

Exam : **010-160**

Title : Linux Essentials Certificate
Exam, version 1.6

Vendor : Lpi

Version : V12.75

NO.1 Which of the following directories contains information, documentation and example configuration files for installed software packages?

- A. /usr/share/doc/
- B. /etc/defaults/
- C. /var/info/
- D. /doc/
- E. /usr/examples/

Answer: A

NO.2 What is the return value of a shell script after successful execution?

- A. 1
- B. 0
- C. -1
- D. -255
- E. 255

Answer: B

NO.3 The file script.sh in the current directory contains the following content:

```
#!/bin/bash echo $MYVAR
```

The following commands are used to execute this script:

```
MYVAR=value
```

```
./script.sh
```

The result is an empty line instead of the content of the variable MYVAR. How should MYVAR be set in order to make script.sh display the content of MYVAR?

- A. !MYVAR=value
- B. env MYVAR=value
- C. MYVAR=value
- D. \$MYVAR=value
- E. export MYVAR=value

Answer: E

NO.4 Which command adds the new user tux and creates the user's home directory with default configuration files?

- A. defaultuser tux
- B. useradd -m tux
- C. usercreate tux
- D. useradd -o default tux
- E. passwd -a tux

Answer: B

NO.5 A user is currently in the directory /home/user/Downloads/ and runs the command ls ../Documents/ Assuming it exists, which directory's content is displayed?

- A. /home/user/Documents/

- B. /home/user/Documents/Downloads/
- C. /home/user/Downloads/Documents/
- D. /Documents/
- E. /home/Documents

Answer: D

NO.6 What is defined by a Free Software license?

- A. Details of the technical documentation each contributor has to provide.
- B. The programming languages which may be used to extend the licensed program.
- C. A complete list of libraries required to compile the licensed software.
- D. Limits on the purposes for which the licensed software may be used.
- E. Conditions for modifying and distributing the licensed software.

Answer: E

NO.7 What command displays manual pages? (Specify ONLY the command without any path or parameters.)

Answer: man

NO.8 Running the command `rm Downloads` leads to the following error:

`rm: cannot remove 'Downloads/': Is a directory`

Which of the following commands can be used instead to remove Downloads, assuming Downloads is empty? (Choose two correct answers.)

- A. `undir Downloads`
- B. `rmdir Downloads`
- C. `dir -r Downloads`
- D. `rem Downloads`
- E. `rm -r Downloads`

Answer: B,E

NO.9 Which of the following tar options handle compression? (Choose two correct answers.)

- A. `-bz`
- B. `-z`
- C. `-g`
- D. `-j`
- E. `-z2`

Answer: B,D

NO.10 Which of the following programs is a graphical editor for vector graphics?

- A. Python
- B. NGINX
- C. Samba
- D. Inkscape
- E. MySQL

Answer: D

NO.11 Which of the following devices represents a hard disk partition?

- A. /dev/ttyS0
- B. /dev/sata0
- C. /dev/part0
- D. /dev/sda2
- E. /dev/sda/p2

Answer: D

NO.12 What is the preferred source for the installation of new applications in a Linux based operating system?

- A. The vendor's version management system
- B. A CD-ROM disk
- C. The distribution's package repository
- D. The vendor's website
- E. A retail store

Answer: C

NO.13 Which of the following commands will search for the file foo.txt under the directory /home?

- A. search /home -file foo.txt
- B. search /home foo. txt
- C. find /home - file foo.txt
- D. find /home -name foo.txt
- E. find /home foo.txt

Answer: D

NO.14 What information is stored in /etc/passwd? (Choose three correct answers.)

- A. The user's storage space limit
- B. The numerical user ID
- C. The username
- D. The encrypted password
- E. The user's default shell

Answer: B,C,D

NO.15 Which package management tool is used in Red Hat-based Linux Systems?

- A. portage
- B. rpm
- C. apt-get
- D. dpkg
- E. packagectl

Answer: B

NO.16 What is true about the su command?

- A. It is the default shell of the root account.
- B. It can only be used by the user root.
- C. It runs a shell or command as another user.
- D. It changes the name of the main administrator account.
- E. It locks the root account in specific time frames.

Answer: C

NO.17 Which of the following commands creates the ZIP archive poems.zip containing all files in the current directory whose names end in .txt?

- A. zip *.txt > poems.zip
- B. zcat *.txt poems.zip
- C. zip poems.zip *.txt
- D. zip cfz poems.zip *.txt
- E. cat *.txt | zip poems.zip

Answer: C

NO.18 Members of a team already have experience using Red Hat Enterprise Linux. For a small hobby project, the team wants to set up a Linux server without paying for a subscription. Which of the following Linux distributions allows the team members to apply as much of their Red Hat Enterprise Linux knowledge as possible?

- A. Ubuntu Linux LTS
- B. Raspbian
- C. Debian GNU/Linux
- D. CentOS
- E. openSUSE

Answer: D

NO.19 Which of the following commands output the content of the file Texts 2.txt? (Choose two.)

- A. cat 'Texts 2.txt'
- B. cat -- Texts 2.txt
- C. cat |Texts 2.txt|
- D. cat 'Texts\ 2.txt'
- E. cat Texts\ 2.txt

Answer: A,B

NO.20 Which of the following commands extracts the contents of the compressed archive file1.tar.gz?

- A. tar -czf file1.tar.gz
- B. ztar file1.tar.gz
- C. tar -xzf file1.tar.gz
- D. tar --extract file1.tar.gz
- E. detar file1.tar.gz

Answer: C

NO.21 What can be found in the /proc/ directory?

- A. One directory per installed program.
- B. One device file per hardware device.
- C. One file per existing user account.
- D. One directory per running process.
- E. One log file per running service.

Answer: D

NO.22 Which of the following are typical services offered by public cloud providers? (Choose three correct answers.)

- A. Platform as a Service(PaaS)
- B. Infrastructure as a Service(IaaS)
- C. Internet as a Service(IaaS)
- D. Graphics as a Service (GaaS)
- E. Software as a Service (SaaS)

Answer: A,B,E

NO.23 Which of the following commands sets the variable USERNAME to the value bob?

- A. set USERNAME bob
- B. \$USERNAME==bob
- C. var USERNAME=bob
- D. USERNAME<=bob
- E. USERNAME=bob

Answer: E

NO.24 Which of the following commands can be used to resolve a DNS name to an IP address?

- A. dnsname
- B. dns
- C. query
- D. host
- E. iplookup

Answer: D

NO.25 Which of the following types of bus can connect hard disk drives with the motherboard?

- A. The RAM bus
- B. The NUMA bus
- C. The CPU bus
- D. The SATA bus
- E. The Auto bus

Answer: D

NO.26 What are the differences between hard disk drives and solid state disks? (Choose two correct answers.)

- A. Hard disks have a motor and moving parts, solid state disks do not.
- B. Hard disks can fail due to physical damage, while solid state disks cannot fail.
- C. Solid state disks can store many times as much data as hard disk drives.
- D. /dev/sda is a hard disk device while /dev/ssda is a solid state disk.
- E. Solid state disks provide faster access to stored data than hard disks.

Answer: A,E

NO.27 Which one of the following statements concerning Linux passwords is true?

- A. All passwords can be decrypted using the system administrator's master password.
- B. Passwords may never start with a non-letter.
- C. Users cannot change their password once it has been set.
- D. Passwords are only stored in hashed form.
- E. Passwords may be at most six characters long.

Answer: D

NO.28 The current directory contains the following file:

```
-rwxr-xr-x 1 root root 859688 Feb 7 08:15 test.sh
```

Given that the file is a valid shell script, how can this script be executed? (Choose two correct answers.)

- A. run test.sh
- B. \${test.sh}
- C. cmd ./test.sh
- D. ./test.sh
- E. bash test.sh

Answer: D,E

NO.29 Which of the following is a protocol used for automatic IP address configuration?

- A. NFS
- B. LDAP
- C. SMTP
- D. DNS
- E. DHCP

Answer: E

NO.30 What is the purpose of the PATH environment variable?

- A. It allows the execution of commands without the need to know the location of the executable.
- B. It increases security by preventing commands from running in certain locations.
- C. It specifies the location of a user's home directory.
- D. It indicates the location of the default shell to be used when a user logs in.
- E. It contains the absolute path to the current directory.

Answer: A

NO.31 Which of the following DNS record types hold an IP address? (Choose two.)

- A. NS
- B. AAAA
- C. MX
- D. A
- E. CNAME

Answer: C,D

NO.32 Which of the following directories must be mounted with read and write access if it resides on its own dedicated file system?

- A. /opt
- B. /lib
- C. /etc
- D. /var
- E. /usr

Answer: D

NO.33 A new server needs to be installed to host services for a period of several years. Throughout this time, the server should receive important security updates from its Linux distribution. Which of the following Linux distributions meet these requirements? (Choose two.)

- A. Ubuntu Linux LTS
- B. Fedora Linux
- C. Debian GNU/Linux Unstable
- D. Ubuntu Linux non-LTS
- E. Red Hat Enterprise Linux

Answer: A,E

NO.34 A directory contains the following files:

a.txt

b.txt

c.cav

What would be the output of the following shell script?
for file in *.txt


```
do  
  
    echo $file  
  
done
```

- A. *.txt
- B. a b
- C. c.cav
- D. A.txt
- E. A. txt
- b. txt

Answer: E

NO.35 What is a Linux distribution?

- A. The Linux file system as seen from the root account after mounting all file systems.
- B. A bundling of the Linux kernel, system utilities and other software.
- C. The set of rules which governs the distribution of Linux kernel source code.
- D. An operating system based on Linux but incompatible to the regular Linux kernel.
- E. A set of changes to Linux which enable Linux to run on another processor architecture.

Answer: B

NO.36 What happens to a file residing outside the home directory when the file owner's account is deleted? (Choose two.)

- A. During a file system check, the file is moved to /lost +found.
- B. The file is removed from the file system.
- C. The UID of the former owner is shown when listing the file's details.
- D. The user root is set as the new owner of the file.
- E. Ownership and permissions of the file remain unchanged.

Answer: C,E

NO.37 What is true about the dmesg command? (Choose two correct answers.)

- A. It traces the execution of a command and shows each step the program carries out.
- B. It sends messages to the command lines of all current user sessions.
- C. It displays the content of the Linux kernel's ring buffer.
- D. It immediately outputs all new messages written to the system journal.
- E. It might not display older information because it was overwritten by newer information.

Answer: C,E

NO.38 What is true about a recursive directory listing?

- A. It includes the content of sub-directories.
- B. It includes the permissions of the directory listed.
- C. It includes details of file system internals, such as inodes.

- D. It includes ownership information for the files.
- E. It includes a preview of content for each file in the directory.

Answer: A

NO.39 Why are web browser cookies considered dangerous?

- A. Cookies support identification and tracking of users.
- B. Cookies are always public and accessible to anyone on the internet.
- C. Cookies consume significant amounts of storage and can exhaust disk space.
- D. Cookies store critical data which is lost when a cookie is deleted.
- E. Cookies can contain and execute viruses and malware.

Answer: A

NO.40 Which permissions are set on a regular file once the permissions have been modified with the command `chmod 654 file.txt`?

- A. `drw-r-xr--`
- B. `d-wxr-x--`
- C. `-wxr-x--x`
- D. `-rwxrw---x`
- E. `-rw-r-xr--`

Answer: E

NO.41 Which operator in a regular expression matches the preceding character either zero or one time?

- A. `?`
- B. `*`
- C. `+`
- D. `%`
- E. `$`

Answer: A

NO.42 Reverse DNS assigns hostnames to IP addresses. How is the name of the IP address 198.51.100.165 stored on a DNS server?

- A. In the A record for 165.100.51.198.ipv4.arpA.
- B. In the PTR record for 165.100.51.198.in-addr.arpA.
- C. In the RNAME record for 198-51-100-165.rev.arpA.
- D. In the ARPA record for 165.100.51.198.rev.
- E. In the REV record for arpA.in-addr.198.51.100.165.

Answer: B

NO.43 Which of the following statements regarding Linux hardware drivers is correct?

- A. Drivers are regular Linux programs which have to be run by the user who wants to use a device.
- B. Drivers are not used by Linux because the BIOS handles all access to hardware on behalf of Linux.
- C. Drivers are stored on their devices and are copied by the Linux kernel when a new device is

attached

- D.** Drivers are downloaded from the vendor's driver repository when a new device is attached.
- E.** Drivers are either compiled into the Linux kernel or are loaded as kernel modules.

Answer: E

NO.44 The ownership of the file doku.odt should be changed. The new owner is named tux. Which command accomplishes this change?

- A.** chmod u=tux doku.odt
- B.** newuser doku.odt tux
- C.** chown tux doku.odt
- D.** transfer tux: doku.odt
- E.** passwd doku.odt:tux

Answer: C

NO.45 Which of the following Linux Distributions is derived from Red Hat Enterprise Linux?

- A.** Raspbian
- B.** openSUSE
- C.** Debian
- D.** Ubuntu
- E.** CentOS

Answer: E

NO.46 What is true about links in a Linux file system?

- A.** A symbolic link can only point to a file and not to a directory.
- B.** A hard link can only point to a directory and never to a file.
- C.** When the target of the symbolic link is moved, the link is automatically updated.
- D.** A symbolic link can point to a file on another file system.
- E.** Only the root user can create hard links.

Answer: D

NO.47 What are the differences between a private web browser window and a regular web browser window? (Choose three.)

- A.** Private web browser windows do not allow printing or storing websites.
- B.** Private web browser windows do not store cookies persistently.
- C.** Private web browser windows do not support logins into websites.
- D.** Private web browser windows do not keep records in the browser history.
- E.** Private web browser windows do not send regular stored cookies.

Answer: B,D,E

NO.48 Most commands on Linux can display information on their usage. How can this information typically be displayed?

- A.** By running the command with the option `/?` or `/??`.
- B.** By running the command with the option `?!` or `?=!`.

- C. By running the command with the option /doc or /documentation.
- D. By running the command with the option -h or --help.
- E. By running the command with the option -m or --manpage.

Answer: E

NO.49 Which statements about the directory /etc/skel are correct? (Choose two.)

- A. The personal user settings of root are stored in this directory.
- B. The files from the directory are copied to the home directory of the new user when starting the system.
- C. The files from the directory are copied to the home directory of a new user when the account is created.
- D. The directory contains a default set of configuration files used by the useradd command.
- E. The directory contains the global settings for the Linux system.

Answer: C,D

NO.50 Which of the following commands shows the absolute path to the current working directory?

- A. who
- B. cd ..
- C. pwd
- D. ls -l
- E. cd ~/home

Answer: C

NO.51 Which of the following tasks can the command passwd accomplish? (Choose two.)

- A. Change a user's username.
- B. Change a user's password.
- C. Create a new user account.
- D. Create a new user group.
- E. Lock a user account.

Answer: C,E

NO.52 Which of the following values could be a process ID on Linux?

- A. /bin/bash
- B. 60b503cd-019e-4300-a7be-922f074ef5ce
- C. /sys/pid/9a14
- D. fff3
- E. 21398

Answer: E

NO.53 Which files are the source of the information in the following output? (Choose two.)

uid=1000 (bob) gid=1000 (bob) groups=1000 (bob), 10 (wheel), 150 (docker), 1001 (libvirt) (wireshark), 989

- A. /etc/id

- B. /etc/passwd
- C. /etc/group
- D. /home/index
- E. /var/db/users

Answer: B,C

NO.54 Which of the following keys can be pressed to exit less?

- A. l
- B. x
- C. e
- D. q
- E. !

Answer: D

NO.55 Which command copies the contents of the directory /etc/, including all sub-directories, to /root/?

- A. copy /etc /root
- B. cp -r /etc/* /root
- C. cp -v /etc/* /root
- D. rcp /etc/* /root
- E. cp -R /etc/*.* /root

Answer: B

NO.56 Which of the following commands are used to get information on the proper use of ls?
(Choose two correct answers.)

- A. option ls
- B. usage ls
- C. manual ls
- D. man ls
- E. info ls

Answer: D,E

NO.57 Which of the following commands finds all lines in the file operating-systems.txt which contain the term linux, regardless of the case?

- A. igrep linux operating-systems.txt
- B. less -i linux operating-systems.txt
- C. grep -i linux operating-systems.txt
- D. cut linux operating-systems.txt
- E. cut [LI] [li] [Nn] [Uu] [Xx] operating-systems.txt

Answer: C

NO.58 When typing a long command line at the shell, what single character can be used to split a command across multiple lines?

Answer: \

NO.59 Which of the following commands puts the lines of the file data.csv into alphabetical order?

- A. a..z data.csv
- B. sort data.csv
- C. abc data.csv
- D. wc -s data.csv
- E. grep --sort data.csv

Answer: B

NO.60 Which of the following outputs could stem from the command last?

- A. 1 ls
2 cat text.txt
3 logout
- B. Password for user last changed at Sat Mar 31 16:38:57 EST 2018
- C. Last login: Fri Mar 23 10:56:39 2018 from server.example.com
- D. EXT4-fs (dm-7): mounted filesystem with ordered data mode. Opts: (null)
- E. root tty2 Wed May 17 21:11 - 21:11 (00:00)

Answer: E

NO.61 What keyword is used in a shell script to begin a loop? (Specify one keyword only, without any additional information.)

Answer: for

NO.62 What is the UID of the user root?

- A. 1
- B. -1
- C. 255
- D. 65536
- E. 0

Answer: E

NO.63 How is a new Linux computing instance provisioned in an IaaS cloud?

- A. The standard Linux installer has to be run through a remote console.
- B. After buying a Linux distribution, its vendor delivers it to a cloud instance.
- C. The installation has to be prepared in a local virtual machine which is then copied to the cloud.
- D. The cloud hosting organization provides a set of pre-prepared images of popular Linux distributions.
- E. A provider-specific configuration file describing the desired installation is uploaded to the cloud provider.

Answer: E

NO.64 What information can be displayed by top?

- A. Existing files, ordered by their size.
- B. Running processes, ordered by CPU or RAM consumption.
- C. User accounts, ordered by the number of logins.
- D. User groups, ordered by the number of members.
- E. User accounts, ordered by the number of files.

Answer: B

NO.65 Which of the following commands adds the directory /new/dir/ to the PATH environment variable?

- A. `$PATH=/new/dir: $PATH`
- B. `PATH=/new/dir: PATH`
- C. `export PATH=/new/dir: PATH`
- D. `export $PATH=/new/dir: $PATH`
- E. `export PATH=/new/dir: $PATH`

Answer: E

NO.66 The current directory contains the following file:

`-rw-r-r- 1 root exec 24551 Apr 2 12:36 test.sh`

The file contains a valid shell script, but executing this file using `./test.sh` leads to this error:

`bash: ./test.sh: Permission denied`

What should be done in order to successfully execute the script?

- A. The file's extension should be changed from `.sh` to `.bin`.
- B. The execute bit should be set in the file's permissions.
- C. The user executing the script should be added to the `exec` group.
- D. The SetUID bit should be set in the file's permissions
- E. The script should be run using `#!/.test. sh` instead of `./test.sh`.

Answer: B

NO.67 Which of the following characters in a shell prompt indicates the shell is running with root privileges?

- A. `!`
- B. `#`
- C. `*`
- D. `&`
- E. `$`

Answer: B

NO.68 Which of the following commands sorts the output of the command `export-logs`?

- A. `export-logs < sort`
- B. `export-logs > sort`
- C. `export-logs & sort`
- D. `export-logs | sort`
- E. `export-logs <> sort`

Answer: D

NO.69 Which of the following outputs comes from the command free?

- A. A. 21:04:15 up 14 days, 7:43, 3 users, load average: 0.89, 1.00, 0.99
- B. avg-cpu: %user %nice %system %iowait %steal %idle
34.04 0.03 13.88 1.06 0.00 50.99
- C. Filesystem Size Used Avail Use% Mounted on
/dev/mapper/vg_ssd-root 25G 20G 3.6G 85% /
- D. 1.8M /tmp
- E. total used free shared buff/cache available
Mem: 16123128 12565680 2011624 412128 1545824 7180416

- A. Option A
B. Option B
C. Option C
D. Option D
E. Option E

Answer: E

NO.70 Which of the following examples shows the general structure of a for loop in a shell script?

- A. for *.txt as file => echo \$file
B. for *.txt (echo \$i)
C. for file in *.txt do
echo \$i done
D. for ls *.txt exec {} \;
E. foreach @{file} { echo \$i
}

Answer: C

NO.71 Which command displays file names only and no additional information?

- A. ls -a
B. ls -lh
C. ls -l
D. ls -alh
E. ls -nl

Answer: A

NO.72 Where is the operating system of a Raspberry Pi stored?

- A. On the master device attached to the Raspberry Pi's IDE bus.
- B. On a read only partition on the Raspberry Pi's firmware, next to the BIOS.
- C. On a removable SD card which is put into the Raspberry Pi.
- D. On a Linux extension module connected to the Raspberry Pi's GPIO pins.
- E. On rewritable flash storage which is built into the Raspberry Pi.

Answer: C

NO.73 Which of the following statements are true regarding a typical shell script? (Choose two.)

- A. It has the executable permission bit set.
- B. It starts with the two character sequence #!.
- C. It is located in /usr/local/scripts/.
- D. It is located in /etc/bash/scripts/.
- E. It is compiled into a binary file compatible with the current machine architecture.

Answer: A,E

NO.74 Which of the following statements is true about Free Software?

- A. It is developed by volunteers only.
- B. It may be modified by anyone using it.
- C. It must always be available free of charge.
- D. It only runs on Linux.
- E. It is only distributed as a compiled binary.

Answer: B

NO.75 What parameter of ls prints a recursive listing of a directory's content? (Specify ONLY the option name without any values or parameters.)

Answer: lsR

NO.76 A directory contains the following three files:

texts 1.txt

texts 2.txt

texts 3.csv

Which command copies the two files ending in .txt to the /tmp/ directory?

- A. cp ?? .txt /tmp/
- B. cp *.txt /tmp/
- C. cp. \.txt /tmp/
- D. cp ?.txt /tmp/
- E. cp \$?.txt /tmp/

Answer: B

NO.77 Which of the following programs are web servers? (Choose two.)

- A. Apache HTTPD
- B. Postfix

- C. Curl
- D. Dovecot
- E. NGINX

Answer: A,E

NO.78 Which of the following commands creates an archive file work.tar from the contents of the directory ./ work/?

- A. tar --new work.tar ./work/
- B. tar -cf work.tar ./work/
- C. tar -create work.tgz -content ./work/
- D. tar work.tar < ./work/
- E. tar work > work.tar

Answer: B

NO.79 Which of the following permissions are set on the /tmp/ directory?

- A. rwxrwxrwt
- B. -----rwx
- C. rwSrwx-rw-
- D. rwxrwS---
- E. r-xr-X--t

Answer: A

NO.80 What is true about the owner of a file?

- A. Each file is owned by exactly one user and one group.
- B. The owner of a file always has full permissions when accessing the file.
- C. The user owning a file must be a member of the file's group.
- D. When a user is deleted, all files owned by the user disappear.
- E. The owner of a file cannot be changed once it is assigned to an owner.

Answer: A