

117-201.Premium.Exam.120q

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Passing Score: 800
Time Limit: 120 min
File Version: 18.0

Exam Code: 117-201

Exam Name: Advanced Level Linux Certification

Version 18.0

117-201

QUESTION 1

In capacity planning exercises, which tools assist in listing and identifying processes of interest? (Choose TWO correct answers.)

- A. acpid
- B. lsof
- C. pstree
- D. telinit

Correct Answer: BC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

Which of the following tools are used to measure memory usage? (Choose THREE correct answers.)

- A. mpstat
- B. pstree
- C. sar
- D. top
- E. vmstat

Correct Answer: CDE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 3

In the following output from top, which processes contribute to the percentage of time that the CPU spends in the state of wa?

Tasks: 193 total, 1 running, 190 sleeping, 2 stopped, 0 zombie
Cpu(s): 0.5%us, 0.3%sy, 0.0%ni, 98.2%id, 1.0%wa, 0.0%hi, 0.0%si, 0.0%st

- A. Processes waiting for user interaction.
- B. Processes that were already closed and are waiting to be launched again.
- C. Processes that have not been scheduled yet because they haven't been fully loaded into RAM or are in swap.
- D. Processes waiting for IO operations to complete.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 4

Which of the following is a side effect of extensive usage of swap space?

- A. The root filesystem may become full because swap space is always located on the system root partition.
- B. The overall system performance may degrade because of heavy hard disk use and memory reorganization.
- C. Since processes always exist completely in either RAM or swap, regular RAM may become unused if the kernel does not move processes back from the swap space to memory.
- D. The memory may become fragmented and slow down the access to memory pages. However, this can be kept to a minimum by the regular use of memfrag -d.
- E. Applications need to restart because their virtual memory addresses change to reflect memory relocation to the swap address area.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 5

In the below example output, which columns detail the percent of time the CPU spent running non-kernel code and the percent of time the CPU spent running kernel code? (Choose TWO correct answers.)

```
# vmstat 1 100
procs -----memory----- --swap-- ----io---- --system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa
0 0 0 282120 134108 5797012 0 0 0 0 2 0 0 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0
```

- A. id
- B. us
- C. wa
- D. sy

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 6

In this example output, which descriptions match the purpose of the free, buff and cache columns? (Choose THREE correct answers.)

```
# vmstat 1 100
procs -----memory----- --swap-- ----io---- --system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa
0 0 0 282120 134108 5797012 0 0 0 0 2 0 0 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0
```

- A. Used swap space

- B. RAM available for filesystem buffers
- C. Available free RAM
- D. RAM used for buffers
- E. RAM used for filesystem cache

Correct Answer: CDE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 7

In the following output, what percentage of time was the CPU waiting for pending I/O?

```
# vmstat 1 100
procs -----memory----- --swap-- -----io----- --system-- -----cpu-----
 r b swpd free buff cache si so bi bo in cs us sy id wa
0 0 0 282120 134108 5797012 0 0 0 0 2 0 0 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0
```

- A. 0
- B. 100
- C. 35.9
- D. 57.7
- E. 36.6

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 8

In the following output, what is the 5 minute load average for the system?

```
# uptime
12:10:05 up 18 days, 19:00, 2 users, load average: 0.47, 24.71, 35.31
```

- A. 0.47
- B. 24.71
- C. 35.31
- D. There is no 5 minute interval. It is some value between 0.47 and 24.71.
- E. There is no 5 minute interval. It is some value between 24.71 and 35.31.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 9

Which commands below are useful to collect data about remote filesystem connections? (Choose TWO correct answers.)

- A. pidstat
- B. nfsiostat
- C. sady
- D. cfsiostat

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 10

In the following output, the load averages represent the system load averages for what time frames?

```
# uptime
12:10:05 up 18 days, 19:00, 2 users, load average: 0.47, 24.71, 35.31
```

- A. 1, 5 and 15 minutes
- B. 1, 15 and 30 minutes
- C. 1, 15, and 30 seconds
- D. 15, 30 and 60 minutes
- E. 15, 30 and 60 seconds

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 11

Which of the following commands will provide the PIDs of the processes sorted by which are using the most CPU cycles on the Linux system?

