

List of Courses having focus on Local, National, Regional and Global Developmental Needs offered by the B.Sc. Computer Science

B.Sc. Computer Science						
Programme: B.Sc. (Computer Science)						Year:2020-2023 Batch
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
20UCS101	Core I: Programming in C				✓	To keep in mind the fundamentals of C programming
20UCS102	Core II: Digital Computer fundamentals and organization				✓	To recollect the fundamental concepts and techniques used in digital electronics.
20UCS1A1	Allied-1: Mathematics-I		✓			To recollect the definition of matrix and determinants and perform various operations on it
20UCS103	Core Lab I: Programming Lab in C		✓			To implement different operations on arrays and use functions to solve the given problems.
20UCS204	Core III: Object Oriented Programming Using C++	✓				To remember the basic OOPs concepts such as Class, Inheritance, Abstraction, Polymorphism etc.
20UCS205	Core IV: Data and File Structure		✓			To keep in mind the basic static and dynamic data structures and relevant standard algorithms for them

20UCS2A2	Allied -2: Mathematics-II (Discrete Mathematics)			✓		To keep in mind about the fundamental ideas and notation of discrete mathematics with examples
20UCS206	Core Lab II: Programming Lab in C++			✓		To apply the basic concepts of C++ such as function, friend functions and array of objects to solve a particular problem.
19UCS307	Core V: Java Programming		✓			To remember the OOPs concepts such as class, methods, inheritance, encapsulation and polymorphism etc
19UCS308	Core VI: Relational Database Management System and Oracle				✓	To remember the basic concepts and applications of database systems and SQL.
19UCS309	Core VII: Operating System	✓				To understand the concepts of Storage Allocation, Process Management, and Scheduling Algorithms
19UCS3A3	Allied -3 : Computer Based Optimization Techniques			✓		To remember the Linear Programming Problem concepts such as Mathematical formulations, Graphical Method, Two-phase problem, etc.
19UCS310	Core Lab III: Programming Lab in Java		✓			To apply the basic concepts of Java such as class, methods, constructors, arrays and interfaces to solve the

						problems.
19UCS311	Core Lab IV: Programming Lab in RDBMS				✓	To apply the normalization techniques for development of application software to realistic problems and ability to formulate queries using SQL DML/DDI/DCL commands
19UCS412	Core VIII: . NET Programming	✓				To remember the OOPs concepts such as class, objects, methods, Inheritance etc.
19UCS413	Core IX: Data Communication and Computer Networks		✓			To remember the basic concepts Networks
19UCS414	Core X: Software Engineering			✓		To recollect basic software quality assurance practices to ensure that software designs, development, and maintenance meet or exceed applicable standards.
19UCS415	Core Lab V: . NET Programming Lab				✓	To get the idea of developing application projects using ADO.NET
19UCS416	Core Lab VI: Multimedia Lab	✓				To apply the different type of tools available in Photoshop to create simple applications.

18UCS517	Core XI: Linux				✓	To remember the operating system architecture and low level interfaces that are required to build Linux systems
18UCS518	Core XII: Kotlin Programming	✓				To get an idea about classes, objects, properties, fields and interfaces of kotlin.
18UCS519	Core XIII: Cyber Security		✓			Assess cyber security risk management policies in order to adequately protect an organization's critical information and assets.
18UCS520	Core Lab VII: Linux Lab			✓		To evaluate the basic set of commands and utilities in Linux systems.
18UCS521	Core Lab VIII: programming Lab using Kotlin				✓	To Design and develop user Interfaces for the Android platform.
18UCS5E1	Software Testing	✓				To remember the software development life cycle phases, quality assurance and quality control.
18UCS5E2	Distributed Computing		✓			To remember the basic elements and concepts related to distributed system technologies;
18UCS5E3	Client/Server Technology			✓		To Understand the components used for client-server development.
18UCS622	Core XIV: Python				✓	Core XIV: Python Programming

	Programming					
18UCS623	Core Lab IX: Python Programming Lab	✓				
18UCS624	Core Lab X: Advanced Applications in MS Excel Lab		✓			
18UCS6E4	Data mining and Warehousing				✓	Develop skill in selecting the appropriate data mining algorithm for solving practical problems
18UCS6E5	Enterprise Resource Planning		✓			To remember the knowledge of typical ERP systems, and the advantages and limitations of implementing ERP systems.
18UCS6E6	Grid and Cloud Computing				✓	To review the applications of various cloud services development tools such as Amazon Ec2, Google App Engine and IBM clouds.
18UCS6E7	Multimedia Packages	✓				To understand the user requirements and project development techniques using audio, video and text.
18UCS6E8	Big data Analytics		✓			To understand the concept and challenge of big data and why existing technology is inadequate to analyze the big data

18UCS6E9	Android Programming			✓	To get an idea of the UI - components, event handling, and screen orientation, various controls, fragments and examples.
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BOS Chairman

