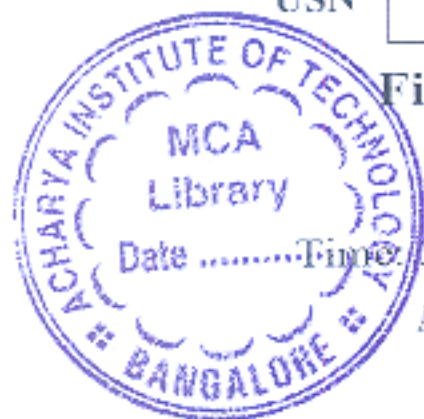


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Fifth Semester B.E./B.Tech. Degree Examination, June/July 2025

UNIX System Programming

Date Time 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Explain the salient features of UNIX operating system.	10	L2	CO1
	b.	Explain the important sections of 'man' command with suitable examples.	05	L2	CO1
	c.	Differentiate internal and external commands in UNIX with suitable examples.	05	L2	CO1
OR					
Q.2	a.	Outline the differences between absolute and relative path names with suitable example.	10	L2	CO1
	b.	Consider the following set of commands: mkdir scheme cd scheme mkdir 2002/Branch 2006/Branch cd 2002/Branch mkdir CSE ECE ME cd ../2006/Branch mkdir CSE ECE ME cd ../2002/Branch/ECE pwd cd ../2006/Branch/CSE pwd (i) Demonstrate tree structure for the above commands, showing the hierarchy of directories. (ii) What is the output of above commands assuming PWD : /home/vtu	10	L2	CO1
Module – 2					
Q.3	a.	Which command is used for listing of file attributes? Explain the significance of each field.	10	L2	CO2
	b.	Explain 'grep' command and its options along with the significance.	06	L2	CO2
	c.	Explain wild cards with examples and its various types.	04	L2	CO2
OR					
Q.4	a.	Define Shell Programming. Develop a shell program to create a simple calculator which can perform basic arithmetic operations.	12	L3	CO2
	b.	Write general syntax of 'while' statement. Develop a shell program to read a file that is created by another program and the program waits until the file is created.	08	L2	CO2

Module – 3

Q.5	a.	Explain the general syntax of following functions associated with file I/O: (i) open (ii) read	10	L2	CO3
	b.	Explain the general syntax of following functions associated with files and directories: (i) chdir (ii) fchdir (iii) getcwd	10	L2	CO2

OR

Q.6	a.	Explain the memory layout of a C program with a neat diagram.	10	L2	CO3
	b.	Demonstrate the use of 'setjmp' and 'longjmp' functions along with their prototypes.	10	L2	CO3

Module – 4

Q.7	a.	List out different ways for a process to terminate.	05	L1	CO4
	b.	Why shared libraries are important?	05	L1	CO4
	c.	Explain sharing of open files between parent and child after 'fork' with a neat diagram.	10	L2	CO4

OR

Q.8	a.	What are pipes? Explain different ways to view a half duplex pipe.	05	L2	CO4
	b.	What is FIFO? Brief the general syntax of 'mkfifo'.	05	L2	CO4
	c.	Explain the client server communication using FIFO with a neat diagram.	10	L2	CO4

Module – 5

Q.9	a.	What is signal mask of a process? Develop a program to check whether the SIGINT signal present in signal mask.	10	L3	CO5
	b.	Explain the terms : (i) sigaction (ii) kill	10	L2	CO5

OR

Q.10	a.	Explain daemon characteristics and basic coding rules.	12	L2	CO5
	b.	What is error logging? Explain the error login facility in BSD, with a neat diagram.	08	L2	CO5
