Bharati Vidyapeeth's

Dr. Patangrao Kadam Mahavidyalaya, Sangli

Department of Computer Science	
Sr. No	**Program Specific Outcome**
PSO 1	To provide opportunities to the students to acquire computer knowledge of latest software & hardware technology.
PSO 2	To provide opportunity to students to learn the latest trends in Computer Science.
PSO 3	To provide opportunities to the students to develop different software's using computer programming languages
PSO 4	To provide opportunities to the students to do the jobs in IT Industry as software developer, Database administrator, Software tester, Data Scientist etc. and to formulate analyse and solve real life problems faced in IT Industry

Program Outcomes	
Sr. No	**Program Outcome**
PO-1	Student will gain fundamental knowledge of computer which will help the for PG studies and Research
PO-2	Student will be able to know good laboratory practices and lab safety.
PO-3	To make the learner proficient in analysing the various observations and Computer phenomena presented to him during the course.
PO-4	Students will be able to apply the fundamental knowledge to address the cross-cutting issues such as sustainable development
PO-5	Students will be able to solve various problems by identifying the essential parts of a problem, formulate strategy for solving the problem, applying appropriate techniques to arrive at a solution, test the precision and accuracy of the solution and interpret the results.
PO-6	Students will be able to communicate effectively i.e. being able to articulate, comprehend and write effective reports, make effective presentations and documentation and capable of expressing the subject through technical writing as well as through oral presentation.

Program Name – B.Sc. I	
Course Name/ paper	**Course Outcome** **By the end of each of the following course, the students will be able to:**
Paper I DSC – 11 A Problem solving using Computers	CO 1: Design algorithms and flowcharts, basic knowledge of programming and logic development. CO 2: Students can solve real world problems using appropriate set, function, and relational models. CO 3: Design E-R Model for given requirements and convert the same into database tables. CO 4: Implement algorithms in the 'C' language and Develop modular programs using control structures and arrays in 'C'
Paper-II DSC-12A DBMS	CO 1: Collect data, how to retrieve, modify and delete data, how to avoid duplicate data. CO 2: Student can Understand the basic principles of database management systems. CO 3: Draw Entity-Relationship diagrams to represent simple database application scenarios. CO 4: Ability to solve real world problems using appropriate set, function, and relational models.
Paper-III DSC-11B Programming Skills using 'C'	CO 1: Design algorithms and flowcharts, basic knowledge of programming and logic development. CO 2: Define a problem at the view level & ability to understand the physical structure of the programming flow CO 3: Implement the logic by using different loops, Control Structure like as if, else, Switch, while, do while etc. CO 4: Ability to normalize the array and structure
Paper-IV DSC -12B Relational Database management System	CO 1: Create the database using queries and form some operation on that database like crate table, select data from that table, modify table data, and programmers using PLSQL blocks. CO 2: Create database tables in PostgreSQL. and able to write and execute simple and nested queries. CO 3: Use database techniques such as SQL & PL/SQL. CO 4: Understand and able to implement concept of transactions

Practical's	CO 1: Get the knowledge about basic computer programming language and database management system. CO 2: Perform advanced database operations to study data security and its importance. CO 3: Get the knowledge about some operation on that database like crate table, select data from that table, modify table data, and programmers using PLSQL blocks. CO 4: Implement the logic by using tools like ERD

Program Name – B.Sc. II	
Course Name/ paper	**Course Outcome** **By the end of each of the following course, the students will be able to:**
Paper V DSC-11C PHP	CO 1: Learn HTML for designing CO 2: Analyze the basic structure of a PHP web application and be able to install and maintain the web server, compile, and run a simple web application. CO 3: Learn how databases work and how to design one, as well as how to use PHP work with MySQL. CO 4: Hypertext pre-processor, in that you can create dynamic websites, connectivity with my-sql server
Paper-VI DSC-12C C++	CO 1: Get the idea of creating classes and objects the basics of oops. The initialization & declaring the object with constructor and destructor. Inheritance chapter lets to know about reusing classes. Polymorphism is used to run time binding. CO 2: Understand the concept of object oriented programming CO 3: Learn use the benefits of object oriented design and understand when it is an appropriate methodology to use. CO 4: Create and Design object oriented solutions for small systems involving multiple objects
Paper VII DSC-12D Data Structure	CO 1: Understand the basic concepts such as Abstract data types, liner and non-liner data. Able to analyses and implement various kinds of searching and sorting techniques. CO 2: Understand different methods of organizing large amount of data using data structure. CO 3: Choose appropriate data structure as applied to specified problem definition. CO 4: Understand various techniques for representation of the data in the real world.
Paper VIII DSC-11D Cyber security	CO 1: Create awareness about cybercrimes. CO 2: Effectively communicate in a professional setting to address information security issues . CO 3: Protect and defend computer systems and networks from cybersecurity attacks.

