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**Second Semester MCA Degree Examination, June/July 2011**  
**Introduction to UNIX**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1 a. Explain the five characteristic features of the Unix operating system. (10 Marks)  
b. Explain the following commands, with examples:  
i) who ii) script iii) comm iv) head v) cat. (10 Marks)
- 2 a. Explain the parent child relationship between various files in the organization of files in Unix and give the meaning of two special directory names dot(·) and double dot(··). (10 Marks)  
b. What are the standard input, standard output and standard error files? Explain with respect to Unix, with examples. (06 Marks)  
c. Explain the absolute pathname, with an example. (04 Marks)
- 3 a. Explain the following commands related to finding patterns in file grep, egrep and fgrep. (10 Marks)  
b. What are times associated with files? Discuss their importance. Hence or otherwise discuss how these times can be changed. (10 Marks)
- 4 a. Explain how a process is created, with a neat block diagram. (06 Marks)  
b. What are inodes? Explain their structure. (06 Marks)  
c. i) Write a command line to display only the names of the users who have logged in.  
ii) Write a command line to display the users logged in as well as the count of the number of users logged in.  
iii) Write a grep command to display only directories.  
iv) Write a command to display the lines having either Smith Wesson or David Wesson. (08 Marks)
- 5 a. Write a shell script which will receive any number of filenames as arguments. The shell script should check if every argument given is a file or a directory. If directory file, display suitable message along with directory name. If file, the name of the file with the number of lines in the file should be displayed. The script should also report the total number of directory files and files at the end. (10 Marks)  
b. What is here document? Explain with an example. (06 Marks)  
c. Explain eval and exec statements. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 6 a. Write a shell script to copy one file to another file, with the following requirements:
- i) The two file names are entered as arguments.
  - ii) The source file must be present in the current directory.
  - iii) The destination file must not be present in the current directory.
- If any of these conditions are not satisfied exit displaying a suitable message. (10 Marks)
- b. Explain sleep, wait, export, positional parameters. (10 Marks)
- 7 a. Give the general structure of an awk program. Hence or otherwise discuss the operational mechanism of awk. (10 Marks)
- b. Give awk commands to do the following :
- i) Display all lines of a file where the value of the 6<sup>th</sup> field is greater than 6000.
  - ii) Display all lines whose length is between 50 and 60.
  - iii) Display all lines of file where the 3<sup>rd</sup> field is "director".
  - iv) Display all lines whose 3<sup>rd</sup> field is "production" and 5<sup>th</sup> field is "clerk".
  - v) Display all lines whose 8<sup>th</sup> field contains either "clerk" or "manager". (10 Marks)
- 8 a. What are the privileges of a system administrator? Discuss. (10 Marks)
- b. Mention commands that are used to manage disk space and explain each one of them briefly. (10 Marks)

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