

CS/MCA/Odd/Sem-3rd/MCA-302/2015-16



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MCA-302

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) How to create a new file without opening it?
- (A) less filename (B) touch filename
(C) cat filename (D) more filename
- (ii) The command used for increasing the priority of a process is
- (A) nice (B) nohup
(C) touch (D) ps
- (iii) The part of Operating System responsible for execution of a shell program is
- (A) Kernel (B) Shell
(C) Hardware (D) Compiler

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Turn Over

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- (iv) All the contents of a file are stored in
(A) data block (B) super block
(C) boot block (D) inode block
- (v) How do you get all files with r, g or i on the third place?
(A) `ls *[rgi]*` (B) `ls **[rgi]?`
(C) `ls ??[rgi]*` (D) `ls [..i*]`
- (vi) How can you append the output of a command to a file?
(A) `command << file` (B) `command < file`
(C) `command >> file` (D) `command > file`
- (vii) With what command you can see what folder you are in?
(A) `pwd` (B) `whereami`
(C) `place` (D) `map`
- (viii) How do you delete a file?
(A) `touch filename` (B) `less filename`
(C) `rm filename` (D) `del filename`
- (ix) How can you display a list of all files, including the hidden files?
(A) `find -a` (B) `ls -a`
(C) `all` (D) `find all`
- (x) 'ls' is a
(A) external command (B) internal command
(C) both (A) and (B) (D) none of these
- (xi) The command for withdrawing execute permissions from other users of a file *fl* is
(A) `chown a-x fl` (B) `chown o-x fl`
(C) `chmod o-x fl` (D) `chmod u-x fl`

GROUP B
(Short Answer Type Questions)

Answer any *three* questions.

3×5 = 15

2. Write a shell script that displays all the command line arguments passed with the name of program in different lines (1 argument in each line). 5
3. What are the three modes of operation of vi? Which one is the default mode? 5
4. (a) What are the differences between absolute path and relative path? 2
(b) What are the different types of shell variables? 3
5. Write a Shell Script that accepts a pattern as input and display names of all files not containing the pattern and present in the home directory of the currently logged-in user. 5
6. Write a shell script to accept a number and a string at command line and 5
 - (i) Reverse the number.OR
 - (ii) Check the string whether it is palindrome. Or not.

GROUP C
(Long Answer Type Questions)

Answer any *three* questions.

3×15 = 45

7. (a) What is process? 2
(b) What do the terms UID, PID and PPID stand for? For a particular process, which is currently executing how can you obtain these values? 2+2+2+3

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- (c) What is the difference between a process run with & and one run with nohup. 4
8. (a) State the difference between 'mv' and 'cp' commands with example? 2
- (b) Explain the use of 'grep' and 'sed' commands. 6
- (c) Write a shell script to check whether an user is valid user or not. 7
9. (a) What are 'fork' and 'exec' system calls meant for? How are they different? 5
- (b) Explain the mechanism of shell creation. 5
- (c) What do you mean by hard link? Can two files have the same i-node number? 5
10. (a) What is i-node? Briefly explain the super block and i-node block. 2+6
- (b) Explain briefly foreground and background job execution in Unix system. 5
- (c) What is the utility of nice command? 2
11. (a) Explain the redirection and piping with example. 2+2
- (b) What do you mean by positional parameters in shell programming? 3
- (c) Write a shell script, which will show the message good morning, good afternoon and good night depending on the system time. 8