- A. top
- B. uptime
- C. ps aux
- D. vmstat
- E. freemem

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 12

Which command will report information on memory usage, paging and block input/output?

- A. free
- B. memshow
- C. ps
- D. top
- E. vmstat

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 13

When planning a web server which of the following choices will impact system sizing? (Choose THREE correct answers.)

- A. How many concurrent users are expected.
- B. Which hardware vendor has better Linux support.
- C. What type of content will be served.
- D. What scripting languages will the web server support.
- E. Will the OS install be CD, DVD or network based.

Correct Answer: ACD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 14

When is historical data of resource usage important? (Select THREE correct answers.)

- A. Predicting when resources will need to be increased.
- B. Selecting a computer vendor.
- C. Identifying processes killed during out of memory occurrences.
- D. Diagnosing capacity problems.
- E. Troubleshooting a software problem.

Correct Answer: ADE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 15

Which of the following terms are used to describe 3.x kernel releases? (Choose TWO correct answers.)

- A. beta
- B. final
- C. longterm

- D. prerelease
- E. stable

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 16

What is a key difference between a zImage and bzImage kernel image?

- A. zImage is compressed using gzip, bzImage is compressed using bzip2.
- B. zImage is for 2.6 series kernels, bzImage is for 3.x series kernels.
- C. zImage is limited to 64k, bzImage has no such restriction.
- D. zImage gets loaded completely into low memory. bzImage will load into high memory once low memory is full.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 17

Which of the following command sequences can be used to extract files contained in a initramfs file (/boot/initramfs) which is used by the kernel at boot time?

- A. `cp /boot/initramfs /tmp/initramfs.gz; gzip -c /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd /tmp/initramfs.dir ; cpio -i < /tmp/initramfs`
- B. `cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd /tmp/initramfs.dir ; cpio -i < /tmp/initramfs`
- C. `cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mount /tmp/initramfs /mnt/ -o loop -t initramfs`
- D. `cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd /tmp/initramfs.dir ; cpio -e /tmp/initramfs`
- E. `cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mount /tmp/initramfs /mnt/ -o loop -t initrd`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 18

On a server running the 3.4.50-11 Linux kernel, which file in the /boot directory contains the kernel configuration parameters?

- A. config-linux-3.4.50-11
- B. config-3.4.50-11
- C. system-3.4.50-11

- D. vmlinuz-3.4.50-11
- E. rc.config-3.4.50-11

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 19

Which archive format is used to create an initramfs image?

- A. gzip
- B. tar
- C. RAR
- D. cpio
- E. bzip2

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 20

How can the kernel parameter for the maximum size of the shared memory segment (shmmax) be changed to 2GB (2147483648 Bytes) on a running system? (Choose TWO correct answers.)

- 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

Correct Answer: CD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 21

What happens if the Linux kernel can't mount the root filesystem when booting?

- A. An error message is shown and the administrator is asked by the kernel to specify a valid root filesystem to continue the boot process.
- 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 showing which device couldn't be mounted or informing that init couldn't be found.
- E. An error message is shown stating that the corresponding kernel module couldn't be loaded.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 22

What is the correct parameter to pass to the kernel at boot time to force it to use only one of the available processors?

- A. maxcpus=1
- B. usecpus=1
- C. smpcpus=1
- D. vcpumx=1

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 23

What information does the file modules.dep provide?

- A. A list of all modules, compiled or not, that are available to the kernel.
- B. A list of modules trusted by the installed kernel.
- C. A list of devices and their module name.
- D. A list of all compiled modules and their dependencies.
- E. A list of modules the kernel needs to run.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 24

Which commands are used to load modules into the Linux kernel? (Choose TWO correct answers.)

- A. insmod
- B. loadmod
- C. kernload
- D. modprobe
- E. probemod

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

What is the purpose of the command `udevadm monitor`?

- A. It listens to kernel events produced by a udev rule and print information to the console.
- B. It monitors the `/dev` directory for new devices.
- C. It monitors the udev process and prints performance statistics to the console.
- D. It communicates with D-Bus to setup new devices.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 26

Which option to the `update-rc.d` command will cause the removal of all symlinks to `/etc/rcX.d/*test2` even when the script `/etc/init.d/test2` still exists?

