

UNIVERSITY OF BUEA FACULTY OF ENGINEERING AND TECHNOLOGY FIRST SEMESTER EXAMINATION 2013/2014	
DEPT: COMPUTER ENGINEERING	COURSE INSTRUCTOR: Tuma Wilson
DATE: 03/03/2014	COURSE CODE: CEF 403
TIME ALLOWED: 3 Hours	TIME: 15:00 – 18:00
Answer ALL Questions	CREDIT VALUE: 4

PLEASE GIVE ONLY BRIEF ANSWERS TO ALL QUESTIONS

Section One : General Questions (15 Marks)

Answer true or false to all questions in this section for 1 mark each.

1. Commands in Linux are case insensitive.
2. More than one link can point to the same files.
3. Links are to Linux what shortcuts are to windows.
4. Lost&found folders are found in all root folders.
5. Though ext4 files systems are default in Linux the ext3 file systems are more performant.
6. **sudo telinit 0** and **sudo init 0** will both shutdown your linux system.
7. Unlike windows it is possible to find all files on a partition in Linux having a given permission then at the same time changing the permission to a new one using one command.
8. Startx is the command to start the graphical users interface from Linux command line.
9. /etc/mtab is used to mount partitions on the machine while /etc/fstab is the result of the mount operation.
10. Linux can now be used to power cell phones.
11. All applications in Linux are free and come with a GNU licence.
12. Microsoft recently released Office 2012 for Linux Operating Systems
13. Ubuntu 13 is older than windows 8
14. Ubuntu systems that boot to graphical users interface cannot be booted to command line first before starting the Graphical users Interface after.
15. Linux Operating System can be used to Build a flight Simulator.

Section Two : Command & Utilities (5 Marks)

1. What is the difference between a command and a utility in Linux/Unix. Give an example of each (2 Marks).
2. Classify the following as commands or utilities alias, mv, top, mount (2 Mark)
3. Give the command to show when the computer was last rebooted. (1 Mark).

Section Three : Account Management (10 Marks).

1. Create a group with name **cef403** (1 Marks)
2. Create two users **testuser1** and **testuser2** to belong to the same group **cef403** and share the same home folder **/home/applications** (2 Marks)
3. Ensure that in the shared directory **/home/applications** **testuser1** cannot delete files created by **testuser2** and vice versa (3 Marks)
4. Configure **testuser1** to change passwords every 45 **days**, the minimum time he can change that password in every cycle is **10 days** and reminders should **start 7** days before password expires (2 Marks)
5. configure **testuser2** password to be locked out for **1 day** if he types the password wrongly 3 times (1 Marks)
6. Give the command the administrator can use to unlock the account of **testuser2** (1 Mark)

Section Four : File System Management (15 Marks)

1. Give the uses of the following directories **/boot** , **/tmp** , **/var** (3 Marks).
2. Give the configuration file name that contains the partition mount tables (2 Marks)
3. What is the difference between mounting a partitions with **rw** and **ro** permission _____ (2 mark)
4. Give an example of a file system that is mostly mounted with the **ro** permission _____ (2 Marks)
5. What is the latest file system being used by Linux _____ (2 Mark)
6. Unlike windows why are there no drive letters (like **c:** **d:**) in Linux _____ (4 Marks)

Section Five : Security (15 Marks).

1. Name two things you consider when making up a secure password (2 Marks)
2. Give the equivalence of the **chmod 123 text.txt** by using the other method of **chmod** which use **+-ugo** . (2 marks)
3. A history of all commands typed in the command line are kept in a file called _____ (2 Mark)
4. A database of information about past logging and reboots are kept in a file called _____ (3 Marks)
5. log files are used in Linux to keep debugging information from Linux itself and the

123
001
010
011

applications working on it. What is the logging applications called _____ (2 Marks)>

6. How does Linux prevent its log files from becoming too big _____ (2 marks)
7. There are two Linux administrators in a company. For security purposes you need logs of their activities to be kept separately by the Linux system. What do you need to do?
_____ (3 Marks)

Section Six : Scripting (10 Marks).

1. As Linux administrator give two reasons why you need bash scripting as an administrative tool ____ (3 Marks)
2. What special character do you need to append to a variable to read its values? (1 Mark)
3. Using the for and while loop structures in bash scripting answer the following questions
 - a) Why is the loop construct important (1 Mark)
 - b) What is the difference between the for the the while loops (1 Mark)
 - c) Give examples (working ones) on how you would use them. (4 Marks)

Important Instructions

- Use your PCs or any material that would help you provide the correct answers.
- Test solution first on your PC before copying to exam sheets.
- Only working solutions will be graded I.e there is a difference between sudo shutdown -h and shutdown -h.
- Attempt all questions
- Write legibly and space your work.
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