CS/BCA (SUPPLE)/SEM-5/BCA-502/09
UNIX AND SHELL PROGRAMMING (SEMESTER - 5)

1. .....
Signature of Invigilator

2. .....
Signature of the Officer-in-Charge

Reg. No. | | | | | | | | | | | | | | | |

Roll No. of the Candidate | | | | | | | | | | | | | | | |

CS/BCA (SUPPLE)/SEM-5/BCA-502/09

ENGINEERING & MANAGEMENT EXAMINATIONS, AUGUST – 2009

UNIX AND SHELL PROGRAMMING (SEMESTER - 5)

Time : 3 Hours] [Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
   b) For **Groups – B** & **C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

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FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A										Group – B			Group – C				
Question Number																	***Total Marks***	***Examiner's Signature***
Marks Obtained																		

.....

Head-Examiner/Co-Ordinator/Scrutineer

S-54019 (18/08)

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GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

i) File descriptor value of Std. error file in UNIX is

a) 0 b) 1

c) 2 d) 3. ☐

ii) In – s is used to create

a) hard link b) symbolic link

c) dangling link d) none of these. ☐

iii) echo $! displays

a) pid of current shell b) pid of foreground job

c) pid of parent shell d) pid of last background job. ☐

iv) Process-id of swapper process is

a) 0 b) 1

c) 2 d) none of these. ☐

v) To create a process we use

a) signal( ) b) fork( )

c) exec( ) d) both (b) and (c). ☐

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vi) Original content of file is present in

a) super block b) inode block

c) kernel d) data block. ☐

vii) Size of /dev/null is

a) 0 byte b) 1 kilobyte

c) variable d) none of these. ☐

viii) By default, kill command uses signal number

a) 9 b) 0

c) 15 d) none of these. ☐

ix) PPID of currently running background job after termination of parent shell is usually

a) 0 b) 1

c) pid of new shell d) pid of terminated shell. ☐

x) UNIX follows ..... CPU scheduling algorithm.

a) FCFS b) SJF

c) Round-Robin d) Priority. ☐

xi) Sticky bit is assigned by

a) + s b) + rwx

c) + b d) + t ☐

xii) ..... process is responsible for creating login prompt at terminal.

a) sh b) getty

c) login d) sched. ☐

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GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Write the significance of the following UNIX commands : 5 × 1

   i) mount

   ii) kill

   iii) umask

   iv) nice

   v) su.

3. a) What are the basic differences between UNIX and DOS ?

   b) What is the utility of vi editor in UNIX ? 2 + 3

4. Distinguish between the following : $2\frac{1}{2} + 2\frac{1}{2}$

   a) Internal command and external command

   b) Absolute path and relative path.

5. a) What is the significance of profile file in UNIX ?

   b) Explain init run level. 2 + 3

6. a) Explain the function of pipe.

   b) What do you mean by system call ? 3 + 2

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. a) Write down the procedure at the time of system start up, after kernel is loaded.

   b) Describe different types of shell involved in UNIX.

   c) State the significance of IFS, PS1, PS2, HOME, PATH. 7 + 3 + 5

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8. a) Write a shell script to generate all combinations of 3, 5 and 7 using for loop.

   b) Explain the difference between while loop and until loop with suitable examples.

   c) What command would give user read, write and execute permission, group members execute permission and give others only read permission for a file ? Use both relative and octal notations.

   d) What do you understand by filter ? 5 + 4 + 4 + 2

9. a) What do you understand by single indirection, double indirection and triple indirection in UNIX file structure ?

   b) What is the difference between inode number and magic number of a file ?

   c) Explain foreground and background job execution in UNIX.

   d) How can you distinguish a directory and a file in UNIX ? 5 + 2 + 5 + 3

10. a) Write a shell script to check whether a given number is Armstrong or not.

    b) Explain Kernel-shell-user relationship.

    c) What are the outputs of the following ?

    set only god is in a position to look down upon someone

    echo $9 $10 $11 $*

    shift

    echo $8 $9 $10 7 + 5 + 3

11. a) What is the difference between hard link and soft link ? What is dangling link ?

    b) Write a shell script where login name is supplied as command line argument to find out at how many terminals the user has logged in.

    c) Define orphan process and zombie process.

    d) What are the functions of fork( ), exec( ), wait( ) ?

    e) What is the difference of running a background job with nohup command and without nohup command ? 3 + 4 + 3 + 3 + 2

END

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