Code No: **19CST504/ 19ITT504**

R19

III B. TECH I SEMESTER REGULAR EXAMINATIONS, FEB - 2022
UNIX AND SHELL PROGRAMMING
(Common to CSE And INF)

Time: 3 Hours **Max. Marks: 60**

Note: Answer **ONE** question from each unit **(5 × 12 = 60 Marks)**

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UNIT-I

1.	a)	i.	What will the permissions string look like for these octal values? (i) 567, (ii) 623, (iii) 421	[6M]
		ii.	What does the inode store? Which important file attribute is not maintained in the inode? Where is it stored then?	
	b)	i.	What is the purpose of the tee command?	[6M]
		ii.	How can we Concatenate the contents of two files and store them in the third file?	

(OR)

2.	a)	i.	Illustrate the structure of Unix Operating System.	[6M]
		ii.	Explain what the following commands do: (i) cd, (ii) cd $HOME, (iii) cd ~.	
	b)	i.	Give a command line to Count the number of users who logged in and display the result using pipe.	[6M]
		ii.	How do you display the inode number of a file? What it signifies?	

UNIT-II

3.	a)	i.	Devise two regular expressions that match lines longer than 10 characters.	[6M]
		ii.	Explain any three UNIX commands for communication.	
	b)	i.	Write a grep command that will display 5 lines before the matched string.	[6M]
		ii.	How will you replace - with _ and vice versa, assuming that the file doesn't contain any numerals?	

(OR)

4.	a)	i.	What do these regular expressions match? (i) a.*b, (ii) ..*, (iii) ^}$.	[6M]
		ii.	Write an alias which lists only directories in the current directory using **sed**.	
	b)	i.	Write a grep command to display the lines from the file /etc/passwd that end with h.	[6M]
		ii.	How is the expression g* different from gg*?	
		iii.	Explain any three text processing utilities.	
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UNIT-III

5.	a)	i.	What shortcut does **sed** offer to replace the string Linux with Red Hat Linux?	[6M]
		ii.	Discuss how one can input insert text before the contents of input file using sed.	
	b)	i.	What is wrong with this statement? printf "%s %-20s\n", $1, $6 | sort.	[6M]
		ii.	How will you add the parent directory to your existing PATH? How can you make the setting permanent?	

(OR)

6.	a)	i.	Use **awk** to delete all blank lines (including those that contain whitespace) from a file.	[6M]
		ii.	List and explain awk Built-In Variables and Built-in Functions with examples	
	b)	i.	How do you print only the odd-numbered lines of a file?	[6M]
		ii.	How do you (i) print every line of a file twice, (ii) insert a blank line after each line that is read?	

UNIT-IV

7.	a)	Write a script that can accept a group of numbers as its positional parameters, square each of the numbers, sum all the squared values, and display the arithmetic result.	[6M]
	b)	Write a shell script to add four numerals sent through a command line argument.	[6M]

(OR)

8.	a)	Write a shell script to show all the files in the current directory whose name begins and ends with a vowel.	[6M]
	b)	Write a shell script that takes a directory as a required argument and displays the names of all zero-length files in it. Do the appropriate error checking.	[6M]

UNIT-V

9.	a)	Using system-calls like *creat*, *open*, *write*, and *read*, develop a program to make a copy of an existing file.	[6M]
	b)	Develop a program that waits for its child to terminate using *fork* and *wait* system calls.	[6M]

(OR)

10.	a)	Write a system program to read the contents of a file in reverse.	[6M]
	b)	Write a system program that accepts two small numbers (< 50) as arguments and then sums the two in a child process.	[6M]

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