SECOND-YEAR OF BACHELOR OF COMPUTER SCIENCE SKILL ENHANCEMENT COURSES (SEC) REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: .NET TECHNOLOGY
SEMESTER-IV, W.E.F. 2024-2025

Recommended by the Board of Studies in Computer Science
And
Approved by the Academic Council

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: _____

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Computer Science
Name of the Class	:	Second Year
Semester	:	Fourth
No. of Credits	:	02
Title of the Course	:	Linux
Course Code	:	S401CST
Name of the Vertical in adherence to NEP 2020	:	Major
Eligibility for Admission	:	Any 12th Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for TE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2023-2024
Ordinances /Regulations (if any)		

Syllabus for second Year of Bachelor of Science in Computer Science

(With effect from the academic year 2024-2025)

SEMESTER-IV **Paper No.– 1**

Course Title: Linux **No. of Credits - 02**

Type of Vertical: Major **COURSE CODE:** S401CST

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	understand	Understanding knowledge of Linux, from both a graphical and command line perspective, allowing them to easily use any Linux distribution.
CLO-02	Apply	Progress as a Developer or Linux System Administrator using the acquired skill set.
CLO-03	Implement	Install softwares like compilers and develop programs in C and Python programming languages on Linux Platform

Syllabus for Second Year of Bachelor of Science in Computer Science

(With effect from the academic year 2024-2025)

SEMESTER-IV **Paper No.– 1**

Course Title: Linux **No. of Credits - 02**

Type of Vertical: Major **COURSE CODE: S401CST**

COURSE CONTENT			
Module No.	**Content**	**Credits**	**No. of Lectures**
1	**Introduction**: History of Linux, Philosophy, Community, Terminology, Distributions, Linux kernel vs distribution. Why learn Linux? Importance of Linux in software ecosystem: web servers, supercomputers, mobile, and servers. **Installation**: Installation methods, Hands on Installation using CD/DVD or USB drive. **Linux Structure** :Linux Architecture, Files ystem basics, The boot process, init scripts, run levels, shutdown process, Very basic introductions to Linux processes, Packaging methods: rpm/deb, Graphical Vs Command line. **Graphical Desktop** Session Management, Basic Desktop Operations, Network Management, Installing and Updating Software, Text editors: gedit, vi, vim, emacs, Graphics editors, Multimedia applications. **Command Line** Command line mode options, Shells, Basic Commands, General Purpose Utilities, Installing Software, User management, Environment variables, Command aliases.	01	15
2	**Unit II** **Linux Documentation** man pages, GNU info, help command, More documentation sources **File Operations** Filesystem, Filesystem architecture, File types, File attributes, Working with files, Backup, compression **Security** Understanding Linux Security, Uses of root, sudo command, working with passwords, Bypassing user authentication, Understanding ssh **Networking** Basic introduction to Networking, Network protocols: http, ftp etc., IP address, DNS, Browsers, Transferring files. ssh, telnet, ping, traceroute, route, hostname, networking GUI. **Basic Shell Scripting** Features and capabilities, Syntax, Constructs, Modifying files, Sed, awk command, File manipulation utilities, Dealing with large files and Text, String manipulation, Boolean expressions, File tests, Case, Debugging, Regular expressions	01	15
	Total	**02**	**30**

Required Previous Knowledge:

Students should know the types of basic computer handling and computer applications

Access to the Course

The course is available for all the students who have selected Computer Science as a major DSC.

Methods of Assessment:

Vocational Skill Courses, Skill Enhancement Courses and the courses having laboratory session shall be assessed at the end of each semester.

Reference book:

- UNIX Concepts and Applications by Sumitabha Das.
- Official Ubuntu Book, 8th Edition, by Matthew Helmke & Elizabeth K. Joseph with Jose Antonio Rey and Philips Ballew, Prentice Hall

Text book:

- Techmax publication book

Additional References:

- Linux kernel Home: http://kernel.org
- Open Source Initiative: https://opensource.org/
- The Linux Foundation: http://www.linuxfoundation.org/