- A. `-d`
- B. `-f`
- C. `-n`
- D. `-r`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 27

If all of the following files and/or symlinks exist in a SysV-init runlevel directory, which of the following will be executed first when booting the system directly into the runlevel?

- A. `S99lpi`
- B. `K99lpi`
- C. `PRE-S99lpi`
- D. `S98lpi`
- E. `S99a-lpi`

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 28

A system with SysV-init has a service installed called `apache2`. Which file controls the start and stop of this service and is referenced by the various runlevel directories?

- A. `/etc/init.d/apache2`

- B. /etc/rc2.d/70apache2
- C. /etc/rc2.d/apache2
- D. /etc/rc2.d/apache2.start

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 29

After changing the default runlevel in the SysV-init configuration file, the system boots in a different than intended runlevel. Where else could this different runlevel be defined?

- A. In the /etc/sysctl.conf
- B. In the boot loader configuration file
- C. In the /etc/runlevel file
- D. In the /boot/initramfs file
- E. In the /etc/rc.d/rc.local file

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 30

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 be changed by the operating system.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 31

During booting, when the Linux kernel loads an initramfs file, which command from the initramfs will be executed first, if present?

- A. /init
- B. /initrd
- C. /linuxrc
- D. /rc.local

E. /sbin/init

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 32

In case the file containing the Linux kernel is lost, what happens when the system is booting?

- A. The system starts normally since the bootloader copies the kernel to the master boot record of the hard disk.
- B. Instead of the kernel, the initramfs is loaded and instructed to mount the root filesystem and reinstall the kernel from the original package or from source.
- C. The bootloader mounts the root filesystem read-only and launches /bin/sh directly in order to allow the administrator to reinstall the kernel.
- D. Without a kernel a system cannot boot and, depending on the bootloader, an error is displayed.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 33

A Linux server is running in single user mode for regular maintenance. Which commands are used to restore the server to its usual runlevel? (Choose TWO correct answers.)

- A. telinit 0
- B. shutdown -r now
- C. sync
- D. shutdown -h now
- E. reboot

Correct Answer: BE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 34

A server requires a GRUB2 boot option which will always boot to runlevel 1. Which line of a GRUB2 configuration file starts the beginning of the settings needed to make this new choice available?

- A. initrd
- B. linux
- C. menuentry
- D. runlevel

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 35

Where is the LILO boot loader code typically installed on a system with only a single Linux installation 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.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 36

Which command is used to install a new LILO boot loader?

- A. lilo
- B. lilo-config
- C. lilo-install
- D. install-lilo

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 37

Which files are updated as devices are mounted and unmounted to provide information on the currently mounted devices and the options used? (Choose TWO correct answers.)

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

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 38

Due to extreme system use, a Linux system requires some additional swap space. To initialize 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; mount /tmp/swapfile`
- B. `dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; swapon /tmp/swapfile`
- C. `dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; mkswap /tmp/swapfile; swapon /tmp/swapfile`
- D. `touch -5G /tmp/swapfile; swapon /tmp/swapfile`
- E. `mkswap /tmp/swapfile 512000; swapon /tmp/swapfile`

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 39

What does a 0 in the last field (fsck order) of `/etc/fstab` indicate about the filesystem?

- A. The filesystem should be checked before filesystems with higher values.
- B. The filesystem should be checked after filesystems with higher values.
- C. The filesystem check counter is ignored.
- D. The filesystem has been disabled from being checked and mounted on the system.
- E. The filesystem does not require an fsck check when being mounted.

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 40

Which of the following best describes the format of the `/etc/fstab` file?

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

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 41

How can the label `root` be added to the ext2 filesystem on `/dev/sda1`?

- A. `relabel /dev/sda1 root`
- B. `tune2fs -L root /dev/sda1`

- C. echo 'root' > /proc/fs/sda1/label
- D. labelfs --device /dev/sda1 root

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 42

Which of the following is a CD-ROM filesystem standard?

