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**BCA-502**

**UNIX AND SHELL PROGRAMMING**

Time Allotted: 3 Hours

Full Marks: 70

*The questions are of equal value.*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable. All symbols are of usual significance.*

**GROUP A**

**(Multiple Choice Type Questions)**

1. Answer any *ten* questions.

10×1 = 10

(i) The 'logout' built in command is used to

- (A) shutdown the computer
- (B) logoff of the computer
- (C) logout the current user
- (D) to exit the current shell

(ii) The command 'umask -S'

- (A) prints the current mask using symbolic notation
- (B) prints the current mask using octal numbers
- (C) sets the mask to 000
- (D) sets the mask to 777

- (iii) Which option of the kill command sends the given signal name to the specified process?
- (A) -l (B) -n  
(C) -s (D) -a
- (iv) Which command puts a script to sleep until a signal is received?
- (A) Sleep (B) Suspend  
(C) Disown (D) Break
- (v) The command 'ulimit'
- (A) set a limit on specified resource for system users  
(B) set/show process resource limit  
(C) both (A) and (B)  
(D) none of these
- (vi) Which command wait for the specified process to complete and return the exit status?
- (A) Sleep (B) Wait  
(C) Delay (D) Stop
- (vii) Which command prints the accumulated user and system times for processes run from the shell?
- (A) Time (B) Times  
(C) Both (A) and (B) (D) None of these
- (viii) The expression  $\text{expr } -9\% 2$  evaluates to
- (A) 0 (B) 1  
(C) -1 (D) 2
- (ix) Create a new file "new.txt" that is a concatenation of "file1.txt" and "file2.txt"
- (A) cp file.txt file2.txt new.txt  
(B) cat file1.txt file2.txt > new.txt  
(C) mv file [12].txt new.txt  
(D) ls file1.txt file2.txt | new.txt

- (x) Which shell offers a command history feature?
- (A) C shell (B) Visual shell  
(C) Bourne shell (D) Korn shell
- (xi) Which command is used to remove a print job from the print queue?
- (A) lprm (B) lpq  
(C) lpstat (D) none of these
- (xii) 'chown' command changes the
- (A) home directory of a user  
(B) access permission of a file or directory  
(C) priority of a process  
(D) none of these

**GROUP B**  
**(Short Answer Type Questions)**

Answer any *three* questions.

3×5 = 15

2. Differentiate between multi programming and multi tasking. 3+2  
What are the differences between relative and absolute path?
3. What is daemon process? What is the difference between cd 2+3  
and cd..?
4. What are the different ways of using chmod? 5
5. Draw the UNIX architecture. What are the different parts of 3+2  
it?
6. What is i-node? What does it contain? 1+4

7. What is filter? Describe the function of any two filters. 2+3

**GROUP C**  
**(Long Answer Type Questions)**

Answer any *three* questions.

3×15 = 45

8. (a) Write a shell program to find prime numbers between 1 to n. 7  
(b) What do you understand by PATH variable? How does the kernel access file? 2+3  
(c) What is unique command? Explain with example. 3
9. (a) Describe the log in process briefly. 5  
(b) Describe the ps -f command in detail. 5  
(c) Describe the modes of vi editor. 5
10. (a) Write a shell program to generate fibonacci series. 6  
(b) Write a shell program to reverse a number. 7  
(c) How to copy 4 lines and paste it to another file in vi editor? 2
11. Write short notes on any *three* of the following: 3×5  
(a) Soft link and Hard link  
(b) Mounting and unmount  
(c) Background job execution  
(d) ls command  
(e) IFS