III B.Tech – II Semester
(17CS602) UNIX PROGRAMMING

Int. Marks	Ext. Marks	Total Marks		L	T	P	C
40	60	100		3	1	-	3

Pre-Requisites: Familiarity with the Unix/Linux command line and running simple commands

Course Objectives:
- Written technical communication and effective use of concepts and terminology.
- Facility with UNIX command syntax and semantics.
- Ability to read and understand specifications, scripts and programs.
- Individual capability in problem solving using the tools presented within the class. Students will demonstrate a mastery of the course materials and concepts within in class discussions.

UNIT-I:
Introduction to unix-Brief History-What is Unix-Unix Components-Using Unix-Commands in Unix-Some Basic Commands-Command Substitution-Giving Multiple Commands.

UNIT-II:
The File system –The Basics of Files-What's in a File-Directories and File Names-Permissions-I Nodes-The Directory Hierarchy, File Attributes and Permissions-The File Command knowing the File Type-The Chmod Command Changing File Permissions-The Chown Command Changing the Owner of a File-The Chgrp Command Changing the Group of a File.

UNIT-III:
Using the Shell-Command Line Structure-Met characters-Creating New Commands Command Arguments and Parameters-Program Output as Arguments-Shell Variables- -More on I/O Redirection-Looping in Shell Programs.

UNIT-IV:
Filters-The Grep Family-Other Filters-The Stream Editor Sed-The AWK Pattern Scanning and processing Language-Good Files and Good Filters.

UNIT-V:
Shell Programming-Shell Variables-The Export Command-The Profile File a Script Run During Starting-The First Shell Script-The read Command-Positional parameters-The $? Variable knowing the exit Status-More about the Set Command-The Exit Command-Branching Control Structures-Loop Control Structures-The Continue and Break Statement-The Expr Command: Performing Integer Arithmetic-Real Arithmetic in Shell Programs-The here Document(<<)-The Sleep Command-Debugging Scripts-The Script Command-The Eval Command-The Exec Command.

UNIT-VI:
The Process-The Meaning-Parent and Child Processes-Types of Processes-More about Foreground and Background processes-Internal and External Commands-Process Creation-The Trap Command-The Stty Command-The Kill Command-Job Control.

Course Outcomes:

1	Documentation will demonstrate good organization and readability.	L2
2	File processing projects will require data organization, problem solving and research.	L2
3	Scripts and programs will demonstrate simple effective user interfaces.	L3
4	Scripts and programs will demonstrate effective use of structured programming.	L3
5	Scripts and programs will be accompanied by printed output demonstrating completion of a test plan.	L3
6	Commands for understanding Process Management.	L2

Correlation of COs with POs & PSOs:

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	3	3	2	2	1	-	-	-	-	-	-	2	-	2	2
CO-2	3	3	2	3	2	-	-	-	-	-	-	2	1	-	2
CO-3	3	2	3	2	1	-	-	-	-	-	-	3	1	-	1
CO-4	3	2	2	3	2	-	-	-	-	-	-	-	-	-	2
CO-5	3	1	2	2	1	-	-	-	-	-	-	-	-	2	3
CO-6	3	3	2	3	1	-	-	-	-	-	-	-	-	-	3

Text Books:

1. The Unix programming Environment by Brain W. Kernighan & Rob Pike, Pearson.
2. Introduction to Unix Shell Programming by M.G.Venkateshmurthy, Pearson.

Reference Books:

1. Unix and shell programmingby B.M. Harwani, OXFORD university press.