



# SLIATE

**SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION**

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

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**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

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**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)

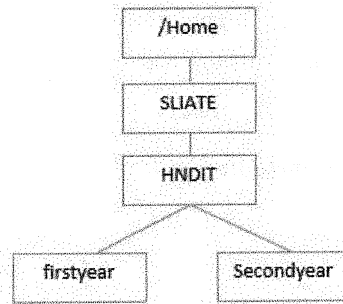
- Name two features of Linux Operating system. (02 marks)
- Compare and contrast between copyright and copyleft. (04 marks)
- Briefly explain FOSS business model. (06 marks)
- Briefly explain the following partitions related to Centos installation. (08 marks)
  - Swap
  - Boot
  - Root
  - Home

[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.

**-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 webservers. (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]**