Question No : 1 - Topic 1
What command must be used to create an ext3 file-system?

- **A.** mkext3fs
- **B.** mkjfs
- **C.** mke3fs
- **D. mke2fs**
- **E.** mkext2fs

Question No : 2 - Topic 1
One of the IDE hard drives in a server is transferring data very slowly. What command must be run to enable DMA on it?

- **A.** hdparm -d /dev/hda
- **B.** hdparm --dma /dev/hda
- **C.** hdparm --dma /dev/hda1
- **D.** hdparm -d /dev/hda1
- **E. hdparm -d1 /dev/hda**

Question No : 3 - Topic 1
The correct command sequence to create logical volumes on a Linux system is:

- **A.** lvcreate, pvcreate, vgcreate, mount, mke2fs
- **B. pvcreate, vgcreate, lvcreate, mke2fs, mount**
- **C.** vgcreate, lvcreate, pvcreate, mount, mke2fs
- **D.** mke2fs, pvcreate, vgcreate, lvcreate, mount
- **E.** pvcreate, lvcreate, vgcreate, mount, mke2fs

Question No : 4 - Topic 1
After configuring a new 2.4 series kernel, all dependencies, such as included files, need to be created. How can this be achieved?

- **A.** make dependencies
- **B.** make clean
- **C.** make mrproper
- **D. make dep**
- **E.** make test

Question No : 5 - Topic 1
Which of these tools can provide the most information about DNS queries?

- **A. dig**
- **B.** nslookup
- **C.** host
- **D.** named-checkconf
- **E.** named-checkzone

Question No : 6 - Topic 1
A DNS server has the IP address 192.168.0.1. Which TWO of the following need to be done on a client machine to use this DNS server?

- **A. Add nameserver 192.168.0.1 to /etc/resolv.conf**
- **B.** Run route add nameserver 192.168.0.1
- **C.** Run ifconfig eth0 nameserver 192.168.0.1
- **D. Ensure that the dns service is listed in the hosts entry in the /etc/nsswitch.conf file**

- **E.** Run bind add nameserver 192.168.0.1

Question No : 7 - Topic 1
What happens when the Linux kernel can't mount the root filesystem when booting?

- **A. An error message is shown, showing which device couldn't be mounted or informing that init couldn't be found.**
- **B.** An error message is shown and the system reboots after a keypress.
- **C.** An error message is shown and the system boots in maintenance mode.
- **D.** An error message is shown and the administrator is asked to specify a valid root filesystem to continue the boot process.
- **E.** An error message is shown, stating that the corresponding kernel module couldn't be loaded.

Question No : 8 - Topic 1
What is the purpose of vgextend?

- **A.** Extend a volume group's footprint on disk
- **B. Add physical volumes to a volume group**
- **C.** Increase the number of days between scheduled error checking
- **D.** Create a volume group which uses all available space on disk

Question No : 9 - Topic 1
The mailserver is currently called fred, while the primary MX record points to mailhost.example.org. What must be done to direct example.org email towards fred?

- **A. Add an A record for mailhost to fred's IP address.**
- **B.** Add a CNAME record from mailhost to fred
- **C.** Add another MX record pointing to fred's IP address.
- **D.** Add a PTR record from mailhost to fred.

Question No : 10 - Topic 1
Which command would you use to apply a diff file to an original?

- **A.** patch > diff-file
- **B. patch < diff-file**
- **C.** patch << diff-file
- **D.** cat diff-file >> kernel
- **E.** cat diff-file << kernel

Question No : 11 - Topic 1
Which of the following commands will copy one disk partition /dev/sda3 to /dev/sdb3?

- **A.** dd if=/dev/sdb3 of =/dev/sda3 bs=4096 conv=notrunc
- **B. dd if=/dev/sda3 of=/dev/sdb3 bs=4096 conv=notrunc**
- **C.** dd --input /dev/sda3 --output /dev/sdb3 bs=4096 conv=notrunc
- **D.** dd --input /dev/sdb3 --output /dev/sda3 bs=4096 conv=notrunc

Question No : 12 - Topic 1
During which stage of the boot process would this message be seen?
ide_setup: hdc=ide-scsi

- **A.** Daemon initialization and setup.
- **B.** Boot loader start and hand off to kernel.
- **C.** Hardware initializiation and setup.
- **D. Kernel loading.**

Question No : 13 - Topic 1
To make a system backup, the simplest and fastest way is to use the tar command. Select the correct alternative below that shows the three tar parameters that create, list and expand a tar file respectively.

- **A. --create --list --extract**
- **B.** --compose --list --expand
- **C.** -c -t -e
- **D.** -c -l -x

Question No : 14 - Topic 1
It is possible to configure kernel parameters at runtime (e.g. the maximum size of the shared memory segment (shmmax)). In which TWO ways can this be changed to 2GB (2147483648 Bytes) on a running system?

- **A.** Edit /etc/shmmax and set the parameter to 2147483648.
- **B.** sysctl shmmax=2147483648.
- **C. sysctl kernel.shmmax=2147483648**
- **D. echo 2147483648 > /proc/sys/kernel/shmmax**
- **E.** export kernel.shmmax=2147483648

Question No : 15 - Topic 1
Some users are unable to connect to specific local hosts by name, while accessing hosts in other zones works as expected. Given that the hosts are reachable by their IP addresses, which is the default log file that could provide hints about the problem?

- **A.** /var/named/log
- **B.** /var/lib/named/dev/log
- **C.** /var/log/bind_errors
- **D.** /var/log/bind/errors
- **E. /var/log/messages**

Question No : 16 - Topic 1
Which pseudo-file contains information on the status of software RAID devices?

- **A.** /proc/raidstat
- **B.** /proc/mdstatus
- **C.** /proc/raidstatus
- **D. /proc/mdstat**
- **E.** /proc/raid/status

Question No : 17 - Topic 1
If the command arp -f is run, which file will be read by default?

- **A.** /etc/hosts
- **B. /etc/ethers**
- **C.** /etc/arp.conf
- **D.** /etc/networks
- **E.** /var/cache/arp

Question No : 18 - Topic 1
The user' quotas on the server were reduced from 200MB to 100MB. Besides sending emails to all users, it was requested that a message should communicate the change every time a user access the server. Which of the following is the correct method to configure this?

- **A.** Put the message text in the /etc/login-message file

- **B. Put the message text in the /etc/motd file**
- **C.** Put the message text in the /etc/default/login file.
- **D.** Put the message text in the /etc/passwd file, after all users entries.
- **E.** There is no way to do this because the administrator has no permission to change the .bash_profile file for each user.

Question No : 19 - Topic 1
A network client has an ethernet interface configured with an IP address in the subnet 192.168.0.0/24. This subnet has a router, with the IP address 192.168.0.1, that connects this subnet to the Internet. What needs to be done on the client to enable it to use the router as its default gateway?

- **A. Run route add default gw 192.168.0.1 eth1.**
- **B.** Run route add gw 192.168.0.1 eth1.
- **C.** Run ifconfig eth0 defaultroute 192.168.0.1.
- **D.** Add "defaultroute 192.168.0.1" to /etc/resolv.conf.
- **E.** Run route add defaultgw=192.168.0.1 if=eth0.

Question No : 20 - Topic 1
Which script, in the linux/scripts directory, can be used to add up grades or updated code to the 2.6.xx kernel source code?

- **A.** patch
- **B. patch-kernel**
- **C.** kernel-update
- **D.** upgrade-kernel
- **E.** upgrade

Question No : 21 - Topic 1
What is the difference between zImage and bzImage targets when compiling a kernel?

- **A.** zImage is compressed using gzip, bzImage is compressed using bzip2
- **B.** zImage is for 2.4 series kernels, bzImage is for 2.6 series kernels
- **C. zImage is loaded into low memory, bzImage is loaded into high memory**
- **D.** zImage is limited to 64k, bzImage is not

Question No : 22 - Topic 1
You have written a little startup script (/usr/local/bin/startup.sh) that should automatically execute when entering runlevel 3. According to the standards, how can this best be achieved?

