.168.1.20 192.168.1.30;
    option domain-name-servers server.unixmen.local;
    option domain-name "unixmen.local";
    option routers 192.168.1.1;
    option broadcast-address 192.168.1.255;
    default-lease-time 600;
    max-lease-time 7200;
}
```

- a. Write Linux command to install DHCP server. (02 marks)
- b. Write the command to open the dhcpd.conf in text editor. (02 marks)
- c. How many local IP addresses are issued by this DHCP server? (02 marks)
- d. Write down the subnet id in this server. (02 marks)
- e. How to configure to start the dhcp server while booting OS (02 marks)

[Total 20 marks]