

Higher National Diploma in Information Technology

Second Year, Second Semester Examination – 2016

HNDIT2421 – Server Administration / Server Installation & Management (old)

Instructions for Candidates:

Answer only 05 Questions

No. of Questions: 06

No. of Pages : 05

Time: Three (03) hrs.

1)

a) Explain the *mount points* on Linux named “/”, “/home” and “/swap”.

[03 Marks]

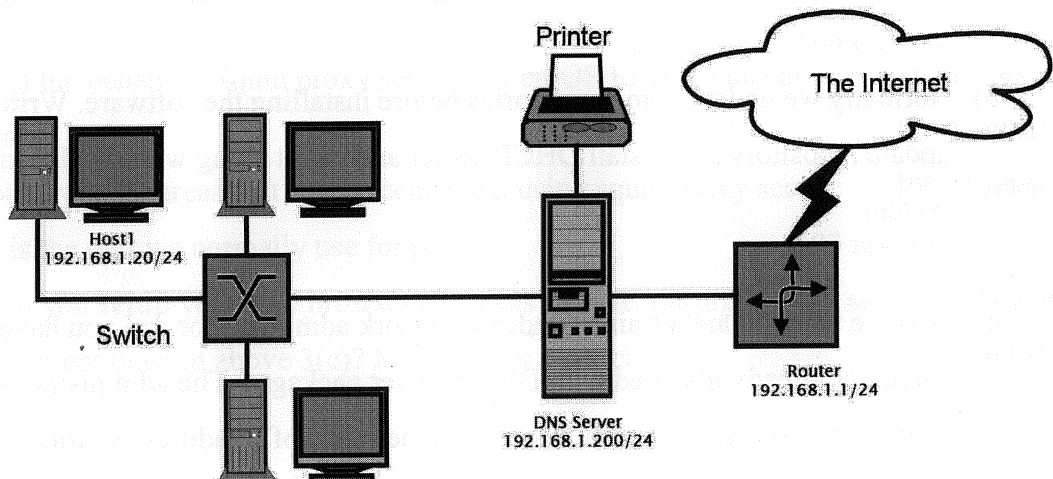
b) Give the usage of **terminal** and **script** in Linux.

[04 Marks]

c) Write the terminal command to check the IP address of a network interface in Linux.

[05 Marks]

d) “*Network Manager*” is graphical configuration tool which provides an easy way to make changes to the various network interface configuration files. Consider the given network diagram.



IPV4 setting dialog of the computer Host1 is given in the next page. Give the network settings denoted by A, B, C and D in the dialog box.



[08 Marks]

2)

a) Explain what is DHCP and the advantages and disadvantages of DHCP in networking environment. [03 Marks]

b) Normally we update yum repositories before installing the software. Write commands to update repository and install DHCP server and client along with the dependencies for your system.

[03 Marks]

c) Assume that you are a trainee under a network administrator and you have been provided a computer already installed with DHCP server packages. The administrator has asked you to configure a computer as DHCP server in the range of IP addresses from 192.168.2.10/24 to 192.168.2.253/24.

- Gateway address is 192.168.2.254
- Domain Name "abcenterprise.com",
- Two Domain servers 192.168.2.2 & 192.168.2.250
- default-lease time as 600 seconds and maximum lease time as 7200 seconds
- Subnet 192.168.2.0/24

- i. Give the path of the DHCP configuration file in CentOS?. **[05 Marks]**
- ii. Copy the given DHCP configuration file given below on your answer script and fill the blanks using the given information.

```

default-lease-time .....;
..... 7200;
option subnet-mask .....;
option broadcast-address .....;
option ..... 192.168.1.254;
option ..... 192.168.2.2, 192.168.2.250;
option domain-name .....;

subnet 192.168.2.0 ..... 255.255.255.0 {
..... 192.168.2.10 192.168.2.253;
}

```

[9 Marks]

Q3:

- a) Explain the benefit of squid proxy server in CentOS Linux. You can use a suitable example to explain. **[05 Marks]**
- b) List out five (05) areas that can be controlled using squid proxy server. **[05 Marks]**
- c) What is the port we normally use for proxy? **[02 marks]**
- d) How do you **setup** your web browser to access Internet through **proxy server** through the port number mentioned in above 3(c)? Mention the steps clearly. **[08 Marks]**

Q4:

- a. Explain the purpose of DNS server in brief. Use suitable diagram. **[05 Marks]**
- b. If you want to find the IP address of the domain microsoft.com, give the Linux command to perform this task? **[03 Marks]**
- c. What are the commands to start the DNS service on boot up and to test the DNS server? **[06 Marks]**
- d. A DNS Zone file is given in the next page.

\$ORIGIN example.com.

\$TTL 86400

```
@      IN      SOA   dns1.example.com.      hostmaster.example.com. (
                                2001062501 ; serial
                                21600   ; refresh after 6 hours
                                3600    ; retry after 1 hour
                                604800  ; expire after 1 week
                                86400 ) ; minimum TTL of 1 day

      IN      NS    dns1.example.com.
      IN      NS    dns2.example.com.
      IN      MX    10   mail.example.com.
      IN      MX    20   mail2.example.com.
dns1  IN      A     10.0.1.1
dns2  IN      A     10.0.1.2
server1  IN    A     10.0.1.5
server2  IN    A     10.0.1.6
ftp    IN      A     10.0.1.3
      IN      A     10.0.1.4
mail  IN      CNAME  server1
mail2 IN      CNAME  server2
www   IN      CNAME  server1
```

- i. Give the IP address of the Server1?
- ii. Give the IP address of the web server?
- iii. Give the IP address of mail2.example.com?

[2X3=6 Marks]

Q5

Assume that you have been provided two computers A: 192.168.2.20 and B: 192.168.2.30 and asked to configure ftp server on machine A and required to access from machine B.

- a) What is the purpose of ftp server. **[03 Marks]**
- b) Just list out the main 6 steps you have to go through. **[06 Marks]**
- c) Assign the values for following parameters in configuration file: **[08 Marks]**

anonymous_enable=

local_enable=

write_enable=

chroot_local_user=

- d) After configuring the ftp server you may encounter problems with accessing the ftp server. In such case, what are the possible issues which cause the problem? **[03 Marks]**

Q6.

Suppose you have been asked to create three virtual hosts to publish three web sites named “*www.example1.com*”, “*www.example2.com*” and “*www.example3.com*” on same physical server. Your sever IP address is 192.168.2.100/24.

- a) What are the benefits of virtual hosting? **[03 Marks]**
- b) Suggest suitable aliases for above three sites. **[03 Marks]**
- c) While configuring web server with sufficient parameters to work and access the websites, additionally you may make following changes. Why do we need to do them? Explain with reasons. **[12 Marks]**

44: ServerTokens prod

76: KeepAlive ON

262: ServerAdmin root@serverx.com

338: AllowOver

276: ServerName www.serverx.com

402: DirectoryIndex index.html

536: ServerSignature off

759: AddDefaultCharset UTF-8

- d) Rewrite the line number 276 based on the information given above. **[02 Marks]**