

**CST8177 Linux II 16F Midterm I****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

1. What utility can you use to check the health status of a hard drive?  
a. **smartctl**    b. systemctl    c. pvstatus    d. pvctl    e. smartd
2. Which of these commands will work only if no LVs have been configured within the VG?  
a. vgscan    b. vgreduce    c. vgcreate    d. **vgremove**    e. vgextend
3. Which of the following would display information about a computer mouse?  
a. ps aux    b. fdisk    c. **lsusb**    d. lspci    e. lsblk
4. Which of the following contains a numbered folder for each process ID?  
a. /dev    b. /dev/mapper    c. /sys    d. **/proc**    e. /run
5. What command would list any kernel modules currently in use?  
a. lsvid    b. lspci    c. **lsmod**    d. modprobe    e. xprobe
6. Which of the following is a file system?  
a. CUSFS    b. RAID    c. **BTRFS**    d. LVM    e. ASUFS
7. Which of these utilities can you use to partition a hard drive?  
a. **fdisk**    b. pvcreate    c. mkfs    d. lvcreate    e. vgcreate
8. Which of these commands would be the first one you would use if you wanted to pool several hard drives together and create a filesystem spanning all of them?  
a. lvextend    b. vgscan    c. **vgcreate**    d. pvcreate    e. lvcreate
9. What command can you use to disable the GUI in CentOS 7?  
a. systemctl start multi-user.target    b. systemctl isolate graphical.target  
c. **systemctl isolate multi-user.target**    d. stopx    e. systemctl stop graphical.target
10. Which of the following does not support snapshots?  
a. XFS    b. VMware    c. **RAID**    d. LVM    e. BTRFS
11. Which directory contains log files?  
a. /tmp    b. **/var**    c. /sys    d. /usr    e. /root
12. Which utility can display the total amount of space used by the contents of a subdirectory?  
a. ls    b. free    c. mem    d. df    e. **du**

13. Which of the following filesystems differ only in that one uses a journal and the other does not?  
a. **ext2, ext3**    b. ext2, FAT32    c. ext4, XFS    d. ext3, XFS    e. ext3, ext4
14. Which of the following is enabled by default in the Anaconda installer?  
a. ext3    b. **LVM**    c. ext4    d. ext2    e. RAID
15. Which of the following is an optical disk standard?  
a. NTFS    b. XFS    c. **UDF**    d. EXT2    e. SYSFS
16. Which command could you use to determine which distribution of Linux you are using?  
a. uname    b. uname -r    c. lsb\_release    d. **cat /etc/os-release**    e. cat /etc/distro
17. Which device file represents shared memory for sharing data between applications?  
a. kmsg    b. oldmem    c. **shm**    d. block    e. hugepages
18. Which of the following RAID schemes can tolerate one drive failure, but no more?  
a. **Four drives in a RAID 5 array.**    b. Four drives in a RAID 10 array.  
c. Four drives in a RAID 0 array.    d. Four drives in a RAID 1 array.  
e. Three drives in a RAID 1 array.
19. Which of these virtual filesystems presents an interface to kernel objects?  
a. /lib    b. /boot    c. **/sys**    d. /run    e. /var
20. Which of the following would list installed expansion cards and embedded hardware?  
a. lsusb    b. lscard    c. lshw    d. lsmod    e. **lspci**
21. What type of device file would correctly complete this command: mkfs.ext4 \_\_\_\_\_ .  
a. Mount point    b. SATA drive    c. LVM physical volume    d. **LVM logical volume**  
e. LVM volume group
22. Which of the following commands will print the kernel release version?  
a. vgdisplay    b. systemctl --version    c. cat /sys/fs/selinux    d. **uname -r**  
e. mdadm
23. Which directory contains a list of pseudo-terminals currently in use?  
a. ptmx    b. **pts**    c. port    d. tty    e. ppp
24. Which directory contains the files needed to boot the system?  
a. /opt    b. /run    c. **/boot**    d. /etc    e. /var

