	Utech
Name:	
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Invigilator's Signature :	

#### **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 any ten of the following:

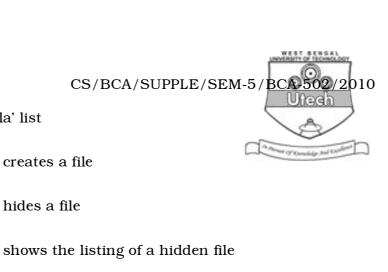
 $10 \times 1 = 10$ 

- i) 'cp' command has the input in which sequence?
  - a) cp, source, destination
  - b) source, destination, cp
  - c) cp, destination, source
  - d) destination, cp, source.
- ii) Ulimit gives
  - a) limit on the no. of users
  - b) limit on the no. of groups
  - c) limit on the file size
  - d) none of these.

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- iii) 'bc' command gives the
  - a) date

- b) calculator
- c) calendar
- d) time.
- iv) Output of echo is
  - a) same as ls
- b) same as sh
- c) same as ps
- d) same as wc
- v) 'mkdir' command
  - a) takes single argument only
  - b) takes multiple arguments
  - c) both (a) and (b)
  - d) none of these.
- vi) Relative path name never has a
  - a) directory name at the start
  - b) /at the start
  - c) . at the start
  - d) 'at the start.



### viii) 'chgrp'

vii) 'ls – la' list

a)

b)

c)

d)

a) changes permission of a file

shows line count.

- b) changes owner
- c) changes group
- d) none of these.
- ix) d in the first place in the first column of the output of  $\label{eq:ls} ls-l\ signifies$ 
  - a) directory
- b) ordinary file
- c) device file
- d) none of these.
- x) Adding user is done with
  - a) useradd
- b) groupadd
- c) both of these
- d) none of these.

#### xi) Standard input is signified by



a) >

b) <

c) 2>

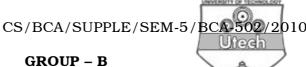
d) 2<.

#### xii) The sequence of shell creation is

- a) init  $\rightarrow$  getty  $\rightarrow$  login  $\rightarrow$  shell
- b)  $getty \rightarrow init \rightarrow login \rightarrow shell$
- c) init  $\rightarrow$  login  $\rightarrow$  getty  $\rightarrow$  shell
- d)  $login \rightarrow init \rightarrow getty \rightarrow shell.$

#### xiii) cd is

- a) an internal command
- b) an external command
- c) not a command
- d) a batch file.



#### (Short Answer Type Questions)

Answer any three of the following.

Draw the UNIX architecture. What are the different parts 2. of it? 3 + 2

What are external and internal commands? Give examples. 3.

3 + 2

- 4. What are the different fields of ls - l command? Describe each.
- 5. Differentiate between file permission and directory permission. What does we command do? 3 + 2
- 6. Describe the file system tree of UNIX.
- 7. Write a shell script to check whether a given string is a palindrome.

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#### **GROUP - C**

# ( Long Answer Type Questions)

Answer any three of the following.

 $3 \times 15 = 45$ 

8. What are the salient features of UNIX? Describe different UNIX components. What is the SHELL used for in UNIX? Describe the login process briefly. What is the general command structure? What are tty and type commands?

$$4 + 3 + 2 + 2 + 2 + 2$$

9. How can a user be added and deleted from a UNIX system?

Explain shutdown command elaborately. How can an ordinary user become a super user? How can different files be searched in a UNIX system? What is the job of user mask? Where do we need to use hard link?

$$4 + 3 + 2 + 2 + 2 + 2$$

- 10. Write short notes on any *three* of the following:  $3 \times 5$ 
  - i) process creation
  - ii) kill command
  - iii) background job execution
  - iv) /etc/passwd and/etc/shadow files
  - v) UNIX booting
  - vi) filter command
  - vii) system administration.

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- 11. Write shell scripts to
  - a) generate Fibonacci series.
  - b) check Armstrong numbers
  - c) obtain any number of arguments and print them in the reverse order.  $3\times 5 \label{eq:condition}$

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