

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

Department of Computer Science

Post Graduate M.Sc. -II Computer Science Program 2022-23

Program Outcomes (POs) for M.Sc.

- PO 1: Disciplinary Knowledge:** Demonstrate comprehensive knowledge of the concerned discipline and execute theoretical and practical understanding
- PO 2: Research-related skills and Scientific temper:**
Infer scientific literature and formulate hypothesis for research problems; plan and write a research paper/project while emphasizing on academics and research ethics, scientific conduct and creating awareness about intellectual property rights and issues of plagiarism.
- PO 3: Entrepreneurship Development:** Apply acquired knowledge to build entrepreneurship
- PO 4: Environment and Sustainability:** Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
- PO 5: Self-directed and Life-long learning:** Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

Program Specific Outcomes (PSOs) for M.Sc. Computer Science:

- PSO 1:** Ability to design, analyze and implement efficient algorithms to solve complex computational problems.
- PSO 2:** Proficiency in using programming languages such as Python, Java, and PHP for software development to design and develop software solutions adhering to industry standards and best practices.
- PSO 3:** Competence in designing and managing relational databases and Proficient in utilizing database management systems to handle data efficiently and securely.
- PSO 4:** Understanding and implementation of cybersecurity measures to safeguard computer systems and networks and Capability to analyze and mitigate security threats, ensuring the integrity and confidentiality of information.
- PSO 5:** Proficient in web technologies and frameworks for developing modern and interactive web applications to design and develop mobile applications using platforms like Android with Kotlin.



Course Outcomes (COs) for M.Sc. Computer Science:

M.Sc. II (SEM-III)		
1.	CC-2512	Artificial Intelligence
	<p>CO 1: Understand the fundamentals of artificial intelligence, including knowledge representation, search algorithms, and problem-solving.</p> <p>CO 2: Implement machine learning algorithms for tasks such as classification, regression, and clustering.</p> <p>CO 3: Develop intelligent agents using concepts from robotics, natural language processing, and expert systems.</p> <p>CO 4: Apply AI techniques in real-world scenarios, such as computer vision, speech recognition, and game playing.</p> <p>CO 5: Evaluate ethical considerations and societal impacts related to the deployment of artificial intelligence systems.</p>	
2.	CC-2513	Advanced Web Technology
	<p>CO 1: Develop dynamic and interactive web applications using advanced JavaScript frameworks and libraries.</p> <p>CO 2: Implement server-side scripting using technologies such as Node.js for scalable and high-performance web applications.</p> <p>CO 3: Design and optimize databases for web applications, considering factors such as normalization, indexing, and query optimization.</p> <p>CO 4: Utilize web services and APIs to enable data exchange and integration between web applications and external systems.</p> <p>CO 5: Implement security measures for web applications, including encryption, authentication, and protection against common vulnerabilities.</p>	
3.	CC-2514	PHP
	<p>CO 1: Develop dynamic and data-driven web applications using PHP scripting language.</p> <p>CO 2: Implement server-side scripting techniques for handling user input, form processing, and data validation in PHP.</p> <p>CO 3: Utilize PHP frameworks, such as Laravel or Symfony, for efficient and scalable web application development.</p> <p>CO 4: Design and interact with databases using PHP and MySQL, including data retrieval, insertion, and modification.</p> <p>CO 5: Implement security measures in PHP applications, addressing common vulnerabilities and ensuring data integrity.</p>	



4.	CC-2515	Network Security Analyst
<p>CO 1: Understand the principles of network security and the importance of securing information systems.</p> <p>CO 2: Identify and analyze network vulnerabilities and threats, employing tools and techniques for risk assessment.</p> <p>CO 3: Implement security measures, including firewalls, intrusion detection systems, and encryption, to safeguard network infrastructure.</p> <p>CO 4: Conduct security audits and vulnerability assessments to assess and enhance the overall security posture of a network.</p> <p>CO 5: Develop incident response plans and strategies for detecting, responding to, and mitigating cybersecurity incidents on a network.</p>		



(Dr. V. B. Waghmare)

HEAD

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