# USN

## Fourth Semester B.E. Degree Examination, December 2012

## **UNIX and Shell Programming**

Time: 3 hrs. Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

#### PART – A

1 a. Explain salient features of UNIX operating system. (07 Marks)

- b. Compare internal and external commands in UNIX with suitable example. Explain why cd command cannot be an external command. (06 Marks)
- c. Illustrate with a diagram typical UNIX file system and explain different types of files supported in UNIX. (07 Marks)
- 2 a. Explain the basic file attributes displayed by ls l command. (06 Marks)
  - b. Discuss relative and absolute methods for changing file permissions. (06 Marks)
  - c. Explain with a diagram the different modes of V<sub>i</sub> editor and list the commands in each mode. (08 Marks)
- 3 a. Explain with an example use of single quote, double quote and back quote in a command line. (06 Marks)
  - b. Explain the following commands:
    - i) cp ????? progs
- ii) kill –S KILL 121 122
- iii) wc  $-\ell$  < user.txt
- iv) ps  $-e \ell$

(06 Marks)

- c. Explain the mechanism of process creation using system calls in UNIX.
- (04 Marks)

- d. Explain the following environment variables:
  - i) PATH
- ii) HISTSIZE
- iii) PS2
- iv) SHELL

(04 Marks)

- 4 a. Discuss with example hard link and soft link applicable to UNIX files. (06 Marks)
  - b. Explain the following commands:
    - i) umask 022
    - ii) find /! name "\*.C" Print
    - iii) tr d ':/' < emp.txt
    - iv) touch m 0303 10 30 vtu.txt

(08 Marks)

- c. Explain the following filters with options:
  - i) Paginate Pr
  - ii) Sort Sort

(06 Marks)

#### PART - B

5 a. Explain with example basic regular expressions.

- (06 Marks)
- b. Locate lines longer than 100 and smaller than 150 characters using (i) grep, (ii) sed.

(04 Marks) (06 Marks)

- c. Discuss stream editor sed with options.
  - i) [0-9] \* and [0-9] [0-9] \*
  - ii) ^[^^] and ^^^

d. How do these expressions differ:

(04 Marks)

6	a.	option based on users choice. Options include (i) list of users, (ii) list o	
		(iii) list of files.	(06 Marks)
	b.	Explain with example set and shift commands in UNIX to manipulate positional	parameters.
			(04 Marks)
	c.	Discuss use of trap statement for interrupting a program in UNIX.	(04 Marks)
	d.	Explain with an example while and for loop in shell programming.	(06 Marks)
7	a.	Write a note on awk and explain built in variables in awk.	(08 Marks)
	b.	Explain with example the following awk function:	
		i) Split () ii) Substr () iii) length () iv) index ()	(08 Marks)
	c.	i) Write an awk statement to print odd numbered lines in a file.	,
		ii) Write an awk statement to delete blank lines from a file.	(04 Marks)
8	a.	Explain string handling function in perl.	(06 Marks)
	b.	Using command line arguments, write a perl program to find whether a given year is a leap	
		year.	(07 Marks)
	c.	Write a perl program to convert a given decimal number to binary equivalent.	(07 Marks)

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