- A. OSI9660
- B. ISO9660
- C. SR0FS
- D. ISO8859
- E. ROM-EO

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 43

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

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 44

Which file in /proc contains information on the status of local software RAID devices?

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

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 45

Which single command will simulate a failed device within a RAID 5 array?

- A. mdadm --remove /dev/md0 /dev/sdd1
- B. mdadm --zero-superblock /dev/sdf3
- C. mdadm --force-fault /dev/md2 /dev/sde2
- D. mdadm --fail /dev/md0 /dev/sdc1
- E. mdadm /dev/md0 --offline /dev/sdc1

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 46

Which RAID level value must be used with Linux software RAID in order to create an array of mirrored devices?

- A. 1
- B. 5
- C. 6
- D. container
- E. mirrorstripe

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 47

Which of the following commands is used to set up a RAID volume?

- A. makerd
- B. mdadm
- C. mkfs.raid
- D. makeraid
- E. rdconfig

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 48

The IDE hard drive /dev/hda does not have DMA enabled. Which 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 -d 1 /dev/hda

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 49

A system has one hard disk and one CD writer which are both connected to SATA controllers. Which device represents the CD writer?

- A. /dev/hdb
- B. /dev/sdd
- C. /dev/scd1
- D. /dev/sr0
- E. /dev/sr1

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 50

The correct command sequence to create and mount logical volumes on a Linux system is:

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

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 51

What is the purpose of the command vgextend?

- A. Extend a volume group's footprint on disk.

- B. Add physical volumes to an existing volume group.
- C. Increase the number of days between scheduled error checking.
- D. Create a volume group which uses all available space on disk.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 52

Which two LVM commands are missing from the following sequence which is used to create a logical volume and make use of it on a Linux system?

pvcreate, _____, _____, mkfs, mount

- A. lvcreate, mdadm
- B. lvcreate, vgcreate
- C. lvmcreate, vgcreate
- D. vgcreate, lvcreate
- E. vgcreate, mdadm

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 53

Considering the following kernel IP routing table below, which of the following commands must be used to remove the route to the network 10.10.1.0/24? (Select TWO answers)

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
203.0.113.162	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	203.0.113.162	0.0.0.0	UG	0	0	0	ppp0

- A. ip net delete 10.10.1.0/24
- 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. ip route delete 10.10.1.0/24

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 54

Which of the following wireless tools can be used to check the wireless network link quality? (Choose TWO correct answers.)

- A. iwconfig
- B. iwlink
- C. iwscan
- D. iwifi
- E. iw

Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 55

Which of the following files are used to resolve hostnames to IP addresses? (Choose TWO correct answers.)

- A. /etc/systems
- B. /etc/hosts
- C. /etc/network
- D. /etc/dns.conf
- E. /etc/resolv.conf

Correct Answer: BE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 56

Which of the following commands will list the IPv4 neighbors of the current system? This includes IP and MAC addresses. (Choose TWO correct answers.)

- A. arp
- B. ifconfig -lv eth0
- C. netstat -al
- D. ip neigh show

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 57

Which of the following commands can be used to list IPv4 addresses and MAC addresses for IP devices that the system has seen on the local network?

- A. arp
- B. ifconfig
- C. ipadm
- D. iwlist

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 58

What is the command to add another IP address (192.168.1.2) to a network interface (eth0) that already has (at least) one IP address in the 192.168.1.0/24 subnet?

- A. ip add addr 192.168.1.2/32 dev eth0
- B. ifconfig eth0 192.168.1.2 netmask 255.255.255.255
- C. ip addr add 192.168.1.2/32 dev eth0
- D. ipconfig eth0 192.168.1.2

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 59

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 198.51.100.42 (41)
```

Which network service or protocol was used?

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

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 60

The following is an excerpt from the output of tcpdump -nli eth1:

```
13:03:17.277327 IP 192.168.123.5.1065 > 192.168.5.112.21: Flags [.), ack 1 (truncated)
13:03:17.598624 IP 192.168.5.112.21 > 192.168.123.5.1065: Flags [P.), seq (truncated)
```

Which network service or protocol was used?

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

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 61

Which of the following commands can be used to script interactions with various TCP or UDP services?

- A. ftp
- B. nc
- C. tcpdump
- D. strings
- E. wget

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 62

A correctly formatted entry has been added to /etc/hosts.deny to prevent certain clients from connecting to a service but this is having no effect. What could be the cause of this? (Choose TWO correct answers.)

- A. tcpd needs to be sent the HUP signal.
- B. The service needs to be restarted.
- C. The machine needs to be restarted.
- D. There is a conflicting entry in /etc/hosts.allow.
- E. The service does not support tcpwrapper.

Correct Answer: DE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 63

Which /etc/hosts.allow entries will permit access to sshd for users from the 192.168.1.0/24 subnet? (Choose TWO correct answers.)

- A. sshd : 192.168.1.
- B. sshd : 192.168.1

- C. sshd : 192.168.1.0 netmask 255.255.255.0
- D. sshd : 192.168.1.0/255.255.255.0
- E. sshd : 192.168.1.0

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 64

A network client has an ethernet interface (eth0) 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? (Choose TWO correct answers.)

- A. route add default gw 192.168.0.1 eth0
- B. ifconfig eth0 defaultroute 192.168.0.1
- C. ip route add default via 192.168.0.1 dev eth0
- D. echo defaultroute 192.168.0.1 >> /etc/resolv.conf
- E. route add defaultgw=192.168.0.1 if=eth0

Correct Answer: AC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 65

What should be done to ensure a client machine uses the recursive nameserver running on the IP address 192.168.0.1? (Choose TWO correct answers.)

- 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.

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 66

What should be done after updating the configuration file for syslogd in order to make the changes become effective? (Choose TWO correct answers.)

- A. No action is required, syslogd will notice the updated configuration file after a few minutes.
- B. Send the HUP signal to the syslogd process.
- C. Restart the syslogd service.

D. Run the command `syslogd -u`.

Correct Answer: BC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 67

What does the `-p3` option to the `patch` command do?

- A. It will strip off path information from each file mentioned in the patch file up to and including the third / character.
- B. `patch` continues execution as long as there are three or fewer errors.
- C. It instructs `patch` to look up to three lines of context before or after the declared line in the original file for a match.
- D. `patch` will keep three previous versions of each file in the output to prevent loss of change history.
- E. It instructs `patch` to conform more strictly to the POSIX standard.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 68

When a makefile is included in a source code package, what are commonly defined targets in the file?

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

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 69

Which of the following files will be looked for and used by GNU make, if one of them exists, unless a different file is specified on the command line when trying to compile software from source code? (Choose TWO correct answers.)

- A. `configure`
- B. `config.h.in`
- C. `makefile`
- D. `Makefile`
- E. `Makefile.in`

Correct Answer: CD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 70

A regular user, joe, has just run:

`./configure && make && make install`

to build and install a program. However, the installation fails. What could be done to install the program? (Choose TWO correct answers.)

- A. Install the binaries manually with `suinstall`.
- B. Run `make install` with root privileges.
- C. Do not run `./configure` in order to maintain the default configuration for correct installation.
- D. Rerun `./configure` with a `--prefix` option where the user has permissions to write.
- E. Run `make install_local` to install into `/usr/local/`.

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 71

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/`

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 72

Which of the following are common backup systems used in Linux? (Choose TWO correct answers.)

- A. Amanda
- B. Bacula
- C. DrBackup
- D. BREWBackup
- E. SARcheck

Correct Answer: AB

Section: (none)

Explanation

Explanation/Reference:

QUESTION 73

Which of the following commands will erase the contents of the /dev/sdb3 partition?

- A. rm /dev/sdb3
- B. dd if=/dev/zero of=/dev/sdb3
- C. dd of=/dev/zero if=/dev/sdb3
- D. umount /dev/sdb3

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 74

What mechanism does collectd use to gather monitoring information on systems?