- **A.** chmod 700 /usr/local/bin/startup.sh; cd/etc/init.d/rc3.d/; ln -s /user/local/bin/startup.sh
- **B. chmod 700 /usr/local/bin/startup.sh; cd/etc/init.d/rc3.d/; ln -s /usr/local/bin/startup.sh S99startup.sh**
- **C.** chmod 700 /usr/local/bin/startup.sh; cd/etc/init.d/rc3.d/; ln /user/local/bin/startup.sh
- **D.** chmod 700 /usr/local/bin/startup.sh; cd/etc/init.d/rc3.d/; ln -s /user/local/bin/startup.sh /usr/locl/bin/startup.sh
- **E.** chmod 700 /usr/local/bin/startup.sh; cp /user/local/bin/startup.sh /etc/init.d/rc3.d/S99Startup.sh

Question No : 23 - Topic 1
Which of the following best describes the format of the /etc/fstab file?

- **A.** mount point; device name; filesystem type; mount options; dump filesystem; fsck order
- **B. device name; mount point; filesystem type; mount options; dump filesystem; fsck order**

- **C.** mount point; filesystem type; device name; mount options; dump filesystem; fsck order
- **D.** device name; mount point; mount options; filesystem type; dump filessystem; fsck order
- **E.** device name; filesystem type; mount point; mount options; dump filesystem; fsck order

Question No : 24 - Topic 1
Which RAID level provides the most redundancy?

- **A.** RAID4
- **B.** RAID5
- **C. RAID1**
- **D.** RAID0

Question No : 25 - Topic 1
A GRUB boot loader installed in the MBR was accidentally overwritten. After booting with a rescue CD-ROM, how can the lost GRUB first stage loader be recovered?

- **A.** Use dd to restore a previous backup of the MBR
- **B.** Install LILO since there is no easy way to recover GRUB
- **C.** Running mformat will create a new MBR and fix GRUB using info from grub.conf
- **D. Run grub-install after verifying that grub.conf is correct.**
- **E.** Run fdisk --mbr /dev/had assuming that the boot harddisk is /dev/hda.

Question No : 26 - Topic 1
The following is an excerpt from the output of tcpdump -nli eth1 'udp':
13:03:17.277327 IP 192.168.123.5.1065 > 192.168.5.112.53: 43653+ A? lpi.org. (25)
13:03:17.598624 IP 192.168.5.112.53 > 192.168.123.5.1065: 43653 1/0/0 A
24.215.7.109 (41)
Which network service or protocol was used?

- **A.** FTP
- **B.** HTTP
- **C.** SSH
- **D. DNS**
- **E.** DHCP

Question No : 27 - Topic 1
Before compiling a new kernel, what needs to be done?

- **A.** Compile kernel modules
- **B. Configure the kernel options**
- **C.** Delete old kernel sources
- **D.** Change to runlevel 1
- **E.** All of the above

Question No : 28 - Topic 1
Which of these commands allows you to use shared libraries that are in /usr/local/lib?

- **A.** export LD_PRELOAD=/usr/local/lib
- **B.** export LD_LIBRARY_PATH=/usr/local/lib
- **C. ldconfig /usr/local/lib**
- **D.** ldd /usr/local/lib

Question No : 29 - Topic 1
What command is used to create an ISO9660 filesystem that can be properly accessed from a Windows 95/98 machine?

- **A.** mkisofs -l -o backup.iso /home/joe
- **B. mkisofs -J -T -r -o backup.iso /home/joe**
- **C.** mkisofs -D -T -o backup.iso /home/joe
- **D.** mkisofs -j -T -o backup.iso /home/joe
- **E.** mkisofs -d -T -o backup.iso /home/joe

Question No : 30 - Topic 1
What is the usable disk space of a RAID 5 array of five 18GB drives with one drive dedicated as a spare?

- **A.** 18GB
- **B.** 36GB
- **C. 54GB**
- **D.** 72GB
- **E.** 90GB

Question No : 31 - Topic 1
You decide to use the logical volume manager (LVM) to manage four 4GB disk drives. After creating the volume group, how would you create a 10GB logical volume called big-app?

- **A.** vgcreate -p 10g -n /dev/vg01/big-app
- **B.** vgcreate -l 2560 /dev/vg01/big-app
- **C.** mklvm -v 10240 -n /dev/vg01/big-app
- **D.** lvcreate -v 10240 /dev/vg01/big-app
- **E. lvcreate -l 2560 vg01 -n big-app**

Question No : 32 - Topic 1
Following the instructions contained in the README file of an application, the make command was executed but the following message was displayed on the screen:
Make: *** No targets specified and no makefile found. Stop.
Which are the TWO possible causes for this problem?

- **A. The make command is being executed in the wrong location.**
- **B.** The user has no write permission to the Makefile, so he cannot execute the make command correctly.
- **C. The make command was executed in the right place but the command to generate the Makefile was not properly executed.**
- **D.** The make command is not installed in the system.
- **E.** The development libraries needed by make are not installed on the system.

Question No : 33 - Topic 1
What needs to be done to enable 32 bit I/O transfer mode for (E)IDE disks, on a system running a 2.4 series Linux kernel?

- **A.** The Linux kernel must be recompiled.
- **B.** The sysctl utility must be used.
- **C. The hdparm utility must be used.**
- **D.** This feature isn't supported in 2.4 series kernels.
- **E.** This feature is enabled by default in 2.4 series kernels

Question No : 34 - Topic 1
Which of the following is a valid location in the automount configuration, when a Windows share needs to be made available to the system?

- **A.** \\server\sharename
- **B. ://server/sharename**
- **C.** server:/sharename
- **D.** :server/sharename
- **E.** \\\\server\\sharename

Question No : 35 - Topic 1
What script is included with the kernel source to patch a kernel?

- **A.** patch
- **B. patch-kernel**
- **C.** apply-patch
- **D.** update-kernel

Question No : 36 - Topic 1
DNSSEC is used for?

- **A.** Encrypted DNS queries between nameservers.
- **B. Cryptographic authentication of DNS zones.**
- **C.** Secondary DNS queries for local zones.
- **D.** Defining a secure DNS section.
- **E.** Querying a secure DNS section.

Question No : 37 - Topic 1
Considering the following kernel IP routing table now, which of the following commands must be remove the route to the network 10.10.1.0/24?
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
200.207.199.162 0.0.0.0 255.255.255.255 UH 0 0 0 ppp0
172.16.87.0 0.0.0.0 255.255.255.0 U 0 0 0 eth0
192.168.246.0 0.0.0.0 255.255.255.0 U 0 0 0 eth1
10.10.1.0 192.168.246.11 255.255.255.0 UG 0 0 0 eth1
127.0.0.0 0.0.0.0 255.0.0.0 U 0 0 0 lo
0.0.0.0 200.207.199.162 0.0.0.0 UG 0 0 0 ppp0

- **A.** route del 10.10.1.0
- **B.** route del 10.10.1.0/24
- **C. route del -net 10.10.1.0/24**
- **D.** route del 10.10.1.0/24 gw 192.168.246.11
- **E.** route del -net 10.10.1.0

Question No : 38 - Topic 1
Which ONE of the following wireless tools can be used to check the wireless network link quality?

- **A. iwconfig**
- **B.** iwlink
- **C.** iwscan
- **D.** iwifi

Question No : 39 - Topic 1
Which TWO archiving formats are used to create an initramfs image?

- **A. gzip**
- **B.** tar
- **C.** rar
- **D. cpio**

- **E.** bzip2

Question No : 40 - Topic 1

On a system with separate partitions for /, /usr, /var, /tmp, which filesystem[s] can safely be mounted readonly?

- **A.** /var, /usr
- **B.** /var
- **C.** /usr, /, /tmp
- **D. /usr**
- **E.** /tmp

Question No : 41 - Topic 1

What is the command to add another IP address to an interface that already has (at least) one IP address?

- **A. ifconfig eth0:1 192.168.1.2**
- **B.** ifconfig eth0 192.168.1.2
- **C.** ipconfig eth0:1 192.168.1.2
- **D.** ipconfig eth0 192.168.1.2
- **E. ifconfig eth0:sub1 192.168.1.2**

Question No : 42 - Topic 1

What tool can you use to print shared library dependencies?

- **A.** ldconfig
- **B. ldd**
- **C.** libdep
- **D.** libpath
- **E.** ldev

Question No : 43 - Topic 1

In order to find all library dependencies of /usr/bin/foo, which of the following statement is true?

- **A.** Running ldconfig against /usr/bin/foo will show the required libraries
- **B. Running ldd against /usr/bin/foo will show the required libraries**
- **C.** It's necessary to compile the program again to check the library dependencies of foo.
- **D.** The ls -la command has to be run in the /usr/bin directory, to show all library dependencies of foo.
- **E.** Library dependencies are shown in the /usr/lib directory.