	CO 4: Diagnose and investigate cybersecurity events or crimes related to computer systems and digital evidence.
Practical's:	CO 1: Identify Hypertext pre-processor, in that they can create dynamic websites, connectivity with using My-Sql database server. It is server side scripting language, learn HTML for designing. CO 2: Develop object-oriented programming approach and enhance to design, implement, and evaluate a computational system to meet desired needs within realistic constraints. CO 3: Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures CO 4: Use linear and non-linear data structures like stacks, queues , linked list etc.

Program Name – B.Sc. III	
Course Name/ paper	**Course Outcome** **By the end of each of the following course, the students will be able to:**
Paper IX Core Java	CO 1: Object oriented programming concepts using Java. CO 2: Get knowledge of input, its processing and getting suitable output. CO 3: Understand, design, implement and evaluate classes and applets. CO 4: Understand concept of Multiprogramming and Exception Handling
Paper-X C# Programming	CO 1: cover the practical aspects C#.NET framework. CO 2: Introduce the students to the basics of OOPs and windows application program. CO 3: Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines. CO 4: Develop a greater understanding of the issues involved in c# programming language design and implementation.
Paper XI LINUX Part I	CO 1: Get a good working knowledge of Linux. CO 2: Use any Linux distribution. CO 3: Learn advanced subjects in computer science practically. CO 4: Understand the processes background and fore ground by process and signals system calls.
Paper XII Python Part I	CO 1: Develop distributed business applications, develop web pages. CO 2: Using advanced server-side programming through servlets and Java server pages. Using advanced server-side programming through servlets and Java server pages. CO 3: Demonstrate approaches for performance and effective coding to learn database programming using Java. CO 4: Study web development concept using Servlet and JSP.

Paper XIII Advanced Java	CO 1: Develop distributed business applications, develop web pages. CO 2: Using advanced server-side programming through servlets and Java server pages. Using advanced server-side programming through servlets and Java server pages. CO 3: Demonstrate approaches for performance and effective coding to learn database programming using Java. CO 4: Study web development concept using Servlet and JSP
Paper XIV ASP .NET	CO 1: This course will cover the practical aspects of multi-tier web-based application development CO 2: Using the .NET framework. CO 3: The goal of this course is to introduce the students to the basics of distributed Web application development. CO 4: Perform form validation with validation controls
Paper XV Linux Part II	CO 1: This course covers design principles of Linux Operating System Memory management. CO 2: Structure of File system and virtual file system is also elaborated. CO 3: This course contains details of shell programming and introduces System administration CO 4: Elaborate the system calls for process management and file management.
Paper XVI Python Part II	CO 1: Learn how to write functions and pass arguments in Python. CO 2: Learn how to build and package Python modules for reusability. CO 3: Learn how to use exception handling in Python applications for error handling. CO 4CO 1: Learn how to write functions and pass arguments in Python.

Practical Paper – IV Based on Paper No. IX, X, XIII and XIV.	CO 1: Acquire a good knowledge of the computer network, its architecture and operation; understand and apply the principles and practices of computer networks. CO 2: Understand object-oriented programming concepts, and apply them in solving Problems. CO 3: Build and debug well-formed Web Forms with ASP. NET Controls. CO 4: Create custom controls with user controls
Practical Paper – V Based on Paper No. XI, XII, XV and XVI.	CO 1: Understand the basic commands of Linux operating system and can write shell scripts CO 2: Create file systems and directories and operate them; Students will be able to create processes background and fore ground etc. CO 3: Understand various OOP's Concepts CO 4: Apply the logic to solve programs
Practical Paper – VI Major Project work done by the student.	CO 1 Learn software designing process using appropriate techniques, skills, and tools necessary for developing computer application (software). CO 2: Apply design and development principles in the construction of software systems of varying complexity. CO 3: Understand how to build a software. CO 4: Learn and understand all SDLC models to design a software