

Question Bank

15CS361: UNIX & SHELL PROGRAMMING

OUTCOMES:

- Explain multi user OS UNIX and its basic features
- Interpret UNIX Commands, Shell basics, and shell environments
- Design and develop shell programming, communication, System calls and terminology.
- Design and develop UNIX File I/O and UNIX Processes.
- Understand UNIX process control, relationships, commands and utilities

MODULE 1 : INTRODUCTION

1	What is the use of kernel in UNIX operating system?	3
2	How will you prevent others from using your terminal? Explain in brief.	3*
3	Write a short note on UNIX philosophy?	3
4	What is the difference between an argument and an option? Explain with example	4
5	Explain multi-user capability of UNIX.	4*
6	Explain the significance of quoting with examples.	4*
7	Explain briefly different types of shells available in Unix O.S?	4
8	What are the different types of files in an UNIX operating system? Explain briefly.	5*
9	Explain the following: banner, calendar, echo, ispell each with an example.	6*
10	With a block diagram explain UNIX operating system organization and explain Kernel-Shell relationship.	6*

11	Describe the salient features of UNIX Operating system.	6*
12	Explain the following: date, who, try, uname, password, lock.	6*
13	What is the difference between internal command and external command? Explain general format of command with examples.	6*
14	With example, explain the date and lock commands	6
15	What are different layers of UNIX Operating system and explain the relationship between kernel and shell.	6*
16	What are general-purpose utilities of UNIX system? Explain with example.	6*
17	With a neat diagram, explain the relationship between the kernel and the shell of the UNIX operating system.	6*
18	Discuss the history of the UNIX operating system development	6
19	Write a neat diagram , Explain the kernel –shell relationship	10*
20	Bring out the differences between internal and external commands also explain the commands uname, lock, who	10*
21	With a neat diagram, explain the relationship between kernel and shell in UNIX.	8*
22	Describe the salient features of the UNIX operating system.	8*

23	Give the directory structure of UNIX file System	6*
24	How will you remove a directory tree even when it is not empty without using rmdir. Explain that used command.	6*
25	Explain the Commands wc,od,cmp	6*
26	What is a file? Explain the different types of files as available in UNIX operating system	10*

27	What is the difference between the following commands : cp and copy cp and mv comm and cmp comm and diff	8
28	What are the different types of files in an UNIX operating system? Explain briefly.	6*
29	Write some of the commands used for handling ordinary files. Explain them.	6*
30	What is more function? Explain its usage with example.	6*
31	What are the various types of files? Explain rules and conventions used in naming a file.	6*
32	What is a pipeline? Construct a pipeline for the following jobs:-	6*
33	(1) List all files beginning with the char "B" on the screen and also store them in a file called l. (2) All the files present in dir-dir 1 should be deleted. Any error, if it occurs while carrying out this operation, should be stored in a file "error file".	
34	What is file? Explain the different types of files in UNIX.	6*
35	Explain absolute path name and relative path name each with an example	6
36	Mention at least four directories that will be present in a UNIX file system very briefly explain what these directories contain?	8
37	Explain the following file handling commands wc, split, comm and cmp each with an example.	8*
38	Write a note on the man command.	
39	Why does a machine need an operating system?	
40	What are the system calls, and what role do they play in the system? How is C programming to different and powerful in the UNIX environment compared to windows?	

MODULE 2: THE BASIC vi EDITOR

OBJECTIVE:

This Chapter deals with editor that is widely used – vi Editor. Learning vi is going to be a shot in the arm to your aspiration of learning UNIX. With enough landmarks along the way, it's a smooth journey through the Portals of Power.

1.	Explain the need for two special files /dev/null and /dev/tty	6*
2.	What are file and directory permissions? Explain how directory permissions are used in conjunction with file permissions to determine overall permissions.	10
3.	Give the contents of a typical personnel data base file with six fields (emp-id ,name, designation, department, date of birth and salary). Show at least three entries on this file, clearly indicating the demarcation of various fields. With reference to this data base, explain the cut and paste commands.	9
4.	What are the different attributes of a file? Explain how they are modified	8
5.	With an example explain the ls command to obtain long listings. Also explain the sty command	8
6.	Explain the system variables with example.	8*
7.	Explain each column of the output of ls -l command.	8*
8.	What are file permissions? How permissions of a regular file may be manipulated? Discuss.	6
9.	What is the use of the following directories? Explain i) /bin ii) /usr/bin iii) /mnt iv) /tmp v) /etc vi) /usr	6
10.	What is file permission? What are different ways of setting file permission? Explain.	6*
11.	What is the need for file permissions? How will you change file permissions?	6*

12.	Give the sequence of commands(pipeline) for: (1) To remove duplicate records from a file. (2) o list five largest files in the current dir.	6*
13.	Explain the following Environment variables PATH, HOME, IFS	6*
14.	What are file attributes? Explain how to change basic file permissions, with an example.	6*
15.	Explain each column of the output of ls -l command.	8*
16.	Write a sequence to combine the input of three files and then split the output into multiple files, each containing 2000 lines.	10*
17.	Explain ls command with options x , f, a, r, R	6*
18.	Explain the different types of files supported in UNIX	6*
19.	Explain following commands with suitable examples. Pw, mkdir, cp, wc.	8*
20	Write short note on vi editor.	6*
21	Find out all users from /etc/passwd and sort them	6*
22	What are the different ways in which a text can be inserted in Vi editor? Explain.	6*
23	What are different modes of vi editor? Explain.	8*
24	With an example explain the ls command to obtain long listings. Also explain the sty command	8
25	Explain the 3 modes of operation in a vi editor.	8*
26	Explain the commands search for pattern and search & replace in Vi editor	6*
27	What is the output of the following command (i) echo \$PATH (ii) man man (iii) cmp f1 f2[f1 and f2 are identical] (iv) ls -i	4*

MODULE 3 : COMMUNICATIONS

OBJECTIVE:

UNIX provides a few “real time” Communication tools and an impressive collection of email agents and tools. You will be Locking user information with finger, online text chat with talk, using pine as a menu based mail client and its address book facility.

1.	What are standard input, standard output and standard error? Explain with respect to UNIX.	6*
2.	Explain the main features of KORN and BASH shells.	8*
3.	Explain the Korn shell features?	8*
4.	Explain 2 special files in korn shell?	8*
5.	Explain the input,output and variables present in Korn shell.	8
6.	Explain the basic script concepts and expressions.	6
7.	What are decision making parameters?	6
8.	Explain repetition and special parameters?	8*
9.	Explain positional parameters?	6*
10.	Explain the concept of debugging scripts?	6*

MODULE 4: FILE I/O

OBJECTIVE: This chapter features the different link files like hard link and symbolic links,file system and inodes.simple filters performs a simple function. Learning about the Commands like head, tail, cut, paste, grep.

1.	Explain File I/O and File descriptors?	6*
2.	Explain the functions-open,create,close,seek,read,write.	6
3.	What are atomic operations?	6
4.	Explain functions-dup,dup2?	6

5.	Explain functions sync,fsync,fdatatype,fcntl,ioctl	6
6.	What is unix process?Explain process termination?	6
7.	What are command line arguments?	4
8.	Explain shared and environment variables?	6

MODULE 5:PROCESS CONTROL

1	What is process status? Explain Ps with options.	8*
2	What is process? Explain the mechanisms of process creation.	6*
3	Explain any four commands related to process in UNIX OS	8*
4	Explain the commands bg, fg, fg, and kill.	4*
5	What is the parent and child process? Explain briefly.	6
6	What is a process? Explain the commands bg, fg, fg, and kill.	6*
7	What are standard input, standard output and standard error? Explain how the error is i) Stored in a file ii) not stored any where or displayed.	6
8	Explain the concept of Parent-child process with an example.	6*
9	What is parent child relationship? With the help of a diagram explain the UNIX file system.	8*
10	How the jobs can be run in background? Explain.	8*