Question No : 44 - Topic 1

A server has three disks of 80GB each and must manage a database with 4 million records of 30KB each. The best configuration for this server, with the criteria being performance, configurability and flexibility, is:

- **A.** Use just LVM
- **B.** Use RAID1 over LVM
- **C. Use LVM over RAID5**
- **D.** Use LVM over RAID1
- **E.** Use RAID5 over LVM

Question No : 45 - Topic 1

What is the minimum number of disks required in a RAID5 array?

- **A.** 1

- **B.** 2
- **C. 3**
- **D.** 4
- **E.** 5

Question No : 46 - Topic 1

A Linux machine freezes during boot. To boot directly to a shell prompt so that editing of files and manual starting of services is possible which command line must be passed to the kernel for the boot process?

- **A. init=/bin/bash**
- **B.** 1
- **C.** runlevel=1
- **D.** sh
- **E.** /bin/sh

Question No : 47 - Topic 1

Which of these ways can be used to only allow access to a DNS server from specified networks/hosts?

- **A.** Using the limit{...;};statement in the named configuration file.
- **B. Using the allow-query{...;};statement in the named configuration file.**
- **C.** Using the answer only{...;};statement in the named configuration file.
- **D.** Using the answer{...;};statement in the named configuration file.
- **E.** Using the query access{...;};statement in the named configuration file.

Question No : 48 - Topic 1

After unpacking the source code for a Linux kernel, what is the first make command that should be run which will delete any current configuration and all generated files? This command will ensure that no inappropriate files were left in the kernel archive by the maintainer.

- **A.** make depend
- **B. make distclean**
- **C.** make config
- **D.** make clean
- **E.** make mrproper

Question No : 49 - Topic 1

What information does the file modules.dep provide?

- **A.** A list of all modules available to the kernel.
- **B. A list of modules required by each module.**
- **C.** A list of devices and their module name.
- **D.** A list of modules compiled for this kernel.
- **E.** A list of modules the kernel needs to run.

Question No : 50 - Topic 1

Why is the root file system mounted read-only during boot and remounted with write permission later on?

A. Because if problems with the root file system are detected during the boot, fsck can be run, without risk of damage.
B. Because this way crackers cannot collect information about root with boot sniffers
C. To avoid writing to the disk, unless the root password is known.
D. To avoid other operating systems overwriting the Linux root partition

E. Because the disk has its own write protection that cannot change by the operating system.

Question No : 51 - Topic 2
A BIND server should never answer queries from certain networks or hosts. Which configuration directive could be used for this purpose?

- **A.** deny-query { ...; };
- **B.** no-answer { ...; };
- **C.** deny-answer { ...; };
- **D.** deny-access { ...; };
- **E. blackhole { ...; };**

Question No : 52 - Topic 2
Which of the following entries are NOT valid in /etc/raidtab?

- **A. superblock-persistent**
- **B.** chunk-size
- **C.** nr-spare-disks
- **D.** nr-raid-disks

Question No : 53 - Topic 2
A zone file on the DNS server has been updated. Which of the following commands will tell named to reload its zone files? (Please select TWO correct answers)

- **A. killall -HUP named**
- **B.** killall named
- **C. rndc reload**
- **D.** rndc flush
- **E.** named-checkzone -r

Question No : 54 - Topic 2
What is the term for unmounting a filesystem, which cleans up all references to the filesystem, as soon as it is not in use any longer?

- **A.** soft
- **B.** strong
- **C.** forced
- **D. lazy**
- **E.** delayed

Question No : 55 - Topic 2
A system is running out of swap space. To initialise 5GB of additional swap space, which combination of commands should be used?

- **A. dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; mkswap /tmp/swapfile; swapon /tmp/swapfile**
- **B.** dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; swap on /tmp/swapfile
- **C.** dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; mkswap /tmp/swapfile; mount /tmp/swapfile
- **D.** touch -5G /tmp/swapfile; swapon /tmp/swapfile
- **E.** mkswap /tmp/swapfile 512000; swapon /tmp/swapfile

Question No : 56 - Topic 2
Which of the following sentences is true for the shown BIND9 configuration?
options {
directory "/var/named";

allow-query { any; };
allow-recursion {127.0.0.1; 10.0.0.0/24; };
forwarders {192.168.0.4; };
forward first;
};
zone"." {
type hint;
file "named.ca";
};

- **A.** Any host, from any network, may use this server as its main DNS server.
- **B. If the server doesn't know the answer to a query, it sends a recursive query to 192.168.0.4.**
- **C.** If the server doesn't know the answer to a query, it sends a query to a root DNS server.
- **D.** Hosts in the network 10.0.0.0/24 will be able to ask for zone transfers.
- **E.** If the server doesn't know the answer to a query, it sends a recursive query to 192.168.0.4 and, if this fails, it returns a failure.

Question No : 57 - Topic 2
Performing a DNS lookup with dig results in this answer:
;; question SECTION:
;5.123.168.192.in-addr.arpa. IN PTR
;; ANSWER SECTION:
5.123.168.192.in-addr.arpa. 600 IN PTR linuserv.example.net.123.168.192.in-addr.arpa.
;;AUTHORITY SECTION:
123.168.192.in-addr.arpa. 600 IN NS linuserv.example.net.
;; ADDITIONAL SECTION:
linuserv.example.net. 600 IN A 192.168.123.5
What might be wrong in the zone definition?

- **A.** Nothing. All seems to be good.
- **B.** There's no "." after linuserv.example.net in the PTR record in the forward lookup zone file.
- **C.** There's no "." after linuserv in the PTR record in the forward lookup zone file.
- **D. There's no "." after linuserv.example.net in the PTR record in the reverse lookup zone file.**
- **E.** The "." in the NS definition in reverse lookup zone has to be removed.

Question No : 58 - Topic 2
A machine is running in single user mode and, as such, not all file-systems are accessible.
What command must be run to make all of the other file-systems listed in /etc/fstab accessible?

- **A.** mount --all
- **B.** mountfs --all
- **C.** mountfs -a
- **D. mount -a**

Question No : 59 - Topic 2
What information can be found in the log file specified by the status parameter in OpenVPN's server.conf? (Select TWO correct answers)

- **A.** Errors and warnings generated by the openvpn daemon
- **B. Routing information**
- **C.** Statistical information regarding the currently running openvpn daemon
- **D. A list of currently connected clients**
- **E.** A history of all clients who have connected at some point

Question No : 60 - Topic 2
A Linux server is running in single user mode, but the problem that existed before is now fixed.
What command is most appropriate to restore the server to service?

- **A.** reboot
- **B.** telinit 2
- **C.** shutdown -r now
- **D. telinit 3**
- **E.** shutdown -h now

Question No : 61 - Topic 2
Which of the following commands will securely copy the directory ./fyf/ to /var/tmp/ on the
remote host deltaur using the remote user account kevin?

- **A.** rsync -a -e ssh kevin@deltaur:/var/tmp/ fyf/
- **B.** rsync -a -u kevin -e ssh fyf/ deltaur:/var/tmp/
- **C.** rsync -a -u kevin -e ssh deltaur:/var/tmp/ fyf/
- **D. rsync -a -e ssh fyf/ kevin@deltaur:/var/tmp/**

Question No : 62 - Topic 2
A BIND server should be upgraded to use TSIG. Which configuration parameters should be
added, if the server should use the algorithm hmac-md5 and the key
skrKc4DoTzi/tAkllPi7JZA== ?

- **A.** TSIG server.example.com. algorithm hmac-md5; secret
  "skrKc4DoTzi/tAkllPi7JZA=="; };
- **B.** key server.example.com. { algorithm hmac-md5; secret skrKc4DoTzi/tAkllPi7JZA==;
  };
- **C. key server.example.com. { algorithm hmac-md5; secret
  "skrKc4DoTzi/tAkllPi7JZA=="; };**
- **D.** key server.example.com. { algorithm=hmac-md5;
  secret="skrKc4DoTzi/tAkllPi7JZA=="; };
- **E.** key server.example.com. { algorithm hmac-md5 secret
  "skrKc4DoTzi/tAkl1Pi7JZA==" };

Question No : 63 - Topic 2
Journalling doesn't appear to be working on an ext3 file-system. When booting, the following
line appears:
VFS: Mounted root (ext2 filesystem) readonly.
What could be causing the problem?

