**Contestant Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Rank: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**



**LINUX OPERATING SYSTEM FUNDAMENTALS**

(350)

**REGIONAL 2022**

**CONCEPT KNOWLEDGE:**

Multiple Choice (50 @ 2 points each) (100 points)

**TOTAL POINTS (100 points)**

**Test Time: 60 minutes**

**GENERAL GUIDELINES:**

*Failure to adhere to any of the following rules will result in disqualification:*

1. Member must hand in this test booklet and all printouts if any.
2. No equipment, supplies, or materials other than those specified for this event are allowed in the testing area. No previous BPA tests and/or sample tests (handwritten, photocopied, or keyed) are allowed in the testing area.
3. Electronic devices will be monitored according to ACT standards.

**MULTIPLE CHOICE**

Identify the letter of the choice that *best* completes the statement or answers the question.

1. What command would add a new user on Ubuntu Linux?
   1. useradd
   2. usermod
   3. users -a
   4. addnewuser
2. What Linux command would allow you to change a user’s password?
   1. usermod
   2. password
   3. passwd
   4. chpass
3. Which command can be used to create a new group in Ubuntu Linux?
   1. groupmod
   2. groupadd
   3. addnewgroup
   4. newgroup
4. Which Linux command would create a new directory?
   1. makedir
   2. diradd
   3. mkdir
   4. adddir
5. Which Linux command is used to run a command as superuser (root)?
   1. surun
   2. sudo
   3. super
   4. sudoadmin
6. Which Linux command would allow you to search manual pages?
   1. man
   2. manual
   3. manpage
   4. man-page
7. What is the name of the package manager Ubuntu uses?
   1. yum
   2. apt
   3. dnf
   4. yast
8. The NFS service allows Linux to share its file systems and printers with unmodified Windows clients?
   1. True
   2. False
9. Which file would you need to edit to setup NFS shares on a Linux Server?
   1. /etc/export
   2. /etc/exports
   3. /etc/exportfs
   4. /etc/nfs/exports
10. Which Linux command would load an installed Kernel Module?
    1. modinfo
    2. lsmod
    3. modprobe
    4. insmod
11. Which file specifies which users are permitted to set cron jobs?
    1. /var/spool/cron.allow
    2. /etc/spool/cron.denv
    3. /var/spool/cron.allow
    4. /etc/cron.deny

1. Starting in Redhat Enterprise Linux (RHEL) 7.x and newer the init daemon was replaced with?
   1. systemctl
   2. systemd
   3. journald
   4. systemctl
2. Which Linux command would allow you to change the password expiration date of a user?
   1. passwd
   2. useradd
   3. chage
   4. usermod
3. In Linux you can specify mount points in the **/etc/fstab** file using either the **Device Name** or **UUID**.
   1. True
   2. False
4. You’ve been asked to change ownership of the file **shared.txt** so that owner is **admin** and group is **sales**, which command below will accomplish this?
   1. chown admin/sales shared.txt
   2. chown -u admin -g sales shared.txt
   3. chown admin:sales shared.txt
   4. chown -user admin -group sales shared.txt
5. The Linux command ‘**locate’** can be used to search for specified file names or extensions.
   1. True
   2. False
6. Which of the following commands can be used to show size and usage for mounted filesystems?
   1. dc
   2. dd
   3. df
   4. du
7. The Linux command **lsmod** will list all modules currently running on the system.
   1. True
   2. False
8. Which Linux command would show you the current running kernel version?
   1. sysinfo
   2. uname -a
   3. kernel -v
   4. info --kernel
9. What can you add to the end of a Linux command to have it run in the background of the current shell?
   1. &
   2. $
   3. #
   4. %
10. Which Linux command can be used to show all currently running processes?
    1. jobs
    2. ps
    3. proclist
    4. rp
11. Which Linux command will **only** list lines from the file **text.txt** that end with **R**?
    1. cat text.txt | grep R$
    2. cat text.txt | grep ^R
    3. cat text.txt | grep \R
    4. cat text.txt | grep R?
12. Which below would be correct methods to exit the vi/vim editor?
    1. ctrl :Zq
    2. esc :wq
    3. esc :wx
    4. ctrl XX
13. In the vi/vim text editor, which of the following will copy the current line into the buffer?
    1. 1y
    2. yy
    3. cc
    4. 1c
14. Which Linux commands can be used to enable a file or device formatted for swap?
    1. mkswap
    2. inswap
    3. swapon
    4. modswap
15. On Ubuntu the command ‘apt update’ can be used to update all available packages except kernel packages?
    1. True
    2. False
16. Which below is the correct device name for the second partition of the first disk?
    1. /dev/sd02
    2. /dev/sda2
    3. /dev/sd0a2
    4. /dev/sd1p2
17. Which Linux command will show just the last 15 lines of a file to the shell?
    1. cat -n 15 filename
    2. dump -n 15 filename
    3. tail -n 15 filename
    4. print -n 15 filename
18. Which Linux command will display commands running in the background of the current shell?
    1. history
    2. kill -l
    3. jobs
    4. list
19. In Linux bash shell, adding either **2>&1** or **&>** to the end of a command will redirect standard out and standard error to ***/dev/null.***
    1. True
    2. False
20. Which Linux command is used to format a file/device as swap?
    1. swapon
    2. modswap
    3. mkswap
    4. addswap
21. Which file shows the currently mounted devices?
    1. /etc/fstab
    2. /etc/mounts
    3. /etc/mtab
    4. /etc/df
22. Which linux command will display all disks and their partitions?
    1. lsblk
    2. blkid
    3. mount
    4. listfs
23. When working with vi/vim in Linux which key combo would allow you to exit without saving any changes?
    1. :Q!
    2. :xq!
    3. :q!
    4. :xx!
24. Which key would allow you to change back to normal edit mode in vi/vim?
    1. Alt
    2. Ctrl
    3. Esc
    4. Shift
25. Which Linux command would **list** out the contents of a tar archive named **backup.tar** without extracting anything?
    1. tar -czf backup.tar
    2. tar -tvf backup.tar
    3. tar -xvf backup.tar
    4. tar -lvf backup.tar
26. In Linux which file located in /etc/ would control what is mounted at boot?
    1. fstab
    2. mtab
    3. mount
    4. fsmount
27. In Ubuntu Linux you can use this command to show all the files a package installs?
    1. dpkg -L <packagename>
    2. dpkg -l <packagename>
    3. apt list <packagename>
    4. apt showfiles <packagename>
28. The command “**setfacl -m g:admins:rw file.txt**” would grant the group called “**admins**” read and write access to the file called **file.txt**.
    1. True
    2. False
29. Which Linux command would attempt to mount all available disks in the **/etc/fstab** file?
    1. mount /etc/fstab
    2. mount -m
    3. mount -a
    4. mount -f --all
30. Which Linux command below would redirect output of the command **fdisk -l** to a file called **disks.txt** without overwriting any existing content?
    1. fdisk -l > disks.txt
    2. fdisk -l >> disks.txt
    3. fdisk -l > & disks.txt
    4. fdisk -l &> disks.txt
31. If you just suspended a command you can resume it in the background by just running “**bg**”
    1. True
    2. False
32. Which Linux command would **only** list contents of a file named **logs.txt** that match the word “**FAILED**” exactly?
    1. cat logs.txt |grep -v FAILED
    2. cat logs.txt |grep -r FAILED
    3. cat logs.txt | grep FAILED
    4. cat logs.txt | grep -i FAILED
33. On Linux when trying to stop a command gracefully which signal code would you use with the command “**kill**”?
    1. 1
    2. 9
    3. 15
    4. 17
34. What command will display the just the first 10 lines of the **/var/log/messages** file?
    1. cut -10 -v /var/log/messages
    2. tail -n 10 /var/log/messages
    3. head -n 10 /var/log/messages
    4. cat -n 10 /var/log/messages
35. In Linux what keys would allow you to suspend a running command?
    1. Control+z
    2. Control+c
    3. Control+x
    4. Control + v
36. When formatting a single disk you can create more than 4 partitions with the use of extended partitions?
    1. True
    2. False
37. Which of the following command on its own can be used to list all **installed** packages?
    1. dpkg -L
    2. apt list
    3. dpkg -l
    4. apt-get
38. What single utility can be used to fully extract the contents of **backup.tgz** without the use of any other utilities?
    1. gzip
    2. tar
    3. gunzip
    4. unzip
39. On Linux the command “**sudo -s**” can be used to become the user root in the bash shell.
    1. True
    2. False