	<u>Onedan</u>
<i>Name</i> :	
Roll No.:	_
Invigilator's Signature :	

CS/BCA-(SEPARATE SUPPLE)/SEM-5TH/BCA-502/2011

2011 UNIX AND SHELL PROGRAMMING

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A (Multiple Choice Type Questions)

1. Choose the correct alternatives for the following:

 $10 \times 1 = 10$

- i) The command that compares two files and suggests changes to make them identical is
 - a) cmp

b) ca

c) comm

- diff.
- ii) Which of the following files get redirected using grep "name" myfile 1> yourfile ?
 - a) standard input
 - b) standard output
 - c) standard error
 - d) system will display an error message.

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- iii) In vi, **3yy** in command mode will
 - a) copy current line and two lines before it for later pasting.
 - b) copy current line and two lines after it for later pasting.
 - c) delete current line and two lines before it for later pasting.
 - d) delete current line and two lines after it for later pasting.

iv) cat<<test will

- a) redirect standard input from file test.
- b) continue reading from the standard input till **test** is not entered as the only word in a line.
- c) append standard input with the contents of the file test.
- d) system will display an error message.
- v) **set** command cannot be used to
 - a) place values into the positional parameters.
 - b) display a list of the environment variables.
 - c) act as a debugging toll for shell scripts.
 - d) change the system clock.
- vi) Which of the following commands cannot be used to take a backup of files?

a)	ср
u,	VΡ

b) tar

c) cpio

d) dd.

CS/BCA-(Separate Supple)/SEM-5TH/BCA Which of the following commands can be used to file and move either forwards or backwards in it cat head more d) pr. viii) Which of the following is not a command separator? a) c) d) #. & To avail the services provided by a server on the ix) Internet, it is necessary for the application to specify Ethernet address of the server. a) IP address of the server. b) The port number of the service on the server and c) the IP address of the server. The port number of the service on the server and d) the Ethernet address of the server. Which of the following is not an X client? x) a) xargs xterm xclock. c) xcalc d) **GROUP - B** (Short Answer Type Questions) Answer any three of the following. $3 \times 5 = 15$ Write a single command in unix to do the following: a) To save the output of the 'who' command in a file as

well as display it on the screen.

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Y	b)	What should be the output of the following shell script
		a = *
		echo \$a
		echo "\$a" 2
	c)	What should be the output of the following echo
		statement?
		echo \$\$
3.	a)	Write command in unix to do the following:
		To take input from the file IN and to write its sorted
		output to the file OUT 2
	b)	What should be the output of the following shell script
		a = "*"
		b = a
		echo \$b
4.	a)	What do you mean by command substitution? Provide
		example. 2
	b)	What should be the output of the following script: 3
		IFS = +
		set economists + are + seldom + right
		echo \$3 \$4 \$ #

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5.	a)	In which respect crontab command excels over at
		command?
	1.)	When the self had be restored a Caller Caller in a second
	b)	What should be the output of the following script:
		a = b
		b = c d = c
		echo \$\$b
		echo \$\$\$d 3
5.	a)	What is the difference between a wild card and regular
		expression? 2
	b)	What does grep "^*" do ? Is the \really necessary? 3
		GROUP – C
		(Long Answer Type Questions)
		Answer any <i>three</i> of the following. $3 \times 15 = 45$
7.	a)	What is the difference between the following vi
	,	commands?
		:w :q! :wq ZZ 4
	b)	What information does a super block contain? Why
		there is a memory copy and a disk copy of inode block
		and super block? 2 + 2
	c)	Outline the steps performed by kernel whenever we
		attempt to access a file.
	d)	A unix file system has 1024 bytes block size with 32 bit
		address. The inode has 12 direct, one indirect, one
		double indirect and one triple indirect address. What is
		the maximum file size it can access?

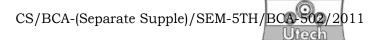
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	1	(Olisan
8.	a)	Interpret this command:
		grep "^[^^]" filename
	b)	What do you mean by a daemon ? How will you kill a
		daemon ? Which process cannot be killed by kill
		command?
	c)	What is the function of exec system call? What is the
		difference between a process run with & and run with
		nohup ? 2 + 2
	d)	Write a shell script that determines the period for which
		a specified user is working on the system.
	e)	How do you delete all lines beginning with a # except
		the line #!/bin/ksh?
9.	a)	Produce a file "temp" which contains the modification
		and access time along with the filenames and
		permission fields. The line containing the total number
		of blocks should not be present in the output.
	b)	What does a sticky bit for a directory and an executable
		file signify? What is absolute assignment? Give
		example. $2 + 2$
	c)	How can you use file command to look for files from a
		directory tree ?
	d)	What is cron? Interpret the following crontab entry
		00-10 17 * 3,6,9,12 5 int_connect.sh
		1+2
	e)	Write a shell script which will make other files
		executable as well as execute it.

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- 10. a) How can you set your own directory (/home/student/henry) in the existing **PATH**?
 - b) Explain \$#, \$?, \$@, \$! special parameters of shell. 2
 - c) Write a shell script, which get executed the moment the user logs in. It should display the messages "Good morning" / "Good afternoon" / "Good evening" depending upon the time at which the user logs in.
 - d) Write down a **sed** script in file f1 which will change all "chatterjee" to "chakraborty" and all "paul" to "pal". 3
 - e) Write down single sort commands for the following: 4
 - i) Sort a file f1 according to the second field and remove duplicate lines from it.
 - ii) Sort a file f1 where the primary key is 3rd field and secondary key is 2nd field.
- 11. a) In what way does the kernel differentiate between device files and ordinary files? What do you mean by password ageing?
 - b) Which variable is set by reading the first field of/etc/passwd? Why was the password encryption moved from/etc/password to/etc/shadow?
 - c) What are the two main functions of init process? What is the function of getty process?
 - d) Suppose a user has renamed some files in current directory using a command like *mv filename filename.\$\$*. Write a shell script to search all such files and rename them such that they do not contain the shell PID.

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