

“Dissemination of Education for Knowledge, Science and Culture”

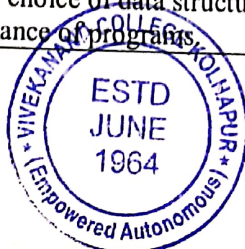
-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

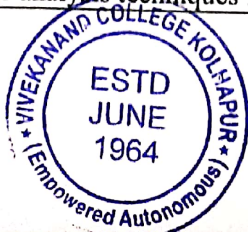
VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

Department of Computer Science

| M.Sc. I Computer Science (Implemented from JUNE 2023) | |
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| SEMESTER-I | |
| DSC-I (DSC19CSC11): Problem Solving using Python | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the fundamental algorithms and data structures, enabling them to analyze and solve complex problems efficiently using Python programming. |
| CO2: | Acquire advanced proficiency in Python programming, including knowledge of its syntax, libraries, and best practices. |
| CO3: | Apply their Python programming skills to solve real-world problems across various domains, including but not limited to data analysis, machine learning, and software development. |
| CO4: | Develop skills in working with others to solve problems using Python. |
| DSC-II (DSC19CSC12): Advanced Database Techniques | |
| Course Outcomes: | Students will able to |
| CO1: | Demonstrate proficiency in translating SQL queries into relational algebra and other operators. |
| CO2: | Acquire a comprehensive understanding of transaction management, concurrency control and recovery techniques. |
| CO3: | Understand the fundamentals of distributed databases and distributed database management systems (DDBMS). |
| CO4: | Gain insights into NoSQL databases, including their features, advantages and disadvantages. |
| DSE-I (DSE19CSC11): Design and Analysis of Algorithms | |
| Course Outcomes: | Students will able to |
| CO1: | Analyze performance of algorithms, choose the appropriate data structure like Stack, Queue and Linked List, tree, graph and algorithm design method for a specified application. |
| CO2: | Understand how the choice of data structures and algorithm design methods impacts the performance of programs. |



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| CO3: | Solve problems using algorithm design methods such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound. |
| CO4: | Demonstrate the ability to identify and solve real-world problems using algorithmic techniques learned in the course. |
| DSE-II (DSE19CSC12): Theory of Computer Science | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the basic mathematical concepts such as set theory, relations, functions, mathematical induction, and recursive definitions. |
| CO2: | Understand the concepts of alphabets, strings, and languages, and be able to design regular grammars and finite automata. |
| CO3: | Gain proficiency in computability theory, understanding the concepts of Turing machines, recursive and recursively enumerable languages, and the implications of undecidability and incompleteness theorems. |
| CO4: | Apply theoretical concepts to practical scenarios in compiler design. |
| RMD-I (RMD19CSC11): Research Methodology | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the principles and significance of research methodology in computer science. |
| CO2: | Identify and formulate research problems, defining clear research questions and hypotheses. |
| CO3: | Apply both quantitative and qualitative research methods, including data collection and analysis techniques, to address research questions. |
| CO4: | Demonstrate effective research communication skills. |
| SEMESTER-II | |
| DSC-III (DSC19CSC21): Advanced Java Programming | |
| Course Outcomes: | Students will able to |
| CO1: | Demonstrate proficiency in advanced Java concepts and language features. |
| CO2: | Effectively use Java for database connectivity and advanced database interactions. |
| CO3: | Develop dynamic and scalable web applications using Java technologies. |
| CO4: | Apply Java in real-world scenarios to solve complex programming challenges. |
| DSC-III (DSC19CSC22): Digital Image Processing | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the fundamentals of digital image processing. |
| CO2: | Apply image analysis techniques for solving real-world problems. |



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| CO3: | Explore advanced topics in digital image processing, including image restoration, wavelet transforms, and applications in medical imaging. |
| CO4: | Utilize deep learning approaches for image analysis and processing. |
| DSE-III (DSE19CSC21): Data Mining and Data Warehousing | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the fundamental concepts of data mining and data warehousing. |
| CO2: | Design and implement a data warehouse, including ETL processes and dimensional modeling. |
| CO3: | Apply various data mining techniques and algorithms to solve real-world problems. |
| CO4: | Explore advanced topics and emerging trends in data mining, including big data integration, spatial and temporal data mining. |
| DSE-III (DSE19CSC22): Embedded and IoT Technology | |
| Course Outcomes: | Students will able to |
| CO1: | Understand the fundamentals of embedded systems. |
| CO2: | Design and develop IoT devices and applications. |
| CO3: | Explore advanced topics in embedded systems and IoT and wireless sensor networks. |
| CO4: | Apply their knowledge to real-world projects, demonstrating the ability to plan, develop, and present embedded systems and IoT solutions. |




HEAD
 DEPARTMENT OF COMPUTER SCIENCE
 VIVEKANAND COLLEGE, KOLHAPUR
 (EMPOWERED AUTONOMOUS)