- **A.** An old version of e2fsprogs is installed.
- **B. The kernel does not contain ext3 support.**
- **C.** The file-system is specified as ext2 in/etc/fstab.
- **D.** The system was not shut down cleanly.

Question No : 64 - Topic 2
On a Debian based system, which command can be used to stop the apache2 init script from
running at boot time once the real script has been removed from /etc/init.d/?

- **A.** update-rc.d -d apache2
- **B.** update-rc.d apache2 delete
- **C.** update-rc.d remove apache2
- **D. update-rc.d apache2 remove**
- **E.** update-rc.d delete apache2

Question No : 65 - Topic 2
Which of the following commands should be used in a bash script that needs a variable containing the IP address of the eth0 interface? The output for the command ifconfig eth0 is shown below:
eth0 Link encap:Ethernet HWaddr 00:0C:29:CB:FA:30
inet addr:192.168.246.11 Bcast:192.168.246.255 Mask:255.255.255.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:4721 errors:0 dropped:0 overruns:0 frame:0 TX packets:3216 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000
RX bytes:445184 (434.7 Kb) TX bytes:512968 (500.9 Kb) Interrupt:185 Base address:0x1080

- **A.** IP=LANG= ifconfig eth0 | awk '{ print $2 }' | cut -f2
- **B.** IP=`LANG= ifconfig eth0 | grep inet | cut -d: -f2 | awk { print $1 }`
- **C.** IP=`LANG= ifconfig eth0 | awk '{ print $3 }`
- **D. IP=$(LANG= ifconfig eth0 | grep inet | awk '{ print $2 }' | cut -d: -f2)**
- **E.** IP=$(LANG= ifconfig eth0 | grep inet | cut -d: -f2)

Question No : 66 - Topic 2
During which stage of the boot process would this message be seen?
Ide0: BM-DMA at 0xff00-0xff07, BIOS settings: hda:DMA, hdb:DMA

- **A.** Boot loader start and hand off to kernel
- **B.** Kernel loading
- **C. Hardware initialization and setup**
- **D.** Daemon initialization and setup

Question No : 67 - Topic 2
Which command could be used to see the kernel messages created from the boot time until now?

- **A.** initm
- **B.** initmessage
- **C.** initmsg
- **D.** inittab
- **E. dmesg**

Question No : 68 - Topic 2
What command can be used on an existing (formatted) partition, to configure the interval between disk checks when mounting partitions?

- **A.** mke2fs
- **B.** e2fsck
- **C.** e2fsckconfig
- **D.** config2fs
- **E. tune2fs**

Question No : 69 - Topic 2
Your routing configuration relies on eth0 being a 3com card that requires the 3c59x module. What line must be added to modules configuration file, to ensure that eth0 always uses this module?

- **A.** eth0=3c59x
- **B.** alias eth0=3c59x
- **C. alias eth0 3c59x**
- **D.** set eth0 3c59x
- **E.** set eth0=3c59x

Question No : 70 - Topic 2
Which system files are updated as devices are mounted and unmount to provide information on the mounted devices and the options used? (Please specify TWO answers)

- **A.** /proc/dtab
- **B. /etc/mtab**
- **C.** /etc/fstab
- **D. /proc/mounts**
- **E.** /proc/devices

Question No : 71 - Topic 2
A 2.6.9-ac1 kernel would be

- **A.** an alpha kernel.
- **B. someone's patch to a stable kernel.**
- **C.** a stable kernel.
- **D.** an unstable kernel.
- **E.** someone's patch to an unstable kernel.

Question No : 72 - Topic 2
What backup arrangement should be used for an intranet web server the contents of which is updated fairly regularly by different staff?

- **A. Daily incremental backups with a weekly full backup tape sent off- site**
- **B.** Monthly full backups with the tape sent off-site
- **C.** Daily full backups with all tapes sent off-site
- **D.** Weekly full backups with all tapes sent off-site
- **E.** Daily full backups with one tape sent off-site per week

Question No : 73 - Topic 2
You have finished updating and resolving dependencies for some source code. What command should you run before recompiling the code into binary form?

- **A. make clean**
- **B.** make all
- **C.** make dep
- **D.** make install

Question No : 74 - Topic 2
Which of the following commands can be used to access the content of a ramdisk file (/boot/initrd) used by the kernel at boot time?

- **A.** mount /boot/initrd /mnt/ -0 loop; cat /mnt
- **B.** mkintird -d /boot/initrd; mount /boot/initrd /mnt/ -o loop
- **C.** cp /boot/initrd /tmp/initrd.gz; mount /tmp/initrd /mnt/ -o loop
- **D. cp /boot/initrd /tmp/initrd.gz; gunzip initrd.gz; mount /tmp/initrd /mnt/ -o loop**
- **E.** cp /boot/initrd /tmp/initrd.gz; gunzip initrd.gz; mount /tmp/initrd /mnt/

Question No : 75 - Topic 2
To restore the kernel source to the previous, unpatched, version, which of the following commands could be used?

- **A.** patch --restore
- **B.** patch --remove
- **C.** patch -U
- **D.** patch --undo

- **E. patch -R**

Question No : 76 - Topic 2
To remove the patch patch-2.4.28.tar.bz2 from a kernel source tree, the command that must be used is:

- **A.** bunzip2 ../patch-2.4.28.tar.bz2 | patch -rp1
- **B. bunzip2 -c ../patch-2.4.28.tar.bz2 | patch -Rp1**
- **C.** bunzip2 -c ../patch-2.4.28.tar.bz2 | unpatch -p1
- **D.** bunzip2 ../patch-2.4.28.tar.bz2 | unpatch -p1
- **E.** bunzip2 ../patch-2.4.28.tar.bz2 | patch -Rp1
- **F.** bunzip2 -c ../patch-2.4.28.tar.bz2 | patch -rp1

Question No : 77 - Topic 2
In order to find all library dependencies of /usr/bin/foo, which of the following statement is true?

- **A.** Running ldconfig against /usr/bin/foo will show the required libraries
- **B. Running ldd against /usr/bin/foo will show the required libraries**
- **C.** It's necessary to compile the program again to check the library dependencies of foo.
- **D.** The ls -la command has to be run in the /usr/bin directory, to show all library dependencies of foo.
- **E.** Library dependencies are shown in the /usr/lib directory.

Question No : 78 - Topic 2
How can DMA be enabled for the device /dev/hda?

- **A.** echo "1" >/proc/ide/hda/dma
- **B.** sysctl -w dev.ide.dma=1
- **C.** dma add /dev/hda
- **D. hdparm -d 1 /dev/hda**
- **E.** insmod dma dev=/dev/hda

Question No : 79 - Topic 2
Hundreds of people log in to a server from remote locations per day. Which of the following commands show remote SSH, FTP & telnet sessions for a particular day?

- **A. cat /var/log/messages | grep "`date "+%b %e"`" | egrep '(telnet|ssh|ftp)'**
- **B.** cat /var/log/messages | egrep '(telnet|ssh|ftp)'
- **C. cat /var/log/messages | grep "`date "+%b %e"`" | grep -E '(telnet|ssh|ftp)'**
- **D.** cat /var/log/messages | date | egrep '(telnet|ssh|ftp)'
- **E.** cat /var/log/messages > grep "`date "+%b %e"`" > egrep '(telnet\ssh\ftp)'

Question No : 80 - Topic 2
The Linux kernel is loaded successfully by the boot loader. However, straight after the kernel mounts the root filesystem, the boot process stops and an error message regarding init is shown. Which of the following actions is the best one to be used in order to identify and fix the problem?

- **A.** The administrator reboots the system with a recovery disk and checks the root file system for errors with fsck.
- **B.** The administrator reboots the system with a recovery disk and restores from a backup.
- **C. The administrator reboots the system and tells the kernel, through the boot loader prompt, to use /bin/bash as the initial process.**
- **D.** The administrator reboots the system with a recovery disk and installs a new kernel.
- **E.** The administrator reboots the system and tells init, through the boot loader prompt, to use a different runlevel.

Question No : 81 - Topic 2
After changing the default runlevel in the init configuration file, the system boots in a different than the intended runlevel. Where else could be this different runlevel be defined?

- **A.** Nowhere. The init configuration file wasn't properly modified
- **B. In the boot loader configuration file**
- **C.** In /etc/ runlevel under default
- **D.** In the initrd image file
- **E.** In the /etc/rc.d/rc.local file

Question No : 82 - Topic 2
After unpacking source code, what file is used by configure to create a final Makefile?

