



ICT2631

October/November 2017

OPERATING SYSTEMS PRACTICE

Duration 2 Hours

100 Marks

EXAMINERS
FIRST
EXTERNAL

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PROF HS VENTER

Use of a non-programmable pocket calculator is permissible

Closed book examination

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue

This paper consists of 4 pages including this one

Instructions

Please answers all questions and in sequence

Please write legibly

TURN OVER

Question 1 [27]

- 1 1 What are the basic features of the GNU public license? (3)
- 1 2 What is the term used for grouping many computers together so that they appear as one system to the outside world? (1)
- 1 3 Name one (1) of the popular Open Source Initiative open-source licenses (1)
- 1 4 What is Nautilus used for in Linux? (1)
- 1 5 Give two (2) reasons why you would use RAID partitions in a Linux installation (2)
- 1 6 How do RPM and YUM differ as relates to managing dependencies when installing packages? (3)
- 1 7 Which user/s may set an access control list (ACL) on a specific file? (2)
- 1 8 What is swap space? (2)
- 1 9 Describe how LVM links physical and logical space (4)
- 1 10 Which are the two (2) main packaging formats used to distribute additional Linux software? (2)
- 1 11 What criteria would you apply when assigning a password to a user? (6)

Question 2 [36]

- 2 1 Redraw the table below, listing some *vi*-commands, in your examination script and complete the second column (2 marks per entry) (10)

Command used in <i>vi</i>	What the command does
ZZ	
w	
wq	
q	
q!	

TURN OVER

- 2.2 Answer the following questions regarding *nice* values
- What is the range of *nice* values that may be assigned to a process? (2)
 - What is the range of *nice* values that may be assigned by a regular user? (2)
 - If you are a regular user, can you assign more CPU time to a process? (1)
 - A process (a) with a *nice value* = 3 as well as a process (b) with a *nice value*=5 exists. Which of these two processes would get the most CPU time? (1)

- 2.3 Copy the following table to your examination script and complete the table regarding shell script test expressions (6)

Operator	What is being tested
-p file	
-w file	
-h file	
-k file	
-b file	
-O	

- 2.4 Briefly discuss what an RPM package is by referring to features, commands, configuration files, metadata and documentation (6)
- 2.5 What is specified by each of the following options that may be used with the *useradd* command? (8)
- m
 - D
 - G
 - n

Question 3 [37]

- 3.1 What command you would use to mount a disk designated *sdb2* using an *ext3* file system. The mount point *mnt/olddisk* already exists and it must be mounted as read only (8)

TURN OVER

- 3 2 A file called *data.txt* has all permissions open (rwxrwxrwx) Write down the permission using letters and dashes(-) that will apply after the commands (a,b and c) are given
- a) `chmod a-w data.txt` (2)
 - b) `chmod o-x data.txt` (2)
 - c) `chmod go-rwx data.txt` (2)
- 3 3 What information will appear in your prompt if you use the `!u` and `!t` special characters? (4)
- 3 4 Briefly describe what the *kafs* filesystem is (4)
- 3 5 Briefly explain the purpose of the following Linux commands (5X2=10)
- a) `ls`
 - b) `grep`
 - c) `touch`
 - d) `passwd`
 - e) `nice`
- 3 6 Write the command that will display the contents of the *myText* file, followed by a listing of all files (including hidden ones) in the current directory (5)

TOTAL [100]