Part – I

1. Who is creator of Linux?

   Linux Torvalds

2. An example of free software license / open source license is

   Apache License

3. Default Linux shell is ……………………..

   bash

4. What is the key combination for logging out current shell session?

   Ctrl + d

5. What is the Linux command to print your working directory?

   pwd

6. Which command is used to change permissions of file and directories?

   chmod

7. After typing command **mkdir-p Data**, which would happen?

   Created a parent directory Data

8. Which represents the user home directory

   ~

9. What should be used to automatically configure host computers for IP(Internet Protocol)?

   DHCP (Dynamic Host Configuration Protocol)

10. What is Postfix?

   Free and open source mail transfer agent (MTA) that router and delivers electronic mail.

Part – II

1.

i. Define the term Open Source Software

Open-source software is computer software with its source code made available and licensed with a license in which the copyright holder provides the rights to study, change and distribute the software at no cost to anyone and for any purpose

ii. What are the four advantages of having open source software

- ➢ **View source code**
- ➢ **Change and redistribute source code**
- ➢ **Reduce software licensing**
- ➢ **Reduce the cost ad effort**

iii. Briefly explain the concept of "Dual Licensing"

Offer open source products to those who are developing open source software, or to individual end users. Profit oriented others may be required to pay for a commercial license.

Example:-

- • **Qt, from TrollTech, the GUI toolkit used by KDE**

- • **MySQL, from MySQL AB, the database server**

iv. Give Three example for closed source freeware

- ➢ **VC Player**
- ➢ **MY SQL**
- ➢ **Firefox**
- ➢ **Open Office**

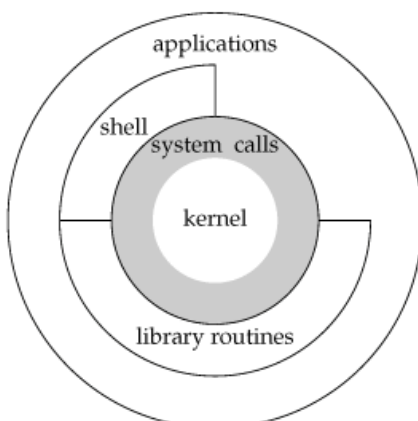v.   Write short notes on the followings

   a)   GNU

   ➢ **General Public License Initiated by Richard Stallman in 1984**
   ➢ **A project to develop a complete operating system**
   ➢ **Give computer users freedom and control in their use of their computers**
   ➢ **Father, It's Developed essential utilities**
      o **Editor**
      o **Compilers**
      o **Debugger**

   b)   FOSS business model

   ➢ **Selling the FOSS for low cost**
   ➢ **Providing the FOSS total free and selling services**
      ▪ **Training and support**
   ➢ **Dual-licensing**
      ▪ **One version is total free (individual users)**
      ▪ **Another version is selling for money (Companies)**
   ➢ **FOSS is total free and proprietary extensions**
      ▪ **modules, plugins or add-ons**
   ➢ **Donations to developers**
      ▪ **SourceForge**

2.

i.   Discuss about Linux Shell and Kernel using a diagram

- **The original and most powerful Linux user interface**

- **An interface between the user and the kernel.**

- **text-based command-line interpreter.**

- **bash is the default Linux shell.**

- **Kernel is the Hub of the operating system**

[Type here]

ii.   Name three Shell types in Linux

> **sh - one of the original shells**
> **bash - standard GNU shell**
> **csh and tcsh- resembles that of the C programming language. Sometimes asked for by programmers.**
> **Korn shell, or ksh –userd by peaople with a good linux background**

iii.   Briefly explain below file management commands

a)   Is **- Directory listing**

b)   cd **– Change to home**

c)   mkdir **– Make a directory**

d)   cp **– copy file directory**

e)   mv **– move a file or directory**

iv.   Assumed you have opened the terminal and now you are in your home directory. In your home directory there is text file named as *myInfo.txt*

a)   Write a command to find the word *ATI* in *myInfo.txt* file using **grep**

grep-r *ATI/myInfo.txt*

b)   How to open *myInfo.txt* file in append mode using cat command

Cat *myInfo.txt*

c)   Rename the file *myInfo.txt as myTextFile.txt* using command

Mv *myTextFile.txt myInfo.txt*

v.   Write suitable Linux Shell command to display below user/memory information

a)   Display current user's account name

who

b)   Display all users logged in

users

3.