- **A.** configure.in
- **B.** configure.ac
- **C. Makefile.in**
- **D.** Makefile.tmpl

Question No : 83 - Topic 2
You find that a host (192.168.1.4) being used on one of your client's networks has been compromised with a backdoor program listening on port 31337. Your client requests a list of originating IP addresses connecting to that port. Using a Linux workstation as traffic analyzer, which of the following commands would gather the data requested by the client?

- **A. tcpdump host 192.168.1.4 and port 31337 -w out**
- **B.** nmap host 192.168.1.4:31337
- **C.** arpwatch -n 192.168.1.4/32 -p 31337 > capture
- **D.** pcap -d 192.168.1.4:31337
- **E.** ipwatch --syn 192.168.1.4 -p 31337 --1og=out

Question No : 84 - Topic 2
Which hdparm command-line options will set an IDE hard disk to use both DMA and 32-bit I/O support?

- **A.** -p 1 -A 1
- **B.** -f -g
- **C.** -L 1 -i 1
- **D. -d 1 -c 1**
- **E.** -L 1 -i 32

Question No : 85 - Topic 2
What command must be used to create an ext3 filesystem?

- **A. mke2fs**
- **B.** mkext2fs
- **C.** mke3fs
- **D.** mkext3fs
- **E.** mkjfs

Question No : 86 - Topic 2
Why has mkinitrd been deprecated in favour of mkinitramfs in 2.6 series kernels? (Select TWO correct answers)

- **A.** It isn't loaded until later in the boot process
- **B.** An easy to use GUI is available for mkinitramfs
- **C. mkinitrd relies on devfs**

- **D. SATA hard drives are unsupported**

Question No : 87 - Topic 2
User Joseph has successfully extracted and compiled a program from source code. Installing the binaries produces errors. What is the most likely reason?

- **A.** The source code was compiled for a different CPU
- **B.** The permissions set in the /usr/bin directory are wrong
- **C. The binaries require root privileges to be installed**
- **D.** The wrong prefix was used during configuration of the source code

Question No : 88 - Topic 2
The swap usage on a system needs to be checked. Which TWO commands can be used to display a swap usage summary?

- **A.** swapconfig
- **B. cat /proc/swaps**
- **C. swapon -s**
- **D.** swapshow
- **E.** cat /etc/fstab

Question No : 89 - Topic 2
What is the purpose of udevmonitor?

- **A. Listen to kernel events produced by a udev rule and print information to the console**
- **B.** Monitors the /dev directory for new devices
- **C.** Monitors the udev process and prints performance statistics to the console
- **D.** Communicates with D-Bus to setup new devices

Question No : 90 - Topic 2
Which tool can be used to control the runtime behavior of udev?

- **A.** udev
- **B.** udevctl
- **C. udevadm**
- **D.** udevconfig
- **E.** udevclient

Question No : 91 - Topic 2
A pre-compiled module has been moved to /lib/modules/<kernel-version>, but 'modprobe - a <module-name>' fails to load it. What needs to be done to enable usage of this module?

- **A.** make modules_install must be run.
- **B. depmod must be run.**
- **C.** The kernel must be re-compiled.
- **D.** modules.conf or modprobe.conf must be edited.
- **E.** The system must be rebooted.

Question No : 92 - Topic 2
You have elected to use the automounter and the autofs script. Your /etc/auto.master file contains the following:
/home /etc/auto.home
/project /etc/auto.project
/data yp:data.map
If you change the contents of /etc/auto.project to include a new source path what must be done to access the new path?

- **A.** Shutdown and restart the local NFS client daemons
- **B.** Run fsck on the affected mount point
- **C. Issue the /etc/init.d/autofs reload command**
- **D.** Add the newly mapped path to/etc/fstab
- **E.** Nothing Simply access the newly mapped resource

Question No : 93 - Topic 2
What is a significant difference between host and zone keys generated by dnssec-keygen?

- **A.** There is no difference.
- **B. Zone key files contain a public and private key.**
- **C.** Host keys files contain a public and private key.
- **D.** Host keys must always be generated if DNSSEC is used; zone keys are optional
- **E.** Zone keys must always be generated if DNSSEC is used; host keys are optional

Question No : 94 - Topic 2
What command is used to force a file-system check, when rebooting?

- **A.** reboot-f
- **B.** shutdown -f now
- **C.** shutdown -c -r now
- **D.** fsck -r
- **E. shutdown -F -r now**

Question No : 95 - Topic 2
What command is used to mount a floppy disk image under /mnt/floppy?

- **A.** mount -1 root.img /mnt/floppy
- **B.** mount --loop root.img /mnt/floppy
- **C.** mount root.img /mnt/floppy
- **D.** mount root.img
- **E. mount -o loop root.img /mnt/floppy**

Question No : 96 - Topic 2
Considering that a 2.4 series Linux kernel is being used, which kernel module must be loaded to enable CD burning with an IDE CD writer?

- **A.** ide-cd
- **B.** ide-cdrw
- **C.** ide-cdb
- **D. ide-scsi**
- **E.** None of the above

Question No : 97 - Topic 2
What command should be used to find out what PCI devices can be seen, without querying the kernel?

- **A.** lspci -v
- **B.** lspci -s
- **C.** lspci -x
- **D. lspci -b**
- **E.** lspci -p

Question No : 98 - Topic 2
How can you manually add an entry to your system's ARP cache?

- **A.** Directly edit /etc/arp-cache
- **B.** Run add-arp hostname FF:FF:FF:FF:FF:FF
- **C.** Run ping -a hostname
- **D. Run arp -s hostname FF:FF:FF:FF:FF:FF**
- **E.** Edit arp.conf and restart arpd

Question No : 99 - Topic 2
Which of the following applications utilize the device mapper? (Select TWO correct answers)

- **A.** SELinux
- **B. LVM2**
- **C. EVMS**
- **D.** GRUB
- **E.** LILO

Question No : 100 - Topic 2
If the current directory is /root and the kernel source is located in /usr/src/linux, which of the following commands should be used to apply the patch /tmp/foopatch?

- **A.** cat /tmp/foopatch | patch -p0
- **B.** cd/usr/src/linux; cat/tmp/foopatch | patch -p0
- **C.** cd/usr/src/linux; cat/tmp/foopatch | patch
- **D. cd/usr/src/linux; patch -p1 </tmp/foopatch**
- **E.** cd/usr/src/linux; patch -p1 >/tmp/foopatch

Question No : 101 - Topic 3
What directive can be used in named.conf to restrict zone transfers to the 192.168.1.0/24 network?

- **A. allow-transfer { 192.168.1.0/24; };**
- **B.** allow-transfer { 192.168.1.0-192.168.1.0.255; };
- **C.** allow-axfr { 192.168.1.0/24; };
- **D.** allow-xfer { 192.168.1.0/24; };

Question No : 102 - Topic 3
When configuring a new kernel, what file under /usr/src/linux/ contains the configuration?

Answer : **.config**

Question No : 103 - Topic 3
Which file contains the software RAID configuration? (Please enter the file-name without the path)

Answer : **raidtab**

Question No : 104 - Topic 3
When compiling kernel modules, which make target will remove most generated files but keep the config file and enough build support to build external modules? (Please enter only the make target and no other words)

Answer : **clean**

Question No : 105 - Topic 3
You need to recover some data from a magnetic tape and it is the second file on the media.
The following command is being attempted:
mt -f /dev/nst0 _____

What is the mt operation that will position the tape on the first block of the second file?
(Please specify the operation with no other parameters)

Answer : **asf 2**

Question No : 106 - Topic 3
Where should the LILO code reside, on a system with only one installation of Linux and no other operating systems?

- **A. In the master boot record**
- **B.** In the boot sector
- **C.** In the /boot directory
- **D.** At the start of the kernel

Question No : 107 - Topic 3
Your newly-compiled kernel cannot find any modules it needs to load. What command was missed when compiling and installing the kernel?

Answer : **make modules_install**

Question No : 108 - Topic 3
Why shouldn't you use the options -z and -j when using tar with a magnetic tape backup?

- **A. In case of damaged tape uncompressed tar archives may allow partial recovery of the backup**
- **B.** Standard Linux compression software and hardware compresion in the tape drive will cause bigger files on the tapes.
- **C.** Standard Linux compression software won't be able to write to sequential tape media.
- **D.** Backup and restore performance will be better if we don't introduce the compression delay into the process
- **E.** The tape drive hardware-based compression achieves higher compression rates than either gzip or bzip2 software based compression.

