Name :	A
Roll No. :	A August O'X multip and Excland
Invigilator's Signature :	

CS/BCA/SEM-5/BCAE-501 A/2012-13

## 2012 ADVANCE 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 )

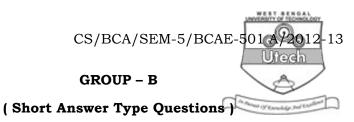
1. Choose the correct alternatives for the following :

 $10 \times 1 = 10$ 

- i) Which of the following system call verifies the integrity of a file system ?
  - a) Tee b) Fcsk
  - c) Task d) None of these.
- ii) What \$ expr 10 20 returns
  - a) 10 b) -10
  - c) Syntax error d) None of these.
- iii) What \$umask 077 returns
  - a) 077 b) Umask 077
  - c) Syntax error d) None of these.

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iv)	Bind () system call is associated with			l with		
	a)	Stream	b)	Semaphore		
	c)	Message	d)	None of these.		
v)	Whi	ch of the following retur	rns fi	le descriptor		
	a)	Fork	b)	Pool		
	c)	Tee	d)	None of these.		
vi)	vi) Chroot ( ) system call returns					
	a)	Change file	b)	Open file		
	c)	Both (a) & (b)	d)	None of these.		
vii)	To control new window and communicating with it we use					
	a)	Fork	b)	Mpx		
	c)	Mpx forks	d)	None of these.		
viii)	i) For interprocess communication we use			n we use		
	a)	Pipes	b)	Signals		
	c)	Both (a) & (b)	d)	None of these.		
ix)	Information of a file stored in,					
	a)	Pipes	b)	File table		
	c)	I-node	d)	Memory.		
x)	) When kernel releases an inode it actually		t actually			
	a)	a) Increments the in-core count				
	b) Decrements the in-core count					
	c)	Increments the disk co	ore co	bunt		
	d)	Decrements the disk c	ore c	ount.		



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

- Name three mechanisms which are adopted for interprocess communication in UNIX. List down the common features they share.
  2 + 3
- How system call is related with mounting and unmounting a file system. Differentiate su and su-brian. 2 + 3
  Define context switching and demand paging. 2 + 3
  What is an u-area ? Explain its fields. 2 + 3
- 1
- 6. Draw and explain process state transition diagram in UNIX.

2 + 3

## **GROUP - C**

## (Long Answer Type Questions)

		Answer any <i>three</i> of the following. $3 \times 15 = 45$	
7.	a)	Write a short note on memory mapped I/O. Write the	
		advantages of swapping and demand paging. 4 + 3	
	b)	What is a signal ? Write down the classifications of	
		signal and explain how they are handled by kernel.	
		1 + 3 + 4	
8.	a)	Describe scheduling process. 4	
	b)	Explain how the semaphores are created. 4	
	c)	What is socket ? Write the usage of it. $1 + 2$	
	d)	What are projection faults ? Why it happens. $2 + 2$	

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9.	a)	Draw and explain the structure of a buffer pool. 5
	b)	Write down the scenarios for retrieval of a buffer. 5
	c)	Write the algorithm for buffer allocation.5
10.	a)	Explain open and close system calls. 3 + 2
	b)	Write the advantages and disadvantages of the buffer cache. 4
	c)	Explain Link and Unlink system call. 3 + 3
11.	Wri	te short notes on any <i>three</i> of the following : $3 \times 5 = 15$
	a)	Inter process Communication.
	b)	Algorithm on reading and writing on disk block
	c)	Super Block
	d)	Open system call
	e)	Stream.

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