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PK-427

**M.Sc. IV Semester Computer Science
(Reg./ATKT) Examination June 2018
UNIX INTERNAL SHELL PROGRAMMING
AND LINUX
Paper- I**

*Time Allowed : Three Hours]**[Maximum Marks : 85***Note :** Attempt all questions.

**Section - A
Objective Type Questions**

Q.1. Choose the correct answer: 15×1=15

- i) Which is the core of the operating system:
- (a) shell (b) kernel
(c) commands (d) script
- ii) Which of the following command is used to change the file permission:
- (a) chmod (b) chgrp
(c) grep (d) chusr

- iii) The system calls in Unix is written using which language : <http://www.onlinebu.com>
- (a) C
(b) C++
(c) Assembly language
(d) Fortran
- iv) Cat command is used to :
- (a) Display contents of a file
(b) Concatenate two files
(c) Create a new file
(d) All of the above
- v) The PID of kernel process is:
- (a) 0 (b) 1
(c) 3 (d) undefined
- vi) Which command is used to remove the directory: <http://www.onlinebu.com>
- (a) rdir (b) remove
(c) rd (d) rmdir
- vii) Which of the following information does not stored in Inode :
- (a) File size (b) File name
(c) User ID (d) Device ID

(3)

- viii) In Linux file system, the passwords of different users are stored in : <http://www.onlinebu.com>
- (a) /etc/password file
 - (b) /bin/password file
 - (c) /etc/shadow file
 - (d) /bin/shadow file
- ix) How do you get help about the command "Cp"
- (a) help Cp
 - (b) man Cp
 - (c) Cp?
 - (d) None of these
- x) Which of the following match exact three characters file name:
- (a) ***
 - (b) ABC
 - (c) ???
 - (d) [??]
- xi) Command used to count number of characters in a file: <http://www.onlinebu.com>
- (a) grep
 - (b) wc
 - (c) count
 - (d) cut
- xii) Which of the following system call is used to create a new file :
- (a) Open ()
 - (b) Creat ()
 - (c) Both open () and create ()
 - (d) None of these

(4)

- xiii) The process which terminates before the parent process exits becomes:
- (a) Zombie
 - (b) Orphan
 - (c) Child
 - (d) None of these
- xiv) In the shell, by default, all variables are considered and stored as :
- (a) String
 - (b) Integer
 - (c) Character
 - (d) Float
- xv) Which represents the user home directory:
- (a) /
 - (b) .
 - (c) ..
 - (d) ~

Section - B

Short Answer Type Questions

5 × 5 = 25

- Q.2. What is Buffer Cache? Draw the diagram of Buffer Header. <http://www.onlinebu.com>

OR

What is disk block allocation? Explain.

- Q.3. Differentiate between a named pipe and unnamed pipe. Discuss the pipe system calls.

OR

Explain system calls for Time and Clock.

(5)

- Q.4. Explain the process creation and process termination.

OR

What is the layout of system memory? Explain.

- Q.5. Write a shell program to generate mark sheet.

OR

Write a shell program to generate Fibonacci series.

- Q.6. What is mounting and un-mounting process of drives? <http://www.onlinebu.com>

OR

Write the purpose of backup and restore command.

Section - C

Long Answer Type Questions

5×9=45

- Q.7. Describe file system in Unix.

OR

Explain i-node block detail.

- Q.8. Explain the following: <http://www.onlinebu.com>

- a) DUP
- b) LINK
- c) UNLINK

(6)

OR

Write the steps for opening, closing, reading and writing a pipe. <http://www.onlinebu.com>

- Q.9. What are the steps to create interprocess communication using socket programming in client server environment?

OR

Describe the state transition that a process undergoes during its lifetime.

- Q.10. Compare and contrast different shells available in Unix? <http://www.onlinebu.com>

OR

Write a shell program that prints the multiplication table (upto 20) of a given integer to be provided as command line argument.

- Q.11. Explain 10 commands available in Unix.

OR

Discuss various network configuration command such as 'if config' and 'Telnet'.

