CBCS SCHEME

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BCS515C

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
UNIX System Programming

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 Kernel and Shell relationship in UNIX operating system with a neat diagram.	10	L1	CO1
	b.	Explain the following UNIX commands with syntax and examples: i) who ii) ls iii) passwd iv) echo v) date	10	L2	CO1
		OR			
Q.2	a.	Explain any five file related commands with syntax and example of each.	10	L2	CO1
	b.	Explain the salient features of UNIX operating system.	04	L1	CO1
	c.	Explain the file types or categories.	06	L2	CO1
		Module – 2			
Q.3	a.	Explain the use of chmod command to change file permission using both absolute and relative methods.	10	L2	CO2
	b.	Explain ls commands with all the options and examples.	10	L2	CO2
		OR			
Q.4	a.	Explain grep commands with all its options.	10	L2	CO2
	b.	Explain three standard files in UNIX.	06	L2	CO2
	c.	Explain the steps of shell interpretive cycle.	04	L2	CO2
		Module – 3			
Q.5	a.	Explain POSIX and SUS (Single UNIX Specification) standards.	04	L2	CO3
	b.	Develop a C program to demonstrate the use of open( ) and read( ) system call in UNIX.	10	L3	CO3
	c.	Explain the use of mkdir( ) and rmdir( ) function in managing directories.	06	L2	CO3
		OR			
Q.6	a.	Differentiate between character special files and block special files.	06	L2	CO3
	b.	Develop a c program to demonstrate the chdir( ) and fchdir( ) functions in UNIX.	10	L3	CO3
	c.	Explain the memory layout of a C program in UNIX.	04	L2	CO3
		Module – 4			
Q.7	a.	Develop both the fork and vfork function in a example program.	10	L3	CO4
	b.	Explain briefly with an example two system v IPC mechanism: i) Message Queues ii) Semaphores	10	L2	CO4
		OR			
Q.8	a.	Explain pipes and its limitations upon developing a program to send data from parent to child over a pipe.	10	L2	CO4
	b.	Explain the client server communication using FIFO with a neat diagram.	10	L2	CO4
		Module – 5			
Q.9	a.	Illustrate signal in UNIX and develop program to setup signal handlers for sigsetsmp( ) and abort( ).	10	L3	CO5
	b.	Explain Daemon process by developing program to transform a normal user into a Daemon process.	10	L3	CO5
		OR			
Q.10	a.	Explain implement SIGPROCMASK and SIGCONGJMP functions with examples.	10	L2	CO5