- A. It uses a library of plugins.
- B. A master server connects to a collectd service on each machine to retrieve the information.
- C. It collects its own information on each server and sends that to a master server.
- D. It makes SNMP queries to the clients being monitored.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 75

What option in the collectd configuration file is required in order to define what to start monitoring?

- A. LoadModule
- B. Module
- C. Plugin
- D. LoadPlugin

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 76

How is the source code for the main Linux kernel modules distributed?

- A. It is included with the Linux kernel source code.

- B. The kernel modules are downloaded on demand as they are used during compilation.
- C. The kernel modules have their own release cycle and can be maintained separately from the Linux kernel source.
- D. It is provided as a separate download alongside the Linux kernel source code of the same version.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 77

What is the functionality that PXE provides?

- A. The ability to boot a computer using its network interface.
- B. The ability to launch an remote X11 desktop on a computer.
- C. The ability to verify a system's configuration after completing the boot process.
- D. The ability to verify a system's configuration before completing the boot process.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 78

What are the main network services used by the PXE protocol? (Choose TWO correct answers.)

- A. DNS
- B. DHCP
- C. HTTP
- D. TFTP
- E. NFS

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 79

What is the purpose of the smartd daemon?

- A. It is a user space daemon used for reading smart cards and integrated circuit chips.
- B. It attempts to automatically repair file systems upon a failed file system check.
- C. It monitors process activity and helps the kernel decide which processes to kill when the kernel overcommits.
- D. It monitors certain disk drives and attempts to predict when they will fail.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 80

What component of a system does smartd monitor?

- A. CPU
- B. RAM
- C. Hard drives
- D. Ethernet traffic

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 81

Which of the following are common Linux filesystem types used for root partitions? (Choose THREE correct answers.)

- A. ext4
- B. VFAT
- C. NTFS
- D. XFS
- E. Btrfs

Correct Answer: ADE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 82

Where would fsck put any unreferenced file or file fragments on a ext4 filesystem?

- A. recover
- B. lost+found
- C. back
- D. lost

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 83

What is the main template file used by autofs?

- A. default.maps
- B. auto.conf
- C. auto.master
- D. autofs.master

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 84

The main configuration file for autofs has this entry:

/home /etc/auto.home

What is the meaning of the /etc/auto.home file?

- A. It has the indirect maps for the mounting of file systems.
- B. It has configuration information, such as passwords and keys, for the remote file server.
- C. It has configuration information on settings for the /home mount point.
- D. It is the holds the SSL key to allow authentication to the remote file server.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 85

Which of the following is an example path to a Linux software RAID array?

- A. /dev/raid0
- B. /dev/rd1
- C. /dev/pr0
- D. /dev/md1

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 86

What mount option must be used in /etc/fstab when mounting an iSCSI target?

- A. _santarget
- B. iscsi
- C. waitiscsi
- D. _netdev

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 87

What are the options to node.startup in the iscsid.conf file? (Choose TWO correct answers.)

- A. login
- B. initiate
- C. manual
- D. discover
- E. automatic

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 88

What command is used to make an exact copy, at a single point in time, of a logical volume for backup purposes?

- A. lvsnap
- B. lvsnapshot
- C. lvcreate
- D. lvcopy
- E. lvclone

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 89

What action should be performed after increasing the size of a logical volume?

- A. Run vgresize.
- B. Increase the size of the filesystem used for the logical volume.
- C. Run lvresize.
- D. Remount the logical volume.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 90

Which command can be used to scan a specified network looking for IP addresses that appear to be in use?

- A. nmap
- B. tcpdump
- C. ip
- D. netscan
- E. hostdiscover

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 91

Which of the following filter keywords for tcpdump specify the transfer direction for network packets? (Choose TWO correct answers.)

- A. source
- B. src
- C. dest
- D. src or dst
- E. both

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 92

What is incorrect about these entries in /etc/hosts which could be causing host name lookup problems with host2?