i. Write down appropriate command in Linux for the following where necessary

    a) Clearly discuss the user creation procedure in a terminal with commands

        *(**Hint**: you are logged in terminal as Student user, and root account password is HNDIT)*

              Type su-

              Then asked password type the password, then press the 'Enter'

    b) Create a new user as **beckham** with home also as **beckham**

              Useradd--beck/ beckham/ beckham

    c) Also assign password as **devid** to **beckham**

              Passwd davit

    d) Create a group called **SPORTS**

              Goupadd SPORTS

    e) Add **beckham** to **SPORTS**

              Usersmod -uG SPORTS beckham

ii. Explain any four advantages of **vi**

    ➢ **Speed : Do more with fewer keystrokes**

    ➢ **Simplicity : No dependence on mouse/GUI**

    ➢ **Availability : Included with most Unix / Linux Distro**

iii. **vi** editors in Linux has three modes namely Command mode, Input mode and Last line mode. How will you get to them by pressing keys

    ➢ **command mode – (escape key)**

    ➢ **input mode – (press "i")**

    ➢ **last line mode –(press)**

[Type here]

4.

i. What is the purpose of process management in Linux Operating System?

A process is an instance of a program running in Linux some time you may need to stop in directly process management is a case in point. Linux creates a process whenever a program is touched either by you or by Linux this process is a container of information about how that program is running and what's happening.
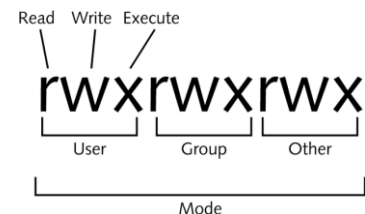
ii. Write down the output of following process management commands?

   a. Top: **- provides most CPU-intensive task on the system.**

   b. Ps: - **gives a snapshot of the current processes. If you want a repetitive update of this status, use top.**

iii. Briefly explain the attributes used in the file and directory permissions?

   ➢ **We can list out using "ls –l" displays the items permissions.**

   ➢ **Each item has 3 sections of permissions.**

      o **User permissions: Owner**

      o **Group permissions: Associated Group**

      o **Other permissions: Everyone else on the system**

iv. Describe the following security privileges of two files?

   a) **Sample.txt – 0640**

6	4	0
4+2+0	4+0+0	0+0+0
rw-	r--	---

rw-r-----

   b) **Test.java – 766**

7	6	6
4+2+1	4+2+0	4+2+0
rwx	Rw-	rw-

Rwxrw-rw-

[Type here]

v. **Is –l** command display the current file permission **Test.java** as follows

rw-rw-r—

Write the file permission commands to complete following tasks?

a) Add the execute permission for group
    Chmod g+x Test.java
b) Add the write permission for guests
    Chmod o+w Test.java
c) Remove write permission from all
    Chmod a-w Test.java
d) Change into new owner Saman
    Chown Saman Test.java

5.

i. What is the **Internet Message Access Protocol**?

   "IMAP is a protocol for email – retrieval and storage developed as an alternative to pop"

ii. What is the major functionality of samba server?

   ➢ **Running on a Unix system.**
   ➢ **It can be allows windows to share files.**
   ➢ **It allows Unix users to access resources.**
   ➢ **It can allow also share windows system.**

iii. An additional feature offered by many proxy server applications is caching; such a server is known as a caching proxy server. Explain benefits of having cashing proxy server.

   Caching enables the proxy server to store pages that it retrieves as file on disk this process has two benefits.

   ➢ **Significantly improves performance – in universities, school in studies more than one user might retrieve the same page.**
   ➢ **Reduces demands on internet connection – because there are fever request on internet when caching proxy server is in use this result in a general speed improvement.**

[Type here]

iv.   What is the command to remove DHCP server?

Sudo ant –get remove—auto- remove lsc- dhcp--server

v.   What is web server?

The World Wide Web is a collection server that had material, called content, that the web browser can display each the server on the web is connected to the internet.

vi.   Briefly explain the use of Apache server in FOSS development.

- ➢ **Apache is the most popular web server on the Internet.**
- ➢ **Apache is a web server that responds request from web browsers or clients such as Firefox.**
- ➢ **Apache server is easy with , which we can install, configure and run it in Linux environment.**