Question No : 109 - Topic 3
Please enter the complete path to the main init process configuration file.

Answer : **/etc/inittab**

Question No : 110 - Topic 3
Using only commands included with named, what is the command, with options or parameters, to make named re-read its zone files?

Answer : **rndc reload**

Question No : 111 - Topic 3
In which directory is the Linux kernel documentation be found?

Answer : **/usr/src/linux/Documentation**

Question No : 112 - Topic 3
Which mount option must be used in the example /etc/fstab entry below, to ensure that a specific filesystem is not mounted when the system is booted?
/dev/hdd /media/cdrom iso9660 _____,ro 0 0

Answer : **noauto**

Question No : 113 - Topic 3
How can the label root be added to the ext2 file-system on /dev/sda1? Please enter the command with all parameter(s) and/or option(s):

Answer : **tune2fs -L root /dev/sda1**

Question No : 114 - Topic 3
Which command, with options, could be used to change an ext2 file system on /dev/hda1 to an ext3 file system?

Answer : **tune2fs -j /dev/hda1**

Question No : 115 - Topic 3
Which file contains configuration data for automount? Please enter the complete path.

Answer : **/etc/auto.master**

Question No : 116 - Topic 3
What is the purpose of a PTR record?

- **A.** To provide name to IP resolution.
- **B. To provide IP to name resolution.**
- **C.** To direct email to a specific host.
- **D.** To provide additional host information.
- **E.** To direct clients to another nameserver.

Question No : 117 - Topic 3
How can a journal added, non-destructively, to the ext2 file-system on /dev/dg/lv05? Please enter the command with all parameter(s):

Answer : **tune2fs -j /dev/dg/lv05**

Question No : 118 - Topic 3
How would you run named inside a chroot jail as user nobody and group nogroup?

- **A.** Add "user nobody; group nogroup; chroot /var/named/root" to named.conf
- **B.** named runs as nobody/nogroup by default, so just invoke it as "name --chroot /var/named/root"
- **C.** Use /usr/bin/chroot after running "chown nobody.nogroup named"
- **D. Invoke named as "named -t /var/named/root -u nobody"**

Question No : 119 - Topic 3
Consider the following output from df -i:
Filesystem Inodes IUsed IFree IUse% Mounted on
/dev/md0 1966080 45044 1921036 3% /
none 125731 712 125019 1% /dev
none 127729 1 127728 1% /dev/shm
none 127729 17 127712 1% /var/run
none 127729 2 127727 1% /var/lock
none 1966080 45044 1921036 3% /var/lib/ureadahead/debugfs
/dev/sde1 0 0 0 - /mnt
What filesystem does /dev/sde1 most likely use?

- **A.** ext2
- **B.** ext3

- **C. reiserfs**
- **D.** xfs

Question No : 120 - Topic 3
You have configured a workstation to boot in runlevel 4, but you now find that the X server will not start correctly and the machine will not allow local access. What would be the most effective command to run at the LILO prompt to regain local access to the machine, when the last known working kernel image was linux?

Answer : **linux s**

Question No : 121 - Topic 3
You wish to notify all users that you have to take down a service on which they rely. What command will allow you to send a message to all currently logged on users? Enter only the command, not the path.

Answer : **wall**

Question No : 122 - Topic 3
Configuration of X is complete and now the default runlevel can be changed from runlevel 3 to runlevel 5. In which of the following configuration files should this be done?

Answer : **/etc/inittab**

Question No : 123 - Topic 3
Select the TWO correct alternatives regarding the kill -9 command:

- **A. Its use should be avoided and other alternatives should be tried before it.**
- **B. Its use can occasionally cause the data loss.**
- **C.** It is possible that zombie processes can be created as a consequence of its use.
- **D.** It can always be used with no restrictions.
- **E.** Its frequent use can increase the RAM utilization.

Question No : 124 - Topic 3
After a crash, the system needs to be booted into runlevel 1. Which option(s) must be typed at the LILO prompt to achieve this, assuming that the working kernel image is called 'linux'?

Answer : **linux 1**

Question No : 125 - Topic 3
The users of the local network complain that name resolution is not fast enough. Enter the command, without the path or any options, that shows the time taken to resolve a DNS query.

Answer : **dig**

Question No : 126 - Topic 3
With which command can the reserved blocks on /dev/hda1 be displayed? (Enter the command with all parameters and/or options)

Answer : **tune2fs -l /dev/hda1**

Question No : 127 - Topic 3
A new kernel version needs to be compiled to use a new feature. If the old kernel configuration file is available, which make target will only update the configuration file for the new kernel version? (Please enter only the make target.)

Answer : **oldconfig**

Question No : 128 - Topic 3
Which single command will extract data from the file abc.tar.bz2

- **A.** bunzip2
- **B. tar**
- **C.** gzip
- **D.** gunzip

Question No : 129 - Topic 3
Which keyword is used in the /etc/inittab file to define the default system runlevel?

Answer : **initdefault**

Question No : 130 - Topic 3
An administrator has placed an executable in the directory /etc/init.d, however it is not being executed when the system boots into runlevel 2. What is the most likely cause of this?

- **A.** The script has not been declared in /etc/services
- **B.** runlevel 2 is not declared in /etc/inittab
- **C.** The script has the permissions 700 and is owned by root
- **D. A corresponding link was not created in /etc/rc2.d**

Question No : 131 - Topic 3
Which of these would be the simplest way to configure BIND to return a different version number to queries?

- **A.** Compile BIND with the option -blur-version=my version.
- **B.** Set version-string "my version" in BIND's configuration file.
- **C. Set version "my version" in BIND's configuration file.**
- **D.** Set version=my version in BIND's configuration file.
- **E.** Set version-bind "my version" in BIND's configuration file.

Question No : 132 - Topic 3
On a system with separate partitions for /, /usr, /var & /tmp, which filesystem can safely be mounted read-only?

Answer : **/usr**

Question No : 133 - Topic 3
The Human Interface Device (HID) is being used, which of the following represents a USB mouse connected to the PC?

- **A.** /dev/psaux
- **B.** /dev/ttyS0
- **C. /dev/input/mice**
- **D.** /dev/usb/mouse0
- **E.** /dev/ttyUSB0

Question No : 134 - Topic 3
What is the correct parameter to pass to the kernel at boot time to force it to use only one of the available processors?

Answer : **nosmp**

Question No : 135 - Topic 3
What are typical targets in a makefile?

- **A.** CFLAGS, CPPFLAGS, LIBS, LDFLAGS
- **B. clean, install, uninstall**
- **C.** PATHS, DESTDIR, LIBS, LDFLAGS
- **D.** prefix, exec_prefix, bindir, mandir

Question No : 136 - Topic 3
Which environment variable you have to setup to use shared libraries that are not in the standard search path?

Answer : **LD_LIBRARY_PATH**

Question No : 137 - Topic 3
Consider the following /etc/fstab file:
/dev/hda1 swap swap defaults 0 0
/dev/hda2 / ext2 defaults 1 1
/dev/hda3 /home ext2 defaults 1 2
none /proc proc defaults 0 0
/dev/fd0 /media/floppy vfat user,noauto 0 0
What command can an ordinary (non-root) user use to mount a floppy disk in this system?
(Please enter the command with all parameters and/or options)

Answer : **mount /dev/fd0**

Question No : 138 - Topic 3
The server has two network cards. The driver for the first card is the module 8139too and the driver for the second card is the module ne2k-pci. How is it possible to ensure that the card using the 8139too driver is detected before the card using the ne2k-pci driver?

- **A. modprobe 8139too dev=eth0; modprobe ne2k-pci dev=eth1**
- **B.** install mod 8139too; install mod ne2k-pci
- **C.** modprobe eth0=8139too, eth1=ne2k-pci
- **D.** ifconfig modadd eth0=8139too, eth1=ne2k-pci
- **E.** modprobe 8139too; modprobe ne2k-pci

Question No : 139 - Topic 3
In which subdirectory of /proc is information about PC Cards, which are connected and recognized by a 2.6 kernel stored? Please enter the complete path.

Answer : **/proc/bus/pccard**

Question No : 140 - Topic 3
After a lot of write operations, the changes should be written to the disk. Please enter the appropriate command, without the path or any options or parameters, that would achieve this.

