Subject Code 17CS35 IA Marks 40	[As per Cl (Effect	IX AND SHELL P hoice Based Credit ive from the acade SEMESTE	System (CBCS) scher mic year 2017 -2018)	nej		
Total Number of Lecture Hours 40 Exam Hours 03 CREDITS – 03 Module -1 Introduction, Brief history. Unix Components/Architecture. Features of Unix. The UNIX Environment and UNIX Structure, Posix and Single Unix specification. The login prompt. General features of Unix commands / command structure. Command arguments and options. Understanding of some basic commands such as echo, printf, Is, who, date, passwd, cal, Combining commands. Meaning of Internal and external commands. The type commands: knowing the type of a command and locating it. The man command knowing more about Unix commands and using Unix online manual pages. The man with keyword option and whatis. The more command and using it with other commands. Knowing the user terminal, displaying its characteristics and setting characteristics. Managing the non-uniform behaviour of terminals and keyboards. The root login. Becoming the super user: su command. The /etc/passwd and /etc/shadow files. Commands to add, modify and delete users. Topics from chapter 2, 3 and 15 of text book 1, chapter 1 from text book 2 Module -2 Unix files. Naming files. Basic file types/categories. Organization of files. Hidden files. Standard directories. Parent child relationship. The home directory and the HOME variable. Reaching required files- the PATH variable, manipulating the PATH, Relative and absolute paths and the parent directories and their usage in relative path names. File related commands – cat, my, m, cp, wc and od commands. File attributes and permissions and knowing hem. The Is command with options. Changing file permissions: the relative and absolute paths and the commands and the relative path names. File related commands – cat, my, m, cp, wc and od commands. File attributes and permissions and knowing hem. The Is command with options. Changing file permissions: the relative and absolute paths and the path to the path to the paths of the	Subject Code			40	40	
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Module-4

Shell programming. Ordinary and environment variables. The .profile. Read and readonly commands. Command line arguments. exit and exit status of a command. Logical operators for conditional execution. The test command and its shortcut. The if, while, for and case control statements. The set and shift commands and handling positional parameters. The here (<<) document and trap command. Simple shell program examples. File inodes and the inode structure. File links – hard and soft links. Filters. Head and tail commands. Cut and paste commands. The sort command and its usage with different options. The umask and default file permissions. Two special files /dev/null and /dev/tty.

08 Hours

Topics from chapter 11, 12, 14 of text book 1, chapter 17 from text book2

Module-5

Meaning of a process. Mechanism of process creation. Parent and child process. The ps command with its options. Executing a command at a specified point of time: at command. Executing a command periodically: cron command and the crontab file.. Signals. The nice and nohup commands. Background processes. The bg and fg command. The kill command. The find command with illustrative example.

08 Hours

Structure of a perl script. Running a perl script. Variables and operators. String handling functions. Default variables - \$_ and \$. - representing the current line and current line number. The range operator. Chop() and chomp() functions. Lists and arrays. The @- variable. The splice operator, push(), pop(), split() and join(). File handles and handling file - using open(), close() and die () functions. Associative arrays - keys and value functions. Overview of decision making loop control structures - the foreach. Regular expressions - simple and multiple search patterns. The match and substitute operators. Defining and using subroutines.

Topics from chapter 9 and 19 of text book 1. Topics from chapter 11 of reference book 1
Course outcomes:

After studying this course, students will be able to:

- Explain UNIX system and use different commands.
- Compile Shell scripts for certain functions on different subsystems.
- Demonstrate use of editors and Perl script writing

Question paper pattern:

The question paper will have ten questions.

There will be 2 questions from each module.

Each question will have questions covering all the topics under a module.

The students will have to answer 5 full questions, selecting one full question from each module.

Text Books:

- 1. Sumitabha Das., Unix Concepts and Applications., 4th Edition., Tata McGraw Hill
- 2. Behrouz A. Forouzan, Richard F. Gilberg: UNIX and Shell Programming- Cengage Learning India Edition. 2009.

Reference Books:

- 1. M.G. Venkatesh Murthy: UNIX & Shell Programming, Pearson Education.
- Richard Blum, Christine Bresnahan: Linux Command Line and Shell Scripting Bible, 2nd Edition, Wiley, 2014.



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