DEPARTMENT OF BACHELOR OF COMPUTER

COURSE MODULE: UNIX AND SHELL SCRIPTING

Course Coordinator: Prof. Yathiraj D N	Academic Year: **2025-26**
Department: Bachelor of Computer Application	

Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours	Total Hrs/ Sessions
				L:T: P:S	
BBCA205	UNIX AND SHELL SCRIPTING	PCC		3:0:0	40(TH)

Course Learning Objective:

The course will enable the students to:

- Understand UNIX history, architecture, and basic commands. Gain proficiency in navigating the UNIX environment, managing files and directories, and using essential commands for system interaction. •
- Learn to write and execute shell scripts, manage file permissions, and handle system processes. Utilize shell scripting for automation, data entry, and process management.

Teaching-Learning Process (General Instruction):

1. Adopt different types of teaching methods to develop the outcomes through PowerPoint presentations and Video demonstrations.
2. Adopt collaborative (Group Learning) Learning in the class.
3. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills and develops thinking skills such as evaluating, generalizing, and analyzing information.

Module-1

Introduction of UNIX - Introduction, History, Architecture, Experience the Unix environment, Basic commands ls, cat, cal, date, calendar, who, printf, tty, sty, uname, passwd, echo, tput, and bc**TLP:** PowerPoint Presentation, Chalk and Talk

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Module-2

UNIX File System- The file, what's in a filename? The parent-child relationship, pwd, the Home directory, absolute pathnames, using absolute pathnames for a command, cd, mkdir, rmdir, Relative pathnames, The UNIX file system.

TLP: PowerPoint Presentation, Chalk and Talk

Module-3

Basic File Attributes - ls – l, the –d option, File Permissions, chmod, Security and File Permission, users and groups, security level, changing permission, user masks, changing ownership and group, File Attributes, More file attributes: hard link, symbolic link, umask, find

TLP: PowerPoint Presentation, Chalk and Talk

Module-4

Introduction to the Shell Scripting - Introduction to Shell Scripting, Shell Scripts, read, Command Line Arguments, Exit Status of a Command, The Logical Operators && and ||, exit, if, and case conditions, expr, sleep and wait, while, until, for, $, @, redirection. The here document, set, trap, Sample Validation and Data Entry Scripts

TLP: PowerPoint Presentation, Chalk and Talk

Module-5

Introduction to UNIX System 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

TLP: PowerPoint Presentation, Chalk and Talk

Course Outcomes:

At the end of the course, the student will be able to:

Sl. No.	Description	Blooms Level
CO1	To help the students to understand effective use of Unix concepts, commands and terminology.	L2
CO2	Understand the UNIX file system.	L2
CO3	Understand UNIX command syntax and semantics and identify, access, and evaluate file permissions.	L2
CO4	Ability to read and understand specifications, scripts and programs.	L2
CO5	Analyze Facility with UNIX Process	L4

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 50% of the maximum marks. Minimum passing marks in SEE is 40% of the maximum marks of SEE. A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 50% (50 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

1. Two Unit Tests each of **20 Marks**
2. Two assignments each of **20 Marks** or one **Skill Development Activity of 40 marks a to attain the COs and POs**
3. The sum of two tests, two assignments/skill Development Activities, will be scaled down to 50 marks
4. **CIE methods/question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.**

Semester End Examination:

1. The SEE question paper will be set for 100 marks and the marks scored will be proportionately reduced to 50.
2. The question paper will have ten full questions carrying equal marks.
3. Each full question is for 20 marks. There will be two full questions (with a maximum of four subquestions) from each module.
4. Each full question will have a sub-question covering all the topics under a module.

List of Textbooks

1. Unix Concepts & Applications 4rth Edition, Sumitabha Das, Tata McGraw Hill References:
2. Unix Shell Programming, Yashwant Kanetkar
3. Introduction to UNIX by M G Venkatesh MurthyJava- The Complete Reference, 7th Edition, By Herbert Schildt– McGraw Hill publication.

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code: BBCA205	**UNIX AND SHELL SCRIPTING**											**Faculty: YATHIRAJ D N**
List of Course Outcomes	**Program Outcomes**											
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1												
CO2												
CO3												
CO4												
CO5												
Total												

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contribution