	<u>Utech</u>
Name:	
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Invigilator's Signature :	

# CS/MCA/SEM-5/MCAE-503A/2012-13 2012 ADVANCE UNIX 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	- <b>A</b>				
			( Multiple Choice Ty	ype Qı	uestions )			
1.	Choose the correct alternatives for any $ten$ of the following : $10 \times 1 = 10$							
	i) In Unix operating system interact with th user.							
		a)	Kernel	b)	Shell			
		c)	Hardware	d)	None of these.			
	ii)	Uni	Unix is a					
		a)	Multi-user System	<b>b</b> )	Single User System			
		c)	None of these	d)	Both of (a) & (b).			
iii) Processing in Unix can communi					unicate with each other			
		using						
		a)	Path.	<b>b</b> )	Line.			
		c)	Pipes.	d)	None of these.			

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a) c)	- 1 0	b)	1 A Annual Of Exercising 2nd Explored		
•	0				
CIC	O .	d)			
SIG	ILL is used to				
a)	The phone line, the prhang up.	roces	ss was using has being		
b)	Send to kill a process.				
c)	The user has hit the process.	DE	L key to interrupt the		
d)	None of these.				
Pro	cess ID 0 is usually				
a)	init process	b)	child process		
c)	scheduler process	d)	None of these.		
vii) Changing Group ID s is changed by					
a)	getpid ( )	b)	setuid ()		
c)	getuid ()	d)	setgid ().		
ii) Every open file has an associated "current file offse normally					
a)	a negative integer	b)	a float number		
c)	a non-negative integer	d)	none of these.		
Wnen we are executing a shell script the shell acts					
a)	An interpreter	b)	A compiler		
c)	An operating system	d)	None of these.		
cmchk command is used to					
a)	Find out the block size	on	your file system		
b)	Find out the file size				
c)	Find out the disk space	e			
d)	None of these.				
	2				
	a) b) c) d) Prod a) c) Eve nor a) c) Wnd a) c) cmo a) b) c)	a) The phone line, the probability hang up. b) Send to kill a process. c) The user has hit the process. d) None of these. Process ID 0 is usually a) init process c) scheduler process Changing Group ID s is charally getpid () c) getuid () Every open file has an assinormally a) a negative integer c) a non-negative integer When we are executing a shall an interpreter c) An operating system cmchk command is used to a) Find out the block size b) Find out the disk space	a) The phone line, the process hang up. b) Send to kill a process. c) The user has hit the DE process. d) None of these. Process ID 0 is usually a) init process b) c) scheduler process d) Changing Group ID s is changed a) getpid () b) c) getuid () d) Every open file has an association normally a) a negative integer b) c) a non-negative integer d) When we are executing a shell standard and a shell standard		

- xi) Which of the following is a command for searching a pattern in a file ?
  - a) Find

- b) Grep
- c) Lookup
- d) None of these.
- xii) du command report
  - a) the disk space available in the file system
  - b) the disk space used by specified files and directories
  - c) the file size
  - d) none of these.
- xiii) The shell metacharacter \$# represents
  - a) Number of arguments supplied to the shell script
  - b) Total number of files in the current directory
  - c) Total number of users who have logged in
  - d) Total number of processes running in the background.

#### **GROUP - B**

## (Short Answer Type Questions)

Answer any *three* of the following.  $3 \times 5 = 15$ 

- 2. Write about File sharing of Unix system.
- 3. Write about the interfaces of Unix system.
- 4. Explain the following commands
  - a) mkdir
  - b) grep.
- 5. What is system call? Write about fcntl () function.
- 6. What do you mean by interprocess communication? Write in details about pipes.
- 7. Define Memory Mapped I/O. Explain with example.

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#### **GROUP - C**

### (Long Answer Type Questions)

Answer any three of the following.



- 8. a) What is shared memory?
  - b) What is the importance of it?
  - c) Explain the detail about the process of "Allocating a shared memory segment"?
- 9. a) What is a reliable signal? Explain the four primary features of reliable signals.
  - b) Write in details about the interrupted stystem calls.
  - c) Write in detail about kill and raise functions.
- 10. a) What is signal function? Write and explain about the structure of signal function.
  - b) What are the phases in signaling processing? Explain what is meant by life time of signal?
  - c) Write about the following signals:
    - i) SIGCHILD
    - ii) SIGCOUNT.
- 11. Explain the following system calls with syntax
  - a) fork()

- b) wait ()
- c) write ()
- d) exit()
- e) vfork()
- f) open ().
- 12. a) What is semaphore ? How to synchronize processes using semaphores ?
  - b) Write about semaphore adjustment on exit.
  - c) Write Timing comparison of semaphores versus Record Locking.
- 13. Briefly explain the following any three of the following:

 $3 \times 5 = 15$ 

- a) File I/O
- b) Process Identifiers
- c) Process Control
- d) Message Queue.

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