```
host1 192.168.1.12  
host2 192.168.1.12
```

- A. Two host names are using the same IP address.
- B. The server doing the query is on a different subnet.
- C. The fields are out of order.
- D. host2 is not a fully qualified domain name.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 93

Under which of the following circumstances would the command ping output the string (DUP!)?

- A. When the ICMP packets are sent to a broadcast address and multiple hosts respond.
- B. When the host being sent ICMP packets is on a different network.
- C. When the router responds to the ICMP packet in addition to the host receiving the ICMP packets.
- D. When the host sending the ICMP packet is the same host as the one receiving the ICMP packets.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 94

Which one of these directories should not be backed up?

- A. /backup
- B. /etc
- C. /opt
- D. /proc
- E. /var/log

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 95

The following command has just been run successfully:

```
cd /opt; tar xvf /dev/nst0;
```

What will happen if the command sequence is run again?

- A. An error saying that there is no tape present is generated because the tape has been ejected after being used.
- B. The contents of /opt will be restored again.
- C. The entire contents of /opt will be replaced with the contents of the next file on the tape.
- D. The contents of /opt will have additional content added from the next file on the tape.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 96

According to the Filesystem Hierarchy Standard (FHS), what is the path to the Linux kernel source and may be a symbolic link to the real Linux source code?

(Please specify the full path with no version information.)

Correct Answer: /usr/src/linux, /usr/src/linux/

Section: (none)

Explanation

Explanation/Reference:

QUESTION 97

After installing a compiled kernel, it can not find any modules that are needed to be loaded. What make target was likely missed while installing the kernel?

Correct Answer: make modules_install, modules_install

Section: (none)

Explanation

Explanation/Reference:

QUESTION 98

A new kernel version needs to be compiled to use a new feature. If the old kernel configuration file is available, which make target creates a configuration file for the new kernel based on the configuration of the old kernel?

Correct Answer: oldconfig, make oldconfig

Section: (none)

Explanation

Explanation/Reference:

QUESTION 99

After configuring a new kernel, what file under /usr/src/linux/ contains the configuration?

Correct Answer: /usr/src/linux/.config, .config

Section: (none)

Explanation

Explanation/Reference:

QUESTION 100

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? (Specify the full name of the file, including path.)

Correct Answer: /etc/sysctl.conf

Section: (none)

Explanation

Explanation/Reference:

QUESTION 101

Which command is used to unload a single module currently loaded by the kernel without unloading any modules that it depends upon?
(Specify the command with or without path information)

Correct Answer: rmmod, /sbin/rmmod

Section: (none)

Explanation

Explanation/Reference:

QUESTION 102

Which directory contains the system-specific udev rule files? (Specify the absolute path including the directory name)

Correct Answer: /etc/udev/rules.d, /etc/udev/rules.d/

Section: (none)

Explanation

Explanation/Reference:

QUESTION 103

Which keyword is used in the /etc/inittab file to define the SysV-init default system runlevel?

Correct Answer: initdefault

Section: (none)

Explanation

Explanation/Reference:

QUESTION 104

Please enter the complete path to the main SysV init process configuration file.

Correct Answer: /etc/inittab

Section: (none)

Explanation

Explanation/Reference:

QUESTION 105

What is the full path to the directory which contains the scripts (or links to the original scripts) to run while the system boots to SysV-init runlevel 2?

Correct Answer: /etc/rc2.d, /etc/rc2.d/, /etc/init.d/rc2.d, /etc/init.d/rc2.d/

Section: (none)

Explanation

Explanation/Reference:

QUESTION 106

Which file tells GRUB the paths of the filesystem partitions in both Linux format and in the GRUB syntax? (Specify the file name only with no path information)

Correct Answer: device.map

Section: (none)

Explanation

Explanation/Reference:

QUESTION 107

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/sdb1  /media/usb0 vfat      user,noauto 0 0
```

What is one of the possible commands that an ordinary (non-root) user can use to mount the /dev/sdb1 partition on the /media/usb0 mount point?

(Please enter the command with all parameters and/or options but without any file system type options.)

Correct Answer: mount /dev/sdb1, mount /media/usb0, /bin/mount /dev/sdb1, /bin/mount /media/usb0, mount /media/usb0/, /bin/mount /media/usb0/

Section: (none)

Explanation

Explanation/Reference:

QUESTION 108

Which directory in /dev/disk/ can be used to determine the UUID of a connected hard disk?