25. Examine the following command output and answer the following questions:

```
[user@localhost ~]$ ls /dev*
agpgart      lp0          sda3        tty1        tty38       tty9
autofs       lp1          sda4        tty10       tty39       ttyS0
block        lp2          sda5        tty11       tty4         ttyS1
bsg          lp3          sda6        tty12       tty40       ttyS2
btrfs-control mapper      sdb         tty13       tty41       ttyS3
bus          mcelog      sdb1        tty14       tty42       uhid
cdrom        md          sdb2        tty15       tty43       uinput
centos      md125       sdb3        tty16       tty44       urandom
char         md126       sdb4        tty17       tty45       usbmon0
console      md127       sdb5        tty18       tty46       usbmon1
core         mem         sdc         tty19       tty47       usbmon2
cpu          midi        sdc1        tty2        tty48       vcs
cpu_dma_latency mqueue     sdc2        tty20       tty49       vcs1
crash        net         sdc3        tty21       tty5        vcs2
disk         network_latency sdc4        tty22       tty50       vcs3
dm-0         network_throughput sdc5        tty23       tty51       vcs4
dm-1         null        sdd         tty24       tty52       vcs5
dmmidi       nvram       sdd1        tty25       tty53       vcs6
dri          oldmem      sdd2        tty26       tty54       vcsa
fb0          port        sdd3        tty27       tty55       vcsa1
fd           ppp         sdd4        tty28       tty56       vcsa2
full         ptmx        sdd5        tty29       tty57       vcsa3
fuse         pts         shm         tty3        tty58       vcsa4
hidraw0      random      snapshot    tty30       tty59       vcsa5
hpet         raw         snd         tty31       tty6        vcsa6
hugepages    rfkill      sr0         tty32       tty60       vfio
initctl      rtc         stderr      tty33       tty61       vga_arbiter
input        rtc0        stdin       tty34       tty62       vhost-net
kmsg         sda         stdout      tty35       tty63       vmci
log          sda1        tty         tty36       tty7        zero
loop-control sda2        tty0        tty37       tty8
```

Which device file represents the second partition on the fourth SCSI drive?

- a. dm-1    b. disk    c. tty42    d. vcsa2    e. **sdc2**
26. Which of the following commands does not write to filesystems directly?  
 a. xfs\_repair    b. debugfs    c. tune2fs    d. **pvcreate**    e. xfsrestore
27. Which of the following utilities will list hard drive partitions that are configured for LVM?  
 a. vgs    b. lvscan    c. lvs    d. vgscan    e. **pvscan**
28. Which of these commands extracts information about an XFS filesystem?  
 a. xfs\_repair    b. xfsrestore    c. xfsdump    d. **xfs\_info**    e. xfs\_debug
29. Which of the following is a temporary filesystem created for `systemd`?  
 a. /sys    b. **/run**    c. /dev    d. /proc    e. /dev/mapper

30. Which of the following commands forces Linux to write any data cached in memory to disk?  
a. **sync**   b. fdisk   c. journalctl -k   d. xfsdump   e. swapoff
31. Which of the following commands can be used to disable a swap partition?  
a. mkswap   b. **swapoff**   c. mkfs.swap   d. swapmkfs   e. swapon
32. Which file contains detailed information on the installed Linux distribution?  
a. /etc/default/grub   b. /proc/os-release   c. **/etc/os-release**  
d. /proc/mdstat   e. /etc/mdstat
33. Which of these files contains descriptive information about local filesystems?  
a. **/etc/fstab**   b. /etc/udev/hwdb.bin   c. /etc/filesystems  
d. /etc/udev/udev.conf   e. /etc/fuse.conf
34. What command can you use to become the root user?  
a. chown root   b. su root   c. **su**   d. machinectl enable   e. elevate
35. Which of the following utilities will list hard drive partitions that are configured for LVM?  
a. **pvs**   b. vgs   c. lvscan   d. lvs   e. vgscan
36. Which device file acts as a sink, discarding everything sent to it and producing no output?  
a. rfkill   b. zero   c. crash   d. **null**   e. fb0
37. Which of the following RAID schemes can tolerate three simultaneous drive failures without losing data?  
a. Four drives in a RAID 0 array.   b. Four drives in a RAID 5 array.   c. Five drives in a RAID 5 array.   d. **Four drives in a RAID 1 array.**   e. Four drives in a RAID 10 array.
38. Which of these directories contains programs useable by ordinary users?  
a. /home   b. **/usr/bin**   c. /usr/sbin   d. /sbin   e. /run
39. Which of the following files is a hard drive?  
a. /dev/sr0   b. /dev/hdb2   c. /dev/md127   d. /dev/disk   e. **/dev/sda**
40. Which of the following represents a hard drive in the LVM scheme?  
a. File System   b. Volume Group   c. Logical Volume   d. Device Map  
e. **Physical Volume**
41. Which of the following commands can be used to list the contents of a backup file?  
a. mount   b. mdadm   c. lvscan   d. xfsdump   e. **xfsrestore**

