

**"Education for knowledge, science and culture" - Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha's**

Vivekanand College (An Empowered Autonomous Institute), Kolhapur

Department of B.Sc. Computer Science Entire

Three- Years UG Program

(As per NEP-1.0)

Year of implementation: Academic Year 2025-26 onwards

Semester V

Course Title Operating System

Course Code: DSC06COM51

CO1:	Define what an operating system is.
CO2:	Describe the process management of OS.
CO3:	Describe the memory management of OS.
CO4:	Explain file management and deadlocks.

Course Title: Core Java

Course Code: DSC06COM52

CO1:	Understand structure of java program, jvm, Type conversion
CO2:	Explain and implements programs in java using control statements, method overloading, constructors, array of objects, keywords this and static,
CO3:	Write program on inheritance, package, abstract class and interfaces
CO4:	Implement multithreading in object oriented programs.

Course Title C# Programming

Course Code: DSC06COM53

CO1:	Apply knowledge of Event driven & sequence driven programming in .net framework architecture, understand assembly, namespace, garbage collector & JIT Compilers
CO2:	Implement data types, operators, conditional, unconditional & looping statements.
CO3:	Understand concept of class, object, & OOP concepts
CO4:	Explain Different controls in window application, events & properties of controls.

Course Title PHP Programming

Course Code: DSC06COM54

CO1:	Understand the basics of PHP programming language and its role in web development.
CO2:	Implement programs in PHP using arrays and functions.
CO3:	Learn string manipulation and regular expression in PHP
CO4:	Design web forms using HTML and process user input using PHP and understand Database Connectivity with MySQL.

Course Code: DSE06COM51

Course Title Software engineering with UML

CO1:	Understand the basics of software and software engineering by learning system's development life cycle.
CO2:	Understand traditional models and agile methodology.
CO3:	Understand and learn different fact finding techniques and learn the importance of SRS in s/w development.
CO4:	Study use of Unified modelling language and learn how to draw UML diagram, understand the basic overview of software testing.

Course Code: DSE06COM52

Course Title: E-Commerce

CO1:	Acquire the basic concept of E-Commerce
CO2:	Impart knowledge on electronic payment systems
CO3:	Enable the students on network security and firewall
CO4:	Know and apply various digital payment methods

VSC-PR-IV

Course Code: VSC06STA59

Course Title: Introduction to Python

CO1:	Learn how to install Python, start the Python shell
CO2:	Learn decision making statements in python.
CO3:	Implement collection in python
CO4:	Implement Python programs using functions.

Semester 6

Course Code: DSC06COM61

Course Title: Linux Operating System

CO1:	Implement GPU commands, directory handling, file handling commands.
CO2:	Implement filters and process commands.
CO3:	Implement shell scripts with basic instructions.
CO4:	Implement shell programs with conditional statements instructions.

Course Code: DSC06COM62

Course Title: Advanced Java

CO1:	Design of Graphical User Interface swing controls.
CO2:	Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).
CO3:	Develop web application using Java Servlet technology
CO4:	Develop web application using Java Server Pages technology

Course Code: DSC06COM63

Course Title: Advanced C#

CO1:	Explain different types of errors, structured & unstructured exception, to understand how to trace errors.
CO2:	Implement database connection, connected & disconnected architecture
CO3:	Understand data binding to controls, data validations.
CO4:	Implement crystal Reports with database

Course Code: DSC06COM64

Course Title: Cyber Security

CO1:	Understand importance of computer network cyber security.
CO2:	Learn different security threats.
CO3:	Understand data binding to controls, data validations.
CO4:	Implement crystal Reports with database

Course Code: DSE06COM61

Course Title: Artificial Intelligence

CO1:	Understand the basics of Artificial Intelligence, Goals of A.I., Branches of A.I., Applications of A.I., Types of A.I.
CO2:	Explain Intelligence in A.I., components of Intelligence
CO3:	Learn Agents and environment with case study of self-driving car, explain concept of Search algorithm and terminologies.
CO4:	Explain Types of Search Algorithms and understand Natural Language Processing.

Course Code: DSE06COM61

Course Title: Data Mining

CO1:	Understand the principles of Data Mining.
CO2:	Recognize the process of data cleaning and pre-processing for mining applications.
CO3:	Identify associations and correlations on any given data sets
CO4:	Distinguish problems related to classification and clustering

VSC-PR-V**Course Code: VSC06STA69****Course Title: Statistical methods using Python**

CO1:	Learn Descriptive Statistics using python
CO2:	Evaluate various visualizing techniques using python.
CO3:	Apply Statistical Inference in python.
CO4:	Apply Statistical model to data with Python.