Code No: R1631052 **R16** SET - 1

III B. Tech I Semester Regular Examinations, October/November - 2018

UNIX PROGRAMMING

(**Common to** Computer Science Engineering and Information Technology)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART–A

1.	a)	What is a System call in UNIX?	[2M]
	b)	What types of files are used to represent physical devices in UNIX file system?	[2M]
	c)	List out different types of Shell.	[2M]
	d)	Write a 'grep' command to print the lines that starts and ends with the word "UNIX".	[3M]
	e)	Explain the Purpose of ***export*** command.	[3M]
	f)	Mention the Tasks of background processes.	[2M]

PART -B

2.	a)	What is UNIX? List out various versions of UNIX?	[4M]
	b)	Discuss the role of kernel in operating system.	[4M]
	c)	With a neat sketch, explain the directory structure of UNIX operating system.	[6M]
3.	a)	Explain the implementation details of UNIX file system.	[7M]
	b)	Describe the attributes and permissions of a file in UNIX file system.	[4M]
	c)	Which command is used to change the file permissions in UNIX? Explain with an example.	[3M]
4.	a)	What is a Shell? Explain the two different duties of a Shell. How can you create a sub shell? How can you move to the parent shell after creating a sub shell?	[7M]
	b)	What is Redirection? Explain the various commands used for redirection.	[7M]
5.	a)	Define the ***grep*** family. Mention the primary difference between fgrep and the other two members of the grep family.	[7M]
	b)	With a neat diagram, describe an awk utility's view of a file and also explain the file buffers and record buffers of awk.	[7M]
6.	a)	What is the use of 'eval' command in C shell and also explain the execution of 'eval' command with suitable example.	[7M]
	b)	Is it possible to pause the execution of a shell script for a specified time period? Give explanation.	[7M]
7.	a)	Illustrate the syntax of ***trap*** command.	[7M]
	b)	Explain in sequence the steps to convert a background process to a foreground process.	[7M]

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PART –A

1.	a)	Difference between a System call and UNIX command.	[3M]
	b)	Which command will list the hidden files in UNIX?	[2M]
	c)	What is a Shell variable?	[2M]
	d)	Write the ***'sed'*** command to replace the pattern "SED" from the 7thoccurrence to the end of file.	[3M]
	e)	What does ***expr*** do in a shell script?	[2M]
	f)	What is a background process in UNIX?	[2M]

PART -B

2.	a)	With a neat sketch, explain the architecture of UNIX operating system.	[7M]
	b)	Explain the following UNIX commands i) mkdir ii) rm iii) tar iv) cat	[7M]
3.	a)	What is the ***inode*** in UNIX? Where are inodes stored in UNIX file system? Explain.	[7M]
	b)	Explain the commands that are available in UNIX file system to change the permissions of a file.	[7M]
4.	a)	What is an Environment variable? List out the common environment variables that control the user environment in Shell.	[7M]
	b)	Compare different loops used in Shell script	[3M]
	c)	Write a shell script to get current date, time, user name and current working directory.	[4M]
5.	a)	What is ***grep*** command? Explain the operation of the grep command with a neat flowchart? And Illustrate the working of the grep command with a suitable example.	[7M]
	b)	Explain in brief various categories of ***awk*** patterns.	[7M]
6.	a)	Explain the purpose of ***set*** command with an example.	[7M]
	b)	Write a Shell script describing integer and real arithmetic	[7M]
7.	a)	What is a Child process? How it is created? Explain the relationship between parent process and child process.	[8M]
	b)	Explain the use of ***stty*** command along with its syntax.	[6M]

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Code No: R1631052 **R16** SET - 3

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Time: 3 hours Max. Marks: 70

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2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1.	a)	List the Features of UNIX operating system.	[3M]
	b)	List the Fields of an***inode*** structure in UNIX file system.	[3M]
	c)	What is the PATH environmental variable in UNIX?	[2M]
	d)	Is AWK a programming language?	[2M]
	e)	Give the Use of here document in shell script.	[2M]
	f)	What is the Syntax of Trap command.	[2M]

PART -B

2.	a)	Compare and contrast library function, system call and Unix command.	[7M]
	b)	What is command substitution in a shell? Why is it important? Explain with an example.	[7M]
3.	a)	What are Links and Symbolic links in UNIX file system? Explain.	[7M]
	b)	Explain the ***chown*** and ***chgrp*** commands in UNIX with an example.	[7M]
4.	a)	Is it possible to pipe output of a command as an argument to a shell script? Justify your answer.	[7M]
	b)	Explain about various loop control statements of C shell with a sample example.	[7M]
5.	a)	Define the '*sed'* utility? Give the format of the '*sed'* and Explain the operation of the '*sed'* utility with suitable diagrams.	[7M]
	b)	Explain the differences between grep and sed with a suitable example.	[7M]
6.	a)	What are positional parameters? How a C shell script is invoked by passing parameters? Explain.	[7M]
	b)	How we know the exit status of a command in C shell? Explain.	[7M]
7.	a)	Explain in detail about the internal and external commands in UNIX.	[6M]
	b)	What happens to the child process when the parent process kills/dies first? Explain with an example	[8M]

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PART –A

1.	a)	How Unix is different from other Operating Systems?	[2M]
	b)	Interpret the command **chmod 644**	[2M]
	c)	In what way Shell variables are different from Environmental variables.	[3M]
	d)	Write a *sed* command to replace the word 'UNIX' with 'LINUX' in a given text file.	[3M]
	e)	What does $# mean in shell script?	[2M]
	f)	Which command displays all current terminal settings?	[2M]

PART -B

2.	a)	What is UNIX operating system? Explain various components of UNIX operating system.	[7M]
	b)	Is it possible to run multiple commands of UNIX in one time? Justify your answer with proper explanation.	[7M]
3.	a)	Discuss the UNIX file structure and directories.	[7M]
	b)	Explain the format of ***chmod*** and ***chown*** commands in UNIX.	[7M]
4.	a)	What are the advantages and disadvantages of Shell scripting?	[5M]
	b)	Write a Shell Script to display result based on the value returned from a function call.	[9M]
5.	a)	Compare the three utilities of the grep family with a clear explanation	[7M]
	b)	List out the different string functions of ***awk*** utility and explain any three.	[7M]
6.	a)	What are positional parameters in C shell scripting? Explain the meaning of the $0, $1, $2,${9}, $*, and $#.	[7M]
	b)	List out the important uses of ***exec*** command in shell script.	[3M]
	c)	Write shell scripts to illustrate the use of continue and ***break*** statements.	[4M]
7.	a)	Differentiate between Internal and External commands of UNIX.	[9M]
	b)	Explain the importance of ***kill*** command in UNIX with examples.	[5M]

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