Correct Answer: /dev/disk/by-uuid, by-uuid, /dev/disk/by-uuid/

Section: (none)

Explanation

Explanation/Reference:

QUESTION 109

What keyword is missing in the following line from /etc/fstab in order to make a USB flash device writeable by the user fred when mounted:

```
/dev/sda1 /mnt/usbflash vfat defaults,users,_____ =fred,umask=022, 0 0
```

(Provide the option name only without any settings)

Correct Answer: uid

Section: (none)

Explanation

Explanation/Reference:

QUESTION 110

After a lot of write operations, the administrator want to ensure that the kernel flushes the file system buffers to disk. Which command will accomplish this?

(Specify ONLY the command without any path or parameters.)

Correct Answer: sync

Section: (none)

Explanation

Explanation/Reference:

QUESTION 111

Which command turns an existing ext2 filesystem non-destructively into an ext3 filesystem? (Specify ONLY the command without any path or parameters.)

Correct Answer: /sbin/tune2fs, tune2fs

Section: (none)

Explanation

Explanation/Reference:

QUESTION 112

Which command is used to create a ISO9660 filesystem? (Specify ONLY the command without any path or parameters.)

Correct Answer: mkisofs, genisoimage

Section: (none)

Explanation

Explanation/Reference:

QUESTION 113

What command will remove a physical volume from a volume group? (Specify ONLY the command without any path or parameters.)

Correct Answer: vgreduce, /sbin/vgreduce

Section: (none)

Explanation

Explanation/Reference:

QUESTION 114

According to the tcpdump output below, what is the IP address of the client host?

```
02:12:40.511381 IP 192.168.246.11.1045 > 192.168.246.1.22: S 3838532429:3838532429(0) win 5840 <mss 1460,sackOK,timestamp 31325740,nop,wscale 2>
02:12:40.511540 IP 192.168.246.1.22 > 192.168.246.11.1045: S 1209330085:1209330085(0) ack 3838532430 win 5792 <mss 1460,sackOK,timestamp 11553457 3132574,nop,wscale 0>
02:12:40.511755 IP 192.168.246.11.1045 > 192.168.246.1.22: . ack 1 win 1460 <nop,nop,timestamp 3132574 11553457>
02:12:40.515122 IP 192.168.246.1.22 > 192.168.246.11.1045: P 1:26(25) ack 1 win 5792 <nop,nop,timestamp 11553460 3132574>
02:12:40.515511 IP 192.168.246.11.1045 > 192.168.246.1.22: . ack 26 win 1460 <nop,nop,timestamp 3132578 11553460>
02:12:40.515952 IP 192.168.246.11.1045 > 192.168.246.1.22: P 1:23(22) ack 26 win 1460 <nop,nop,timestamp 3132578 11553460>
```

Correct Answer: 192.168.246.11

Section: (none)

Explanation

Explanation/Reference:

QUESTION 115

Which program lists information about files and network connections opened by processes? (Specify ONLY the command without any path or parameters.)

Correct Answer: lsof, /usr/bin/lsof

Section: (none)

Explanation

Explanation/Reference:

QUESTION 116

Running tcpdump -nli eth1 'tcp' shows the following output:

```
14:41:53.694538 IP 10.1.52.145.51738 > 24.215.7.162.143: Flags [.] , ack 33051, win 1002, options [nop,nop,TS val 36789130 ecr 1746004159], length 0
```

What is the source IP address of this packet? (Please specify the answer in digits and dots ONLY.)

Correct Answer: 10.1.52.145

Section: (none)

Explanation

Explanation/Reference:

QUESTION 117

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.

Correct Answer: dig, time dig, time host, time nslookup

Section: (none)

Explanation

Explanation/Reference:

QUESTION 118

What is the device name for the first SCSI tape drive on a system when used without automatic rewinding after each write operation? (Please specify the full path to the device.)

Correct Answer: /dev/nst0

Section: (none)

Explanation

Explanation/Reference:

QUESTION 119

Which file contains the text message that is displayed after logging into the console? (Specify the full name of the file, including path.)

Correct Answer: /etc/motd

Section: (none)

Explanation

Explanation/Reference:

QUESTION 120

Which file contains the message that is displayed above the login prompt of the system console? (Specify the full name of the file, including path.)

Correct Answer: /etc/issue

Section: (none)

Explanation

Explanation/Reference: