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Second Semester M.C.A Degree Examination, July/August 2003
Master of Computer Applications
Introduction to Unix

Time: 3 hrs.]

[Max.Marks : 100

Note: 1. Answer any FIVE full questions.
2. All questions carry equal marks.

1. (a) Give the history of UNIX. (8 Marks)
- (b) Mention the different category of files that exist in UNIX. Discuss each one of them briefly. (8 Marks)
- (c) Explain the echo and t_{put} commands. (4 Marks)
2. (a) Discuss the organizational structure of the files in UNIX. Give the meaning of the dot (.) and dot - dot (..) directory names. (10 Marks)
- (b) Explain the following file handling commands :
i) bc ii) wc and iii) split (10 Marks)
3. (a) In how many modes one can work with a Vi - editor ? . Mention and discuss each one of them very briefly. (6 Marks)
- (b) What do you mean by I/O redirection ? With the aid of necessary illustrations explain how redirection is accomplished in UNIX. (9 Marks)
- (c) Explain the tee command. (5 Marks)
4. (a) Mention the different members of the grep family of commands and explain each one of them very briefly. (10 Marks)
- (b) What is a process ? Explain the process creation mechanism. (6 Marks)
- (c) Explain the chmod command. (4 Marks)
5. (a) How are shell variables defined, assigned values and evaluated ? Discuss. (6 Marks)
- (b) Write a shell script which is expected to accept two file names as its arguments. Check the number of arguments and display the contents of the argument files if the number of arguments is two, otherwise display an error message and exit. (8 Marks)
- (c) How are shell scripts debugged ? Discuss. (6 Marks)
6. (a) What are arrays and lists in perl ? Discuss. (8 Marks)
- (b) What is \$ed instruction ? Explain the following with respect to \$ed :
i) repeated pattern
ii) Tagged regular expression (6 Marks)
- (c) What is an .exrc file ? When and why is it used ? Discuss. (6 Marks)

7. (a) What are inodes ? What information do they contain ? Discuss. (10 Marks)
(b) What do you mean by mounting and unmounting of a file system ? Explain very briefly. (10 Marks)
8. (a) What are soft links and hard links ? Discuss with the aid of examples. (8 Marks)
(b) Explain the *df* and *du* commands. (6 Marks)
(c) Who can use *fsck* command ? What is accomplished with this command ? (6 Marks)

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NEW SCHEME

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Second Semester M.C.A Degree Examination, July/August 2004
Master of Computer Applications
Introduction to Unix

Time: 3 hrs.]

[Max.Marks : 100

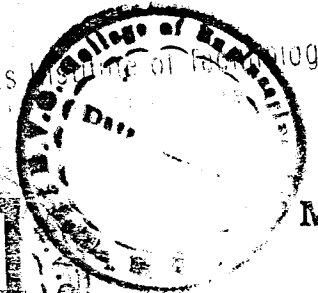
Note: Answer any FIVE full questions.

1. (a) Explain the structure of UNIX system along with block schematic. (6 Marks)
- (b) Mention any four communication feature commands of UNIX. Discuss each one of them very briefly. (10 Marks)
- (c) Explain tee and wc command in UNIX. (4 Marks)
2. (a) Explain the following commands with examples : split, sort, uniq and file. (10 Marks)
- (b) Explain the parent child relationship between various files in the organization of files in UNIX and give the meaning of two special directory names the dot (.) and double dot (..). (10 Marks)
3. (a) What is a grep command. Explain the families of grep command. Explain any 3 options of grep command with suitable example. (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) Write a shell script to find out whether a user whose login name passed as parameter is currently logged in or not. If the user is logged in then send the file hello which is available in current working directory to his terminal. (7 Marks)
- (b) Write a shell script to accept a string as command line and reverse it. (3 Marks)
- (c) Write a shell script which reports names and sizes of all files in a directory (directory name should be supplied as an argument) whose size exceeds 1000 bytes. The file names should be printed in descending order of their sizes. The total number of such files should also be reported. (10 Marks)
5. (a) How do you run a background process?
- (b) List out drawback of background process.
- (c) What do you mean by Daemon process. How do you kill a daemon process?
- (d) How will you terminate a process which has gone into an infinite loop?
- (e) Create 5 empty files: empty1, empty 2, empty 3, empty 4, empty 5.
- (f) Combine the contents of file text and matter into textmat.

- (g) List all files in current directory whose second character is a digit.
- (h) Two consecutive lines are to be combined into one. Which VI command would you use to do so?
- (i) Output of who should be sorted and displayed on the screen along with total no. of users. The same output should be stored in a file. Construct a piping mechanism for this.
- (j) What would you do to ensure that you are prompted with the message "you have mail" as soon as somebody sends a mail to you. (20 Marks)
6. (a) Explain the chop () and split () function with respect to PERL. (6 Marks)
- (b) What is sed instruction? Explain the following with respect to sed :
- i) line addressing
 - ii) context addressing (6 Marks)
- (c) Explain any four built in variables of awk with examples. (8 Marks)
7. (a) Who is a system administrator? Outline his jobs. Mention any four simple rules to be adopted by the administrator while administering the system. (10 Marks)
- (b) Explain the following list of security tips for administrator :
- i) Use only authorised commands
 - ii) Protect super users
 - iii) Use password aging
 - iv) Provide accountability
 - v) Protect administrative files. (10 Marks)
8. (a) With example explain the tur command. (6 Marks)
- (b) What is an inode? What are the contents of an inode? Explain how Kernel accesses a file. (8 Marks)
- (c) What is fsck command? What is accomplished with this command? (6 Marks)

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MCA23

NEW SCHEME

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Second Semester M.C.A Degree Examination, January/February 2004
Master of Computer Applications
Introduction to Unix

Time: 3 hrs.]

[Max.Marks : 100

Note: Answer any FIVE full questions.

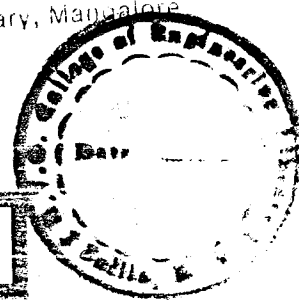
1. (a) Explain any five characteristic features of the UNIX operating system. (10 Marks)
- (b) Mention the different categories of files that exist in UNIX. Discuss each one of them very briefly. (6 Marks)
- (c) Distinguish between absolute and relative pathnames. (4 Marks)
2. (a) Mention the characters that are used as wild cards by the shell. Illustrate their use with the help of examples. What is a character class, and how does it make the pattern matching more restrictive? (10 Marks)
- (b) Explain the following file handling commands, each with an example :
wc, more, split, cmp, comm. (10 Marks)
3. (a) Explain the different modes of vi editor (6 Marks)
- (b) Mention and explain the command that is used to save the output of a command on a file as well as to display the same on the monitor. (8 Marks)
- (c) Clearly distinguish between UNIX internal and external commands. Give an example for each one of these. (6 Marks)
4. (a) What are the permissions that are associated with UNIX files on their creation? With the help of an example, show any two different ways of changing these permissions to required values. (11 Marks)
- (b) Explain the working of grep, egrep and fgrep commands with suitable examples. (9 Marks)
5. (a) How are shell variables defined, given values and evaluated? Discuss. Also discuss very briefly how quoting affects these variables. (8 Marks)
- (b) Write a shell script to create a menu that displays the list of files, current dates process status and current users of the system. (8 Marks)
- (c) What is a perl document? Discuss very briefly. (4 Marks)
6. (a) Mention at least four file test operators available in perl. Explain the usage of any one of these tests with the aid of a sample example. (8 Marks)
- (b) Discuss how numbers are processed in awk. (6 Marks)

- (c) What is a .exrc file? When and why is it used? Discuss. (6 Marks)
7. (a) What are inodes? What information do they contain? Discuss. (10 Marks)
- (b) Who is a super user? Give the UNIX command for shutting down a system. What activities are performed by the system when the above command is invoked? (10 Marks)
8. (a) What do you mean by mounting and unmounting of a file system? Explain briefly. (10 Marks)
- (b) What are the exclusive features of the tar command which are not there in Cpio command. Give all possible options that can be used with the tar command with examples. (10 Marks)

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NEW SCHEME

MCA23

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Second Semester M.C.A Degree Examination, January/February 2005
Master of Computer Applications
Introduction to Unix

Time: 3 hrs.]

[Max.Marks : 100

Note: Answer any FIVE full questions.

1. (a) Describe the architecture of UNIX OS. (6 Marks)
✓(b) i) Explain the command using which one can know the details of users using the system currently.
ii) Discuss the remainder facility available in UNIX.
iii) Explain the command using which arithmetic is performed in UNIX. (8 Marks)
✓(c) What do you mean by command substitution ? Explain the same with the aid of a simple example. (6 Marks)
2. ✓(a) How are UNIX files organized ? Discuss the same with the aid of a diagram that depicts the organizational structure. (6 Marks)
✓(b) What do you mean by concatenating of files ? Mention the command that is used for the same and explain. Hence or otherwise write a command line that counts the total number of lines on the concatenated file. (6 Marks)
✓(c) Explain clearly what for pipes and tees are used. (8 Marks)
3. (a) Explain the commands using which one can get into the input mode of a V_i editor from its command mode. (8 Marks)
(b) Write a command line to search for a specific word (say, Karnataka) and substitute the word INDIA in its place over the entire file. Explain the same. (6 Marks)
(c) With few entries write a typical profile file and explain the same. (6 Marks)
4. (a) Mention at least the two most widely used special characters to construct regular expressions. Clearly mention the special meanings associated with these characters. When do these characters loose their special meaning? (6 Marks)
(b) Write a command line using which one can obtain the long listing of a file along with its inode number. Very briefly explain each field of the expected output. (6 Marks)
(c) Explain the Ps command. (4 Marks)
(d) With the aid of a simple illustration explain how a job can be run in the background. (4 Marks)

5. (a) Discuss the two methods of getting input into a shell script. Illustrate the same with examples. (8 Marks)
- (b) Write a shell script that reads in a message (some thing like GOOD MORNING) and displays it ten times at regular intervals of 60 secs. (7 Marks)
- (b) Explain the here document. Give a very simple example. (5 Marks)
6. (a) Give the general structure of an awk program. Hence or otherwise discuss the operational mechanism of awk. (8 Marks)
- (b) Clearly distinguish between the chop () and chomp () functions. (5 Marks)
- (c) Write a PERL subroutine to find the minimum of two numbers. Use the same in a perl function to find the minimum of two given numbers. (7 Marks)
7. (a) What are the privileges of a system administrator ? Discuss. (5 Marks)
- (b) Mention the commands that are used to manage disk space and explain each one of them very briefly. (10 Marks)
- (c) What are symbolic links ? Explain how one can have a symbolic link to a file. (5 Marks)
8. (a) With the aid of a typical entry on a /etc/passwd file discuss the role of entries made on each of its fields. (6 Marks)
- (b) What are inodes ? What information will be stored with them ? Explain. (7 Marks)
- (c) What for a sticky bit is used ? Who can assign this to file and how ? (7 Marks)

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NEW SCHEME

MCA23

Reg. No.

Second Semester M.C.A Degree Examination, December 2005
Master of Computer Applications
Introduction to Unix

Time: 3 hrs.)

(Max.Marks : 100

Note: Answer any FIVE full questions.

1. (a) Explain various components of UNIX operating system along with block schematic. Also explain their functions. (10 Marks)
- (b) Explain any five characteristics of UNIX operating system. (10 Marks)
2. (a) Explain the following commands with syntax.
date, who, tty, password, lock (10 Marks)
- (b) Suppose there are following files in present working directory :
art, part, part 1, part 2, part 3, mozart, tart, quartz.
Which of the above files would qualify for the following searches :
 - a) `ls a?`
 - b) `ls a*`
 - c) `ls *.*`
 - d) `ls[!abc]art`
 - e) `ls[b - dku - z]*` (10 Marks)
3. (a) Explain how patterns are searched and replaced in VI editor environment. (8 Marks)
- (b) Explain the command that is used to save the output of a command on a file as well as to display the same on monitor. (8 Marks)
- (c) Clearly distinguish between UNIX internal and external commands. Give an example for each. (4 Marks)
4. (a) What are the permissions that are associated with UNIX file on their creation. Explain very briefly how these permission can be changed to require values. (10 Marks)
- (b) Explain the grep command with options *c*, *r* and *i* each with an example. (6 Marks)
- (c) What is a process ? Explain mechanism of process creation in UNIX. (4 Marks)
5. (a) How are shell variables defined, given values and evaluated? Discuss very briefly how quoting affects these variables. (8 Marks)
- (b) What are here documents. Discuss briefly. (4 Marks)
- (c) Write a shell script which will receive any number of filenames as arguments. The shell script should check whether every argument supplied is a file or a directory. If it is a directory, it should be appropriately reported. If it is a file, then name of the file as well as number of lines present in it should be reported. (8 Marks)

6. (a) Discuss lists and arrays in PERL. (8 Marks)
- (b) What is sed instruction. Explain the following with respect to sed.
- i) repeated pattern
 - ii) tagged regular expression (6 Marks)
- (c) What is an `.exrc` file when and why it is used. Discuss. (6 Marks)
7. (a) Mention the different storage blocks a file system contains on a secondary storage device and explain each one of these blocks briefly. (10 Marks)
- (b) What do you mean by mounting and unmounting of a file system. Explain briefly. (10 Marks)
8. (a) Who is a super user ? What are its duties, responsibilities and privileges. (6 Marks)
- (b) What are hard links and soft links with respect to files in UNIX. Explain with examples. (8 Marks)
- (c) What are inodes? What information do they contain? (6 Marks)

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NEW SCHEME

Second Semester MCA Degree Examination, July 2007
Introduction to UNIX

Time: 3 hrs.]

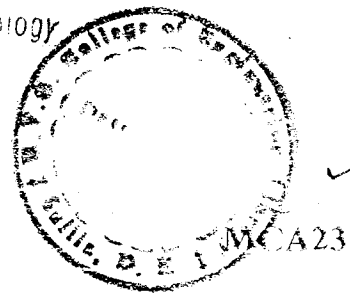
[Max. Marks:100

Note : Answer any FIVE full questions.

- 1 a. Discuss the architecture of UNIX operating system with the help of a neat diagram. (06 Marks)
- b. What is parent – child relationship? With the help of a diagram, explain unix – file system. (04 Marks)
- c. Explain the following commands with an examples (10 Marks)
i) who ii) script iii) comm. iv) head v) cat
- 2 a. Devise suitable wild card pattern to match the following : (10 Marks)
i) Chap01, chap02, chap11 and chap12
ii) sample.0, sample.c and sample.h
iii) exercise.psf and exercise.pdf.
iv) all filenames ending with .txt.
v) filenames not beginning with an alphabet. (06 Marks)
- b. What are standard input, standard output and standard error files? Explain with respect to UNIX with examples. (04 Marks)
- c. Explain absolute pathname with an example.
- 3 a. With a neat diagram, explain the different modes of vi editor. (06 Marks)
- b. What are shell variables that control UNIX system? Explain any four. (06 Marks)
- c. Write a command line using which one can obtain long listing of files. Explain briefly each field of the output. (08 Marks)
- 4 a. Explain how a process is created with a neat block diagram. (06 Marks)
- b. What are inodes? Explain its structure. (04 Marks)
- c. i) Write a command line to display only the names of the users who have logged in.
ii) What does the following command do when editing with vi. : 4, 8 w file 1
iii) Write a regular expression matching the pattern using grep
Laxmi, Lakshmi, laksmi
iv) Write a grep command to display only directory files.
v) Write a cross tab entry to execute sample.sh every 30 min on every Monday and Saturday between 9am to 5pm. (10 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 file. If directory file, display suitable message along with directory filename. 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 sed instruction? Explain line addressing and context addressing with respect to sed. (06 Marks)
- c. Explain any two build in variables of awk. (04 Marks)

Contd...2

- 6 a. Explain the grep command along with all its options. (08 Marks)
b. What is here document? Explain with an example. (06 Marks)
c. Write a shell script that accepts any number of arguments and display them in reverse order. (06 Marks)
- 7 a. Write an awk sequence to find HRA, DA and Net -- pay of an employee where DA = 70% basic, HRA = 10% of basic pay and net-pay is sum of HRA, DA and basic pay. (08 Marks)
b. Write a perl subroutine average() which finds the average of a given set of numbers. Using the above subroutine write a perl script to accept N numbers into an array and find the average of these numbers. (08 Marks)
c. Explain chop() and chomp() function in perl. (04 Marks)
- 8 a. What are the privileges of an administrator? Explain. (08 Marks)
b. Explain mounting and unmounting in Unix with examples. (08 Marks)
c. Explain the following commands with examples. (04 Marks)
i) f sck ii) far.



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10

Second Semester MCA Degree Examination, Dec. 07 / Jan. 08

Introduction To UNIX

Time: 3 hrs.

Max. Marks:100

Note : Answer any FIVE full questions.

- 1 a. Explain any five characteristic features of the UNIX operating system. (10 Marks)
b. Explain the structure of UNIX system along with a block diagram. (06 Marks)
c. Explain the WC and tee commands. (04 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 the dot (.) and double dot (..). (10 Marks)
b. Explain the following commands with suitable examples:
i) Split ii) Comm iii) Cat. (10 Marks)
- 3 a. Mention the characters that are used as wild cards by the shell, illustrate their use with the help of examples. What is a character class, and how does it make the pattern matching more restrictive. (10 Marks)
b. What do you mean by I/O redirection? With the aid of necessary illustrations explain how redirection is accomplished in UNIX. (10 Marks)
- 4 a. In how many modes one can work with a vi editor? Mention and discuss each one of them very briefly. (05 Marks)
b. Explain the chmod command. (05 Marks)
c. What is a process? Explain briefly the mechanism of a process creation. (05 Marks)
d. Explain the grep command and its three important options. (05 Marks)
- 5 a. How are shell variables defined, given values and evaluated? Discuss. (05 Marks)
b. Write a shell script that displays a special formatted list showing the
i) Permissions ii) Size iii) Filename iv) Last modification time v) Last access time of filenames supplied as arguments. (10 Marks)
c. Discuss how the shell scripts are debugged. (05 Marks)
- 6 a. Explain the chop () and split () function with respect to PERL. (06 Marks)
b. What is an .exec file? When and why is it used? Discuss. (06 Marks)
c. Explain any four built in variables of awk with examples. (08 Marks)
- 7 a. What are inodes? What information do they contain? Explain briefly. (10 Marks)
b. Who is a super user? What are his duties, responsibilities and privileges? Discuss. (10 Marks)
- 8 a. Discuss briefly about mounting and unmounting of a file system. (10 Marks)
b. Briefly explain the following commands:
i) fsck ii) tar iii) cpio iv) xargs. (10 Marks)

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07MCA22

Second Semester MCA. Degree Examination, June / July 08
Introduction to UNIX

Time: 3 hrs.

Max. Marks:100

Note : Answer any FIVE full questions.

- 1
 - a. Explain the command, with options to record a session. (03 Marks)
 - b. Explain 3 file categories. (06 Marks)
 - c. Explain UNIX file system with tree structure diagram. (05 Marks)
 - d. Explain Absolute path name and Relative pathname with example. (06 Marks)
- 2
 - a. Explain the following commands : i) cp ii) rm iii) mv iv) wc with options and examples. (08 Marks)
 - b. Explain the following commands i) cmp ii) comm. iii) diff. (06 Marks)
 - c. Write a shell script to check whether the file is a regular file, if true then print all the characteristics of that file. (06 Marks)
- 3
 - a. Explain relative permission and absolute permission with example in detail. (08 Marks)
 - b. Explain chown, chgrp with example. (03 Marks)
 - c. Explain three modes of vi editor. (09 Marks)
- 4
 - a. Explain shell's interpretive cycle in detail. (10 Marks)
 - b. Explain *, ?, charter class with example. (04 Marks)
 - c. Explain 3 standard files in detail. (06 Marks)
- 5
 - a. Explain Mechanism of process creation in detail. (10 Marks)
 - b. Explain the following commands i) no hup ii) nice iii) kill iv) iron with example. (10 Marks)
- 6
 - a. Explain Hardlink with example. (04 Marks)
 - b. Explain the following commands i) sort ii) head iii) cut iv) tr with options and examples. (10 Marks)
 - c. Write a shell script to check whether the two files are having same permission or not (send file names as command line arguments). (06 Marks)
- 7
 - a. Write a shell script to find a file with largest size in a given directory and print it. (Program should recursively search files within subdirectories also) (10 Marks)
 - b. Explain : i) Renumbered pattern ii) Repeated pattern iii) IRE iv) TRE. With sed command and give examples. (10 Marks)
- 8
 - a. Explain all positional parameters and special parameters used by shell, with example in detail. (10 Marks)
 - b. With a awk program to provide extra spaces at the end of a line (if required) so that the line length is maintained at 100. (10 Marks)

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Second Semester MCA Degree Examination, June-July 2009
Introduction to UNIX

23

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain characteristic features of the UNIX operating system. (10 Marks)
b. Explain the following commands:
i) split ii) comm iii) cmp iv) diff v) wc. (10 Marks)
- 2 a. What is *ls*? Explain in detail *ls -l* option. (08 Marks)
b. In how many modes one can work a vi editor? Mention and discuss each one of them briefly with diagram. (08 Marks)
c. Explain the UNIX internal and external commands. (04 Marks)
- 3 a. Write a non-recursive shell which accepts any number of arguments and print them in reverse order. (09 Marks)
b. Write a syntax for a command line and to search for specific word (say BANGALORE) and substitute the word (KARNATAKA) in its place over the entire file, explain the same. (07 Marks)
c. Explain i) ps
ii) How the shell is created? (04 Marks)
- 4 a. What is grep command? Explain the families of grep command. Explain the options of grep command with suitable examples. (10 Marks)
b. Explain the following commands:
head, cut, sort, uniq (10 Marks)
- 5 a. Explain the system administration procedure in UNIX. (10 Marks)
b. Explain startup and shutdown procedure in UNIX. (10 Marks)
- 6 a. Explain Build-in variables used by awk. (05 Marks)
b. Write an awk script to compute gross salary of an employee.
(NOTE : Gross Salary = 50% DA + 15% HRA + Basic). (10 Marks)
c. Explain awk if statement with an example. (05 Marks)
- 7 a. What is executed mode in advanced vi? Explain different handling multiple files in advanced vi. (10 Marks)
b. Explain with options (i) Set command
(ii) eval. (10 Marks)
- 8 a. Explain the parent-child relationship between various files in the organization of files in UNIX and give the meaning of two specified directory names the (.) and (..). (10 Marks)
b. What is set instruction? Explain the following with respect to set:
i) Line addressing
ii) Context addressing. (10 Marks)

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07MCA22

Second Semester MCA Degree Examination, Dec.09/Jan.10
Introduction to UNIX

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain the following commands:
 i) bc ii) wc iii) split iv) mkdir v) rmdir (10 Marks)
- b. In how many modes one can work with a vi-editor? Mention and discuss each one of them very briefly. (06 Marks)
- c. Explain chmod command. (04 Marks)
- 2 a. Explain the following commands with syntax:
 i) stty ii) spell iii) ispell iv) script v) cat. (10 Marks)
- b. Discuss the organizational structure of the files in UNIX. Give the meaning of dot (.) and dot(..). (10 Marks)
- 3 a. With the help of an example, explain the difference between hardlink and symbolic links. (06 Marks)
- b. Briefly explain Umask. (04 Marks)
- c. Explain the following commands:
 i) cut ii) paste iii) tail iv) head v) tr (10 Marks)
- 4 a. What is sed command? Explain with an example text editing commands available in sed. (08 Marks)
- b. Explain grep command and its options. (08 Marks)
- c. Write a note on egrep. (04 Marks)
- 5 a. With a help of an example, illustrate the usage of command line arguments. Also discuss special positional parameters. (10 Marks)
- b. How are shell variables defined, assigned values and evaluated? Discuss. (06 Marks)
- c. How are shell scripts debugged? Discuss. (04 Marks)
- 6 a. Write a shell script that accepts pathname and creates all the components in that pathname as directories. Example:- a/b/c/d should create a, a/b, a/b/c, a/b/c/d. (10 Marks)
- b. 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 file. If directory file, display suitable message along with directory filename. If file, the name of the file with the number of lines in the file should be displayed. (10 Marks)
- 7 a. Who is a super user? What are his duties, responsibilities and privileges? (10 Marks)
- b. Write an awk program that folds long lines into 40 columns. (10 Marks)
- 8 a. Write an awk sequence to find HRA, DA and net-pay of an employee, where DA=70% of basic, HRA=10% of basic pay and net-pay is sum of HRA, DA and basic pay. (10 Marks)
- b. Explain with an example, exporting shell variables. (10 Marks)

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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 on the page, 42+8=50, will be treated as malpractice.

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Second Semester MCA Degree Examination, May/June 2010

Introduction to UNIX

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1
 - a. Explain the relationship between Kernel and the Shell of UNIX, with a neat diagram. (06 Marks)
 - b. Discuss the important features of UNIX operating system. (08 Marks)
 - c. Explain the following commands with examples : (06 Marks)
 - i) date ii) bc iii) who iv) man.
- 2
 - a. What are the different types of files in UNIX? Explain them briefly. (08 Marks)
 - b. Mention the different file comparing commands. Explain the one that is used to print out the common entries on two sorted files. (08 Marks)
 - c. Write a command line, using which, one can assign all permissions to the owner of a file and assign only read permission to group and others. (04 Marks)
- 3
 - a. Differentiate between the hard links and soft links. (06 Marks)
 - b. Explain the three modes of the vi editor. (06 Marks)
 - c. Explain the standard input, standard output and standard error, with respect to UNIX. (08 Marks)
- 4
 - a. Explain the process in UNIX and mechanism of process creation. (06 Marks)
 - b. How are these two commands similar and different? (04 Marks)
 - i) Sort-u foo ii) uniq foo.
 - c. Explain the line addressing and content addressing using SED, each with an example. (06 Marks)
 - d. How do you locate lines beginning and ending with dot using, i) grep ii) sed? (04 Marks)
- 5
 - a. Explain the following environment variables : (06 Marks)
 - i) HOME ii) PS1 and PS2 iii) TERM.
 - b. What is a for loop in shell script? Explain the different ways of making the lists. (06 Marks)
 - c. Write shell code to accept a string from a terminal and echo a suitable message if it does not have at least 10 characters using : i) Case ii) expn. (08 Marks)
- 6
 - a. How can you extract the last command line argument to a script using : (06 Marks)
 - i) arrays ii) eval.
 - b. What are the two functions of the dot commands? (04 Marks)
 - c. Write a shell script using functions and array to find sum of even and odd numbers separately. (10 Marks)
- 7
 - a. Explain any five special parameters used in shell, with an example. (05 Marks)
 - b. Write an awk program using function to find factorial of a number. (09 Marks)
 - c. State any six built in variables in awk. Explain each, with an example. (06 Marks)
- 8
 - a. Name the five administrative functions that can't be performed by a non privileged user. (05 Marks)
 - b. If a directory change is made inside a script, why is the original directory restored after the completion of the script? How can you overcome this problem? (05 Marks)
 - c. What is the difference between the commands l* and f* ? (02 Marks)
 - d. Explain the following commands, with an example : (08 Marks)
 - i) du ii) df iii) su iv) tar.

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Important Note : 1. On completing your answer, 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.

