

S.G.M. English Medium College of Commerce and Management
Course Plan

BCA

Semester-V

Paper Code & Title: US05EBCA01 (Basics of UNIX Operating System)

Total Credit: 2 (30 Sessions)

Faculty: Dr. Kamlesh Vaishnav

1. Course Objective

Student will be able to

1. describe basic concepts and architecture of UNIX-like Operating System
2. create files using editor and manage them with file and directory commands.
3. understand the functions of Shell
4. write basic shell script
5. use filters and other advanced commands/techniques for text manipulation

2. Course Plan

UNIT-I: Working with UNIX-like Systems	08
Brief history of UNIX and LINUX, strengths and weaknesses of UNIX-like operating systems	2
Basic concepts in UNIX-like systems: the kernel, shells, multiuser multitasking operation, remote access, file system, processes, environment and environment variables, the command line, online manual	1 2
Using the vi editor – modes of operation and switching between them, text navigation, editing text, saving and quitting, using buffers (cut-copy-paste), pattern searching and replacement, undoing and repeating commands	2
Basic commands related to handling files and the file system	1
UNIT-II: The Bourne Again Shell (bash)	07
Prompts, the command line, quoting and escaping, internal and external commands, the path, shell variables, basic command line processing	3
Using the echo command	1
A quick introduction to basic filters – cat and cut	2
The building blocks approach, Input/output redirection, Command substitution	1
UNIT-III: Introduction to Shell Scripting	07
Shell scripts	1
Fundamental shell programming constructs – conditional execution, loops, input and output, turning debugging on and off, etc.	4 2
UNIT-IV: Shell Scripting using Filters	08
Definition of a filter	1
Basic filters like the grep family, expr, sed, etc.	4
Processing the output of commands like ls, ps, who, etc.	1
Processing data in text files (fixed-width format and delimited format)	2

3. Course Outcome

Student can

1. describe basic concepts and architecture of UNIX-like Operating System
2. create files using editor and manage them with file and directory commands.
3. describe the functions of Shell
4. write shell script to perform various jobs
5. use filters and other advanced commands/techniques for manipulating text

Basic Text & Reference Books:

1. Das S. : Your UNIX – The Ultimate Guide, Tata McGraw-Hill, 2001.
2. Kernighan B. W. and Pike R. : The Unix Programming Environment, Prentice-Hall of India, 1994.
3. Prata S. : Advanced Unix – A Programmer's Guide, BPB Publications, 1986