



**PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY
FACULTY OF COMPUTING AND INFORMATICS**

DEPARTMENT OF COMPUTER SCIENCES

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE	
QUALIFICATION CODE: 07BCMS	LEVEL: 7
COURSE CODE: LSA721S	COURSE NAME: Linux Systems Administration
SESSION: NOVEMBER 2023	PAPER: (PAPER 1)
DURATION: 3 HOURS	MARKS: 85

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read all the questions carefully before answering.3. Number the answers clearly

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

Section A: (Multiple choice)

(20 Marks)

Read each question carefully, and then select THE ANSWER that best fits the question

1. Which is an example of commercial distros?
a) Centos
b) SUSE Linux Enterprise
c) Fedora
d) ubuntu
2. Which command is used to display the unix version?
a) `uname -r`
b) `uname -n`
c) `uname -t`
d) `kernel`
3. Host specific configuration files are installed in?
a) `/etc` directory
b) `/lib` directory
c) `/root` directory
d) `/bin` directory
4. Which command is used to display the operating system name?
a) `os`
b) `unix`
c) `kernel`
d) `uname`
5. Which option of `ls` command is used to view file inode number?
a) `-l`
b) `-o`
c) `-a`
d) `-i`
6. How do you get help about the command "`cp`"?
a) `help cp`
b) `man cp`
c) `cd ?`
d) none of the mentioned
7. Which command changes a file's group owner?
a) `cgrp`
b) `chgrp`
c) `change`
d) `group`
8. Which command is used to extract a column from a text file?
a) `paste`
b) `get`
c) `cut`
d) `tar`
9. Which one of the directories do not contain binary files?
a) `/bin`
b) `/sbin`
c) `/etc`
d) none of the mentioned
10. The permission `-rwxr-r-` represented in octal expression will be?
a) 777
b) 666
c) 744
d) 711
11. How do you remove duplicate lines from the file `foo` using `uniq`?
a) `sort foo | uniq -u`
b) `sort -u foo | uniq -d`
c) `sort foo | uniq -c`
d) `sort foo | uniq -l`
12. Which command is used to display disk consumption of a specific directory?
a) `du`
b) `ds`
c) `dd`
d) `dds`
13. The directory `/opt` is reserved for?
a) installation of add-on application software packages
b) optional booting files
c) optional user specific files
d) none of the mentioned

Section C

[55 marks]

Answer all the questions in this section

1. Write down the commands to perform the following:
 - i. To display the contents of the **crontab** file of the currently logged in user. [1]
 - ii. Display all system variables. [1]
 - iii. Counting the number of lines for the abc.txt file. [1]
 - iv. Remove Dir2 directory and its subdirectories. [1]
 - v. To edit the current user's cron jobs. [1]
 - vi. To change the password of a user named "paulina" [1]

2. Explain what the following commands are doing:
 - i. export student=john [2]
 - ii. dd if=/dev/hdc3 of=/home/bob/filesystem.img [2]
 - iii. chown labs.users sales.txt [2]
 - iv. rpm -qa [2]
 - v. sleep 300 & [2]
 - vi. head /etc/passwd [2]

3. What is the uid and gid of a root user on a Linux server? [2]
4. What do you understand by the term Multi-User in Linux? [2]
5. What is the difference between root directory (/) and /root directory? [2]
6. What does BASH stand for? [1]
7. Which pages contains the best source of information for most commands? [2]
8. Name two things that you must be able to do for software to qualify as free software according to FSF standards. [4]
9. Name two most popular ways to interact with a Linux computer? [2]
10. What are the three significant characteristics demonstrated by server-grade systems? [3]
11. Name three advantages of using Bash scripts. [3]
12. Write a shell script that will print a multiplication table of 10, from 1 to 10. [6]

Sample output **3 x 1 = 10**
...
3 x 10 =30
13. Name two ways to execute a Bash script called shell1.sh. [2]
14. What is the difference between an environment variable and a user-defined variable? [2]
15. With the default umask of 0124, what would be the default permissions for newly created files and directories? [6]

