**Q:13 What are the default ports used for SMTP,DNS,FTP,DHCP,SSH and squid ?**  
Ans: Service      Port  
SMTP          25  
DNS            53  
FTP             20 (data transfer) , 21 ( Connection established)  
DHCP         67/UDP(dhcp server) , 68/UDP(dhcp client)  
SSH            22  
Squid         3128

**Why LVM is required ?**

Ans: LVM stands for Logical Volume Manager , to resize filesystem’s size online we required LVM partition in Linux. Size of LVM partition can be extended and reduced using the lvextend & lvreduce commands respectively.

**Q:2 How To check Memory stats and CPU stats ?**

Ans:  Using ‘free’ & ‘vmstat’ command we can display the physical and virtual memory statistics respectively.With the help of ‘sar’ command we see the CPU utilization & other stats.

**Q.** What is the difference between Active and Passive FTP sessions:

**A.**

Active FTP :

command channel : client port above1023 connects to server port 21

data channel: client port above 1023 is connected from server port 20

Passive FTP :

command channel: client port above 1023 connects to server port 21

data channel: client port above 1023 connects to server port above 1023

**What command can you use to back up an entire file system most efficiently?**

The easiest command to use to back up an entire file system is the dump command. Files can be restored from a dump operation by using the restore command.

**You are setting up an FTP server. Only company employees are allowed to use the FTP services. What should you configure on the FTP server to enhance security?**

You should disable the anonymous FTP account, so that only users with a username and password can access the system.

**What is the location of system configuration files that should be backed up on a regular basis?**

The /etc directory contains most of the Linux system configuration files.

**What does firewall do?**

Firewall is a device or service which can be used to protect the network or system from other outside networks.

Zcat copies each given file ("-" means standard input), to standard

output. If any given file is compressed, its uncompressed content is

used. If a given file does not exist, and its name does not end with

one of the known extensions, zcat tries the compressed file names

corresponding to the supported compressors. If no files are specified,

data is read from standard input, decompressed if needed, and sent to

standard output. Data read from standard input must be of the same

type; all uncompressed or all compressed with the same compressor. The

supported compressors are bzip2, gzip, lzip and xz.

**3. How will you restrict IP so that the restricted IP’s may not use the FTP Server?**

We can block suspicious IP by integrating tcp\_wrapper. We need to enable the parameter “tcp\_wrapper=YES” in the configuration file at ‘/etc/vsftpd.conf’. And then add the suspicious IP in the ‘host.deny’ file at location ‘/etc/host.deny’.

###### 4. Tell us the difference between Telnet and SSH?

Telnet and SSH both are communication protocol which are used to manage remote system. SSH is Secured, which requires exchanging of key opposite of telnet which transmit data in plain text, which means telnet is less secure than SSH.

###### 6. What is the difference between command ‘ping’ and ‘ping6’?

Answer : Both the commands are same and used for the same purpose except that the fact that ping6 is used with ipv6 IP address.

###### 8. What is the difference between locate and slocate command?

Answer : The slocate looks for the files that user have access whereas locate will search for the file with updated result.

###### 9. You need to search for the string “Tecmint” in all the “.txt” files in the current directory. How will you do it?

Answer : We need to run the fine command to search for the text “Tecmint” in the current directory, recursively.

##### State the main difference between mysql\_fetch\_array and mysql\_fetch\_object ?

Ans: Mysql\_fetch\_array will fetch all the matching records, whereas mysql\_fetch\_object will only fetch the first record that matches the query.

##### State the main difference between $message and $$message ?

Ans: $message is a name of a variable, whereas $$message is a variable with its name stored inside $message.

For example if $message=”var”, then $$message is the same as $var

##### Can you encrypt your password in PHP and how to do it ?

Ans: Yes, you can encrypt passwords and all kinds of data in PHP using md5() or sha() functions.

##### What is a trigger and does MySQL support triggers ?

Ans: A trigger is a database object that is associated with a particular table in a database. It gets activated automatically and performs when either INSERT, UPDATE, DELETE action occurs on the table.

MySQL supports triggers from MySQL 5.0.2 version.

##### State the main difference between mysql\_connect and mysql\_pconnect ?

Ans: With mysql\_connect, you open a database connection each time when the page loads, whereas with mysql\_pconnect, connection gets established only once and provides access to the database across multiple requests.

##### Is PHP a case sensitive programming language ?

Ans: It is partially case sensitive, where we can use function and class names in case sensitive manner but variables need to be used in a case sensitive manner.

##### How can one handle loops in PHP ?

Ans: In PHP, you the looping statements like while, do while, for and for each.

##### Q:15 Can you execute a PHP script in command line ?

Ans: Yes, we can execute a PHP script in command line with the following command line argument

# php yourscript.php

Where php is the command to execute the php script in a Command Line Interface (CLI).

##### How can we encrypt and decrypt a data present in a mysql table using mysql ?

Ans: To encrypt data in a mysql table, you can use the following: AES\_ENCRYPT () and AES\_DECRYPT ()

##### What are the types of errors in PHP and explain each one of them ?

Ans: The types of errors in PHP are Notices, Warnings & Fatal Errors.

Notices are less important errors that you don’t want to give much importance to it. Like errors that occur, when you try to access a variable that is not defined. If you change the notice errors to be not displayed, you won’t see these kinds of errors at all.

