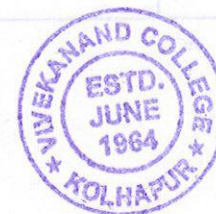




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Department of Computer Science

**Curriculum relevance: Course outcomes with relevance to Local, Regional, National Global needs (PG) 2022-23 to 2023-24**

Sr. No.	Course Code	Course / SECs Titles	Year of Introduction	COs and PSOs with relevance to local/ regional needs	COs & PSOs with relevance to national needs	COs & PSOs with relevance to global needs
1.	CC-2500 A	<b>Design and Analysis of Algorithms</b>	<b>2022-23</b>	<b>PSO 1:</b> Ability to design, analyze and implement efficient algorithms to solve complex computational problems. <b>CO 1:</b> Understand and apply various algorithmic design paradigms, including divide and conquer, dynamic programming, and greedy algorithms.	<b>CO 4:</b> Apply graph algorithms, sorting algorithms, and searching algorithms to solve practical problems.	<b>CO 5:</b> Evaluate the trade-offs between different algorithms and choose the most appropriate solution based on problem requirements.
2.	CC-2501 A	<b>Python Programming</b>	<b>2022-23</b>	<b>CO 1:</b> Develop Python programs for solving diverse computational problems, demonstrating proficiency in the language's syntax and features.	<b>CO 2:</b> Utilize Python libraries and frameworks for efficient software development, including NumPy, pandas, and Django.	<b>PSO 2:</b> 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.
3.	CC-2502 A	<b>Database Management System</b>	<b>2022-23</b>	<b>CO 1:</b> Design normalized relational database schemas, considering data integrity, consistency, and efficiency.	<b>PSO 3:</b> Competence in designing and managing relational databases and Proficient in utilizing database management systems to handle data efficiently and securely.	<b>CO 4:</b> Develop stored procedures, triggers, and views to enhance the functionality and performance of a database.
4.	CC-2503 A	<b>Cyber Security</b>	<b>2022-23</b>	<b>CO 1:</b> Understand the fundamentals of cybersecurity, including threats, vulnerabilities, and risk management.	<b>PSO 4:</b> 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.	<b>CO 4:</b> Develop and implement security policies and procedures to ensure the confidentiality, integrity, and availability of information.






5.	CC-2506	Web Technology	2022-23	CO 1: Develop interactive and responsive web pages using HTML, CSS, and JavaScript.	CO 2: Utilize web development frameworks and libraries for efficient and scalable web application development.	CO 4: Design and optimize databases for web applications, considering factors such as normalization, indexing, and query optimization.
6.	CC-2507	Advanced Java	2022-23	CO 1: Design and implement advanced Java applications using features such as multithreading, generics, and collections.		CO 5: Integrate Java applications with databases using JDBC, ensuring efficient data retrieval and manipulation.
7.	CC-2508	Android Development with Kotlin	2022-23	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. CO 1: Develop Android applications using the Kotlin programming language and leverage its features for concise and expressive code.	CO 2: Design and implement user interfaces for Android applications, considering responsiveness and material design principles.	CO 5: Integrate mobile applications with web services and APIs, enabling seamless data exchange between Android devices and servers.
8.	CC-2509	Software Project Management	2023-24	CO 1: Understand and apply project management principles and methodologies for software development projects.	CO 2: Develop project plans, including scope, schedule, resource allocation, and risk management, using project management tools.	CO 5: Evaluate and implement quality assurance measures, including testing and validation, in the software development lifecycle.
9.	CC-2512	Artificial Intelligence	2023-24	CO 1: Understand the fundamentals of artificial intelligence, including knowledge representation, search algorithms, and problem-solving.	CO 2: Implement machine learning algorithms for tasks such as classification, regression, and clustering.	CO 4: Apply AI techniques in real-world scenarios, such as computer vision, speech recognition, and game playing.
10.	CC-2513	Advanced Web Technology	2023-24	CO 1: Develop dynamic and interactive web applications using advanced JavaScript frameworks and libraries. CO 2: Implement server-side scripting using technologies such as Node.js for scalable and high-performance web applications.	CO 4: Utilize web services and APIs to enable data exchange and integration between web applications and external systems.	CO 5: Implement security measures for web applications, including encryption, authentication, and protection against common vulnerabilities.





11.	CC-2514	PHP	2023-24	<p><b>CO 1:</b> Develop dynamic and data-driven web applications using PHP scripting language.</p> <p><b>CO 2:</b> Implement server-side scripting techniques for handling user input, form processing, and data validation in PHP.</p>	<p><b>CO 4:</b> Design and interact with databases using PHP and MySQL, including data retrieval, insertion, and modification.</p>	<p><b>CO 5:</b> Implement security measures in PHP applications, addressing common vulnerabilities and ensuring data integrity.</p>
12.	CC-2515	Network Security Analyst	2023-24	<p><b>CO 1:</b> Understand the principles of network security and the importance of securing information systems.</p>	<p><b>CO 3:</b> Implement security measures, including firewalls, intrusion detection systems, and encryption, to safeguard network infrastructure.</p>	<p><b>CO 4:</b> Conduct security audits and vulnerability assessments to assess and enhance the overall security posture of a network.</p>



  
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