Answer : **sync**

Question No : 141 - Topic 3
What is the command that will extract information, such as module parameters, from the Linux Kernel modules and print this information to the command line? (Please specify only the command with no path information)

Answer : **modinfo**

Question No : 142 - Topic 3
According to the configuration below, what is the e-mail address of the administrator for this domain?
$TTL 86400
$ORIGIN lpi.org
@ IN SOA test.lpi.org hostmaster.lpi.org (
2005010101
10800
3600
604800
86400)

Answer : **hostmaster@lpi.org**

Question No : 143 - Topic 3
When using SysV init system, the file /etc/rc3.d/S55sshd is a symbolic link. Type the full path and file name to which this is linked.

Answer : **/etc/init.d/sshd**

Question No : 144 - Topic 3
In order to generate a pair of asymmetric keys to use during an SSH connection, please choose the correct command to use?

- **A. ssh-keygen -t dsa**
- **B.** ssh-agent
- **C.** sshd
- **D.** ssh-agent -t dsa
- **E.** ssh-keyscan -t dsa

Question No : 145 - Topic 3
Which THREE statements concerning automounter are true?

- **A. The autofs service does not need to be restarted after changing automounter map files**
- **B.** Only one entry in master map can refer to each map file
- **C.** The automounter service does not rely on the kernel configuration
- **D. For each entry in auto.master, a separate automounter daemon is started**
- **E. Changes to auto.master require automounter to reload its configuration**

Question No : 146 - Topic 3
A database application requires a maximum shared memory segment (shmmax) of 2GB (2147483648 Bytes). Which configuration file should be modified, to set this kernel parameter permanently? Please enter the complete path to the file.

Answer : **/etc/sysctl.conf**

Question No : 147 - Topic 3
You want to change the file that contains the message which is used at the login prompt when users log in locally. Please enter the file including the path.

Answer : **/etc/issue**

Question No : 148 - Topic 3
Which program can be used to adjust the DMA settings of an IDE hard drive? Please enter it without path, parameters or arguments

Answer : **hdparm**

Question No : 149 - Topic 3
To securely use dynamic DNS updates, the use of TSIG is recommended. Which TWO statements about TSIG are true?

- **A.** TSIG is used for zone data encryption
- **B.** TSIG is a signal to start a zone update
- **C.** TSIG is used in zone files
- **D. TSIG is used only in server configuration**
- **E. Servers using TSIG must be in sync (time zone!)**

Question No : 150 - Topic 3
Which e2fsck option is used to automatically repair an ext2 filesystem?

Answer : **-p**

Question No : 151 - Topic 4
In order to provide notices and information to users when they log in to a server, what file must be modified to give these notices? (Please provide the file with full path information)

Answer : **/etc/motd**

Question No : 152 - Topic 4
Which command with all parameters and arguments, can be used by root to erase the cron job list for the user fred?

Answer : **crontab -u fred -r**

Question No : 153 - Topic 4
This program has 3 operating modes: copy-in mode, copy-out mode, and copy-pass mode, and is used to copy files into or out of archives. What program is this? (Please provide the command name only, with no arguments or path.)

Answer : **cpio**

Question No : 154 - Topic 4
What directive can be used in named.conf to restrict zone transfers to the 192.168.1.0/24 network?

Answer : **allow-transfer { 192.168.1.0/24; };**

Question No : 155 - Topic 4
Which port must be open on a firewall, to allow a DNS server to receive queries? (Enter only the port number).

Answer : **53**

Question No : 156 - Topic 4
Which of the following must be included in the syslogd configuration file, so that ONLY kernel related messages with the priority crit are reported?

- **A. kern.crit**
- **B.** kern.!crit
- **C.** kern.=crit
- **D.** kern.*=crit

- **E.** kern.-crit

Question No : 157 - Topic 4

Which chkconfig command will display whether or not the service ldap is configured to start in each runlevel? (Provide the command and any options or parameters)

Answer : **chkconfig --list ldap**

Question No : 158 - Topic 4

What command is used to permanently set the options in the kernel when making a boot disk?

- **A.** blockdev
- **B.** kconfig
- **C.** lilo
- **D. rdev**
- **E.** dd

Question No : 159 - Topic 4

Please enter the command with all parameters and arguments, that could be used by root to list the cron jobs for the user john.

Answer : **crontab -u john -l**

Question No : 160 - Topic 4

Which command will prevent the service ldap from starting on a Debian system in all runlevels, forcing the removal of all symlinks in /etc/rcX.d? (Provide the command without any options or parameters)

Answer : **update-rc.d**

Question No : 161 - Topic 4

The administrator notices that a 10GB ext2 file-system used only for data storage has approximately 540MB reserved for root. Which command can be used to change the file-system parameters to make all of the partition available to users, WITHOUT losing data? Please enter only the command without path, options or parameters.

Answer : **tune2fs**

Question No : 162 - Topic 4

You have installed some new libraries, but these are not available to programs and are not listed by ldconfig p. What file should the path to the libraries be added to, before running ldconfig?

Answer : **/etc/ld.so.conf**

Question No : 163 - Topic 4

After calling ./configure with its appropriate parameters and no errors, what would be the next command to run?

Answer : **make all -or- make**

Question No : 164 - Topic 4

Please enter, separated with a space but without paths, the TWO archive programs needed in addition to gzip, to extract files from a .deb file without using the Debian package manager.

Answer : **ar tar**

Question No : 165 - Topic 4
Which TWO statements about crontab are true?

- **A. Every user may have their own crontab.**
- **B.** Changing a crontab requires a reload/restart of the cron deamon.
- **C.** The cron daemon reloads crontab files automatically when necessary.
- **D. hourly is the same as "0 * * * *".**
- **E.** A cron daemon must run for each existing crontab.

Question No : 166 - Topic 4
What command can be used to configure the baud rate on a serial port?

- **A. setserial**
- **B.** serialconfig
- **C.** ttyconfig
- **D.** setty
- **E.** serialmode

Question No : 167 - Topic 4
Which directory contains the PCMCIA configuration files?

Answer : **/etc/pcmcia**

Question No : 168 - Topic 4
What command can be used to install a Perl module ('$module') from the CPAN archive?

- **A. perl -MCPAN -e "install $module"**
- **B.** perl -MCPAN -install $module
- **C.** perl -i $module
- **D.** perl -cpan -e "make $module"
- **E.** perl -cpan -i $module

Question No : 169 - Topic 4
Which THREE lines below are valid entries in /etc/crontab and will work properly?

- **A. 0 23 * * 7 root tar cvf /dev/st0 /etc**
- **B.** 0 10 6 22 * /usr/local/bin/fs-report.sh
- **C. 0 17 * * 1 jdoe accouting-generation**
- **D. 20 6 1 * * root graphicals-generations**
- **E.** 0 10 * * 2-6 tar cvf /dev/st0 /etc

Question No : 170 - Topic 4
Which TWO of the following wireless tools can be used to check the wireless network link quality?

- **A. iwconfig**
- **B.** iwlink
- **C.** iwscan
- **D.** iwifi
- **E. iwspy**

Question No : 171 - Topic 4
Which single parameter, when passed to nmap, will instruct nmap to perform a fast scan? (Provide only the option)

Answer : **-F**

Question No : 172 - Topic 4
What is the location of the main udev configuration file? (Specify the full path and filename)

Answer : **/etc/udev/udev.conf**

Question No : 173 - Topic 4
What command will remove the physical volume /dev/sda4 from the volume group /dev/vg0? (Provide the command with options and parameters)

Answer : **vgreduce /dev/vg0 /dev/sda4**

Question No : 174 - Topic 4
Which directory in /dev/disk/ can be used to determine the UUID of a connected hard disk?

Answer : **by-uuid**

Question No : 175 - Topic 4
What does the following script do? #!/bin/bash find / -perm +4000 | mail -s "Daily find output" root

- **A.** Emails a report of all guid files to root
- **B.** Emails a report of all important files to root
- **C.** Emails a report of all writeable files to root
- **D. Emails a report of all suid files to root**
- **E.** Corrects permissions on files and emails the result to root

Question No : 176 - Topic 4
The server has two network cards. The driver for the first card is the module 8139too and the driver for the second card is the module ne2k-pci. How is it possible to ensure that the card using the 8139too driver is detected before the card using the ne2k-pci driver?