Name: \_\_\_\_\_

ID: A

42. Which of the following files contains configuration information for RAID arrays?  
a. /etc/grub2.cfg    b. /proc/mdstat    c. /etc/default/grub    d. /proc/mounts  
e. **/etc/mdadm.conf**
43. If you use `mkfs` to create an `ext4` filesystem, which utility is actually run?  
a. mke4fs    b. mke3fs    c. mkfs.ext4    d. e4fs    e. **mke2fs**
44. Which of these commands will list all available LVM storage pools on the local machine?  
a. lvscan    b. spscan    c. pvscan    d. sps    e. **vgscan**
45. Which of the following contains utilities used for system administration?  
a. /usr/lib    b. /usr/include    c. /usr/src    d. **/usr/sbin**    e. /usr/local
46. Which of these utilities manages RAID arrays in Linux?  
a. mkfs    b. fdisk    c. lvmanage    d. pvmanage    e. **mdadm**

**CST8177 Linux II 16F Midterm I  
Answer Section****MULTIPLE CHOICE**

1. ANS: A                   PTS: 1
2. ANS: D                   PTS: 1
3. ANS: C                   PTS: 1
4. ANS: D                   PTS: 1
5. ANS: C                   PTS: 1
6. ANS: C                   PTS: 1
7. ANS: A                   PTS: 1
8. ANS: C                   PTS: 1
9. ANS: C                   PTS: 1
10. ANS: C                   PTS: 1
11. ANS: B                   PTS: 1
12. ANS: E                   PTS: 1
13. ANS: A                   PTS: 1
14. ANS: B                   PTS: 1
15. ANS: C                   PTS: 1
16. ANS: D                   PTS: 1
17. ANS: C                   PTS: 1
18. ANS: A                   PTS: 1
19. ANS: C                   PTS: 1
20. ANS: E                   PTS: 1
21. ANS: D                   PTS: 1
22. ANS: D                   PTS: 1
23. ANS: B                   PTS: 1
24. ANS: C                   PTS: 1
25. ANS: E                   PTS: 1
26. ANS: D                   PTS: 1
27. ANS: E                   PTS: 1
28. ANS: D                   PTS: 1
29. ANS: B                   PTS: 1
30. ANS: A                   PTS: 1
31. ANS: B                   PTS: 1
32. ANS: C                   PTS: 1
33. ANS: A                   PTS: 1
34. ANS: C                   PTS: 1
35. ANS: A                   PTS: 1
36. ANS: D                   PTS: 1
37. ANS: D                   PTS: 1
38. ANS: B                   PTS: 1
39. ANS: E                   PTS: 1

- 40. ANS: E                   PTS: 1
- 41. ANS: E                   PTS: 1
- 42. ANS: E                   PTS: 1
- 43. ANS: E                   PTS: 1
- 44. ANS: E                   PTS: 1
- 45. ANS: D                   PTS: 1
- 46. ANS: E                   PTS: 1