Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)

Department of Computer Science

M.Sc.-I Computer Science (Implemented from June 2023)	
SEMESTER – I	
DSC-I (DSC19CSC11): Problem Solving using Python	
Course Outcomes:	Students will able to
CO1:	Understand the basics of python programming.
CO2:	Understand the concepts like files, exceptions and object orientation and solve real life problems for the same.
CO3:	Design the Graphical and GUI applications.
CO4:	Get acquainted with open-source libraries of python like NumPy, Pandas and Matplotlib and their applicability.
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:	Understand the concept of algorithms and its design.
CO2:	Learn the usability, techniques of analysis and design strategies of algorithms.
CO3:	Study the different algorithms and its applications
CO4:	Design efficient algorithms for complex problems and improve its performance.
DSE-I (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 (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-IV (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.
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-II (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-II (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.

CO-ORDINATOR
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