- **A. modprobe 8139too dev=eth0; modprobe ne2k-pci dev=eth1**
- **B.** install mod 8139too; install mod ne2k-pci
- **C.** modprobe eth0=8139too, eth1=ne2k-pci
- **D.** ifconfig modadd eth0=8139too, eth1=ne2k-pci
- **E.** modprobe 8139too; modprobe ne2k-pci

Question No : 177 - Topic 4
Which command displays information about connected USB devices?

- **A.** cat /proc/usbdevices
- **B.** cat /proc/usb/devices
- **C. cat /proc/bus/usb/devices**
- **D.** cat /proc/usbbus/devices
- **E.** cat /proc/hotplug/usb

Question No : 178 - Topic 4
According to the tcpdump output below, what is the IP address of the client host?
14:17:19.225220 IP 192.168.1.106.33239 > 192.168.1.127.22: S 4158312222, win 5840, options [mss 1460,sackOK,TS val 806043 ecr 0,nop,wscale 6]
14:17:19.242943 IP 192.168.1.127.22 > 192.168.1.106.33239: S. 4013568495 ack 4158312223, win 5792, options [mss 1460,sackOK,TS val 565852 ecr 806043,nop, wscale 6]
14:17:19.243111 IP 192.168.1.106.33239 > 192.168.1.127.22: . ack 1, win 92, options [nop,nop,TS val 806045 ecr 565852] 14:17:19.264654 IP 192.168.1.127.22 > 192.168.1.106.33239: P. seq 1:40, ack 1, win 91, options [nop,nop,TS val 565856 ecr 806045]

Answer : **192.168.1.106**

Question No : 179 - Topic 4
For interpreting system rc scripts a shell is most commonly used. Please enter the first line found in such scripts.

Answer : **#!/bin/sh**

Question No : 180 - Topic 4
Which option, when passed to the hostname command, will return the name of the DNS domain? (Provide only the option)

Answer : **-d**

Question No : 181 - Topic 4
After configuring a new 2.4 series kernel, all dependencies, such as include files, need to be created. How can this be achieved? Please enter the complete command.

Answer : **make dep**

Question No : 182 - Topic 4
A new PCMCIA network card is not functioning correctly. To troubleshoot this, the socket information should be checked. How can this be done? (Choose two.)

- **A. cardctl info**
- **B.** cardctl -s
- **C.** cardmgr -s
- **D. cat /var/lib/pcmcia/stab**
- **E.** cat /proc/pcmcia

Question No : 183 - Topic 4
Which type of DNS record defines which server(s) email for a domain should be sent to?

Answer : **MX**

Question No : 184 - Topic 4
What command is used to re-add a partition to a software RAID setup?

- **A. raidhotadd**
- **B.** raidadd
- **C.** addraid
- **D.** raidaddhot

Question No : 185 - Topic 4
A system has one hard disk, configured as master and connected to the primary IDE controller, and one CD writer, configured as slave and connected to the secondary IDE controller. If the system is correctly configured, which device is used to represent the CD writer?

- **A.** /dev/scd0
- **B. /dev/hdd**
- **C.** /dev/hdb
- **D.** /dev/sr1
- **E.** /dev/scd1

Question No : 186 - Topic 4
When bash is invoked as an interactive login shell, which of the following sentences is true?

- **A. It first reads and executes commands in /etc/bashrc and then does the same for /etc/profile.**
- **B.** It ignores /etc/profile and only reads and executes commands in ~/.bashrc.
- **C.** It first reads and executes commands in /etc/profile and then does the same for ~/.bash_profile, ~/. bash_login and ~/.profile.
- **D.** It first reads and executes commands in /etc/profile and then does same for ~/.bash_profile and ~/.bashrc.
- **E.** It reads and executes commands in ~/.bashrc only if /etc/profile or another initialisation script calls it.

Question No : 187 - Topic 4
What tool can be used to send kernel boot messages to a remote server?

Answer : **netconsole**

Question No : 188 - Topic 4
What command will search for physical defects on a hard drive and will mark these defects so that they are no longer used? (Please specify the command with no path information)

Answer : **badblocks**

Question No : 189 - Topic 4
When building an RPM package, which rpmbuild option is used to unpack sources and apply patches before proceeding with the next steps?

- **A.** -ba
- **B.** -bb
- **C.** -be
- **D.** -bs
- **E. -bp**

Question No : 190 - Topic 4
To check winbind functionality, you have try:
wbinfo -u
getent passwd
What is the next action?

- **A.** The contents of smb.conf should be verified
- **B.** The contents of resolv.conf should be verified
- **C. The contents of nsswitch.conf should be verified**
- **D.** The contents of winbind.conf should be verified
- **E.** The contents of lmhosts should be verified

Question No : 191 - Topic 4
Please enter the complete path to the main configuration file for syslogd, which logs system messages on Linux systems?

Answer : **/etc/syslog.conf**

Question No : 192 - Topic 4
Running tcpdump -nli eth1 'icmp' shows the following output:
11:56:35.599063 IP 192.168.123.5 > 194.25.2.129: icmp 64: echo request seq 1
11:56:35.670910 IP 194.25.2.129 > 192.168.123.5: icmp 64: echo reply seq 1
What command was used on the host 192.168.123.5, to generate this output?

Answer : **ping**

Question No : 193 - Topic 4
You are not sure whether the kernel has detected a piece of hardware in your machine. What command, without options or parameters, should be run to present the contents of the kernel ring- buffer?

Answer : **/bin/dmesg**

Question No : 194 - Topic 4
Which TWO of the following sentences are true about this package?
Consider the following excerpt from an RPM spec file:
Summary: Complete Web authoring system for linux
Name: nvu
Version: 0.50
Release: 5
Source0: %{name}-%{version}.tar.bz2
Patch0: nvu-freetype2.patch.bz2
Patch1: nvu-mozilla-1.1-system-myspell-dicts.patch.bz2 Patch2: nvu-mozilla-1.7-spellcheck-full-langname.patch.bz2 License: MPL/LGPL/GPL
Group: Development/Other
Url: http://www.nvu.com
BuildRoot: %{_tmppath}/%{name}-buildroot
BuildRequires: libjpeg-devel libpng-devel libIDL-devel BuildRequires: zip tcsh
BuildRequires: gtk+2-devel >= 2.2.0
Which TWO of the following sentences are true about this package?

- **A. Package gtk+2-devel version 2.2.0 or higher needs to be present in the system before this nvu package may be installed.**
- **B.** The file nvu-freetype2.patch.bz2 must be present in the SOURCES/PATCHES directory.
- **C.** The macro %_tmppath must be defined in system-wide or in local configuration files.
- **D.** The nvu-0.50.tar.bz2 will be unpacked into %{_tmppath}/%{name}-buildroot.
- **E. The nvu-0.50.tar.bz2 file contains pristine sources for nvu.**

Question No : 195 - Topic 4
Messages from programs are not appearing in the user's native language. What environment variable must be set for this to happen?

- **A. LANG**
- **B.** I18N
- **C.** MESSAGES
- **D.** MSGS
- **E.** LC_MSGS

Question No : 196 - Topic 4
On a server running the 2.6.27-11 Linux kernel, which file in the/boot directory contains the kernel configuration parameters?

Answer : **config-2.6.27-11**

Question No : 197 - Topic 4
Which program lists information about files opened by processes and produces output that can be parsed by other programs?

Answer : **lsof**

Question No : 198 - Topic 4
What command is used to create a file-system to be burned to a CD? (Please enter the command without the path or any options or parameters)

Answer : **mkisofs**

Question No : 199 - Topic 4
Because of a bad BIOS LBA translation, a booting system displays an error instead of a LILO prompt. Complete the error message with the error number: L

Answer : **01**

Question No : 200 - Topic 4
In some older machines, the Linux kernel defaults to polling for the parallel printer port (/dev/lp0), even if it is capable of interrupt-driven operation (ECP). Which utility enables interrupt-driven operation of the parallel port?

- **A. tunelp**
- **B.** stty
- **C.** setserial
- **D.** setpar
- **E.** parpirq

Question No : 201 - Topic 4
With which command can the reserved blocks count for a file-system be seen? (Please enter only the command without the path or any parameters or options)

Answer : **tune2fs**

Question No : 202 - Topic 4 Which site-specific configuration file for the shadow login suite must be modified to log login failures? Please enter the complete path to that file.

Answer : **/etc/log.defs**