Warnings are errors of some serious nature that demand your attention. Even though these errors are displayed to the user, the script will not terminated. Example of this error includes accessing a file that doesn’t exist.

Fatal Errors are mission critical errors that result in immediate termination of your script. Examples of these errors include, calling an object of a non-existent class etc.

##### Can you increase the execution time of a php script ?

Ans: Yes, we can use the max\_execution\_time variable to set the desired time you needed for executing a php script.

##### Q:23 Can you increase the maximum upload size in PHP ?

Ans: Yes, we can use the upload\_max\_filesize variable to change the maximum size of a file you can upload.

##### Q:24 Please state how can you take a backup of  the whole database in mysql ?

Ans: You can use the command line utility to take a backup of all the mysql table or a specific mysql table easily with the following:

mysqldump –-user [user\_name] –-password=[password] [database\_name] > [dump\_file\_name]

Q) Q) What is the difference between home directory and working directory?

Answer - Home directory is the default working directory when a user logs in. On the other hand, working directory is the user’s current directory.......

Q) Q) What is the difference between internal and external commands?

Answer - Internal commands are commands that are already loaded in the system. They can be executed any time and are independent.......

Q) What is the minimum number of partitions you need to install Linux?

Minimum 2 partitions are needed for installing Linux. The one is / or root which contains all the files and the other is swap. Linux file system is function specific which means that files and folders are organized according to their functionality. For example, all executables are in one folder, all devices in another, all libraries in another and so on. / or ‘root’ is the base of this file system. All the other folders are under this one. / can be consider as C: .Swap is a partition that will be used as virtual memory. If there is no more available RAM a Linux computer will use an area of the hard disk, called swap, to temporarily store data. In other words it is a way of expanding your computers RAM.

**1.When do you need a virtual hosting ?**

The term Virtual Host refers to the practice of maintaining more than one server on one machine, as differentiated by their apparent hostname. For example, it is often desirable for companies sharing a web server to have their own domains, with web servers accessible as www.company1.com and www.company2.com, without requiring the user to know any extra path information.

**2.In which port telnet is listening?**

23

**3.How to get the listening ports which is greater than 6000 using netstat ?**

**4.How to block and openrelay ?**

Open relays are e-mail servers that are configured to accept and transfer e-mail on behalf of any user anywhere, including unrelated third parties.

The qmail-smtpd daemon will consult the rcpthosts control file to determine valid destination addresses, and reject anything else.

**5.Q) What is sandwitch configuration in qmail ?**

Qmail + Clam + Spamassassin- This is normally called Sandwitch configuration in qmail.

**6.Advantages of Qmail ?**

More secure, better designed, modular, faster, more reliable, easier to configure, don't have to upgrade it every few months or worry about being vulnerable to something due to some obscure feature being enabled

qmail supports host and user masquerading, full host hiding, virtual domains, null clients, list-owner rewriting, relay control, double-bounce recording, arbitrary RFC 822 address lists, cross-host mailing list loop detection, per-recipient checkpointing, downed host backoffs, independent message retry schedules, etc. qmail also includes a drop-in ``sendmail'' wrapper so that it will be used transparently by your current UAs.

**7.Q) What is the difference between POP3 and IMAP ?**

The Difference

POP3 works by reviewing the inbox on the mail server, and downloading the new messages to your computer. IMAP downloads the headers of the new messages on the server, then retrieves the message you want to read when you click on it.

When using POP3, your mail is stored on your PC. When using IMAP, the mail is stored on the mail server. Unless you copy a message to a "Local Folder" the messages are never copied to your PC.

Scenarios of Use

POP3

 You only check e-mail from one computer.

 You want to remove your e-mail from the mail server.

IMAP

 You check e-mail from multiple locations.

 You use Webmail.

**8.How to drop packets using iptables ?**

Iptables -A INPUT -s xx.xx.xx.xx -d xx.xx.xx.xx -j DROP

**9.Daily routines of Linux Administrators ?**

\*.Check the health of servers

\*.Check for updates

\*.Check the Backup

\*.Check with the trouble ticketing system for any unread ticket.

\*.Troubleshoot if there any problem

\*.Installation of new servers, if needed.

\*.Report to the Boss

**10.How to take the Dump of a MySQL Database ?**

Mysqldump databasename > dumpname

**11.How to know the CPU usage of each process ?**

Top, uptime

**12.How to bind another IP in a NIC ?**

Copy the contents eth0 to eth1, and change the ipaddress. Restart the network. .

**13.Transparently proxy all web-surfing through Squid box**

iptables -t nat -A PREROUTING -i eth1 -tcp --dport 80 -j DNAT --to

iptables -t nat -A PREROUTING -i eth1 -tcp --dport 80 -j DNAT --to

**14.Transparently redirect web connections from outside to the DMZ web server.**

iptables -t nat -A PREROUTING -i eth0 -d 192.168.1.1 -dport 80 -j DNAT –to

**15 Howto Activate the forwarding**

echo 1 >/proc/sys/net/ipv4/ip\_forward

**16.Kill spoofed packets**

for f in /proc/sys/net/ipv4/conf/\*/rp\_filter; do

echo 1 > $f

done.

$iptables -A LDROP --proto tcp -j LOG --log-level info \ --log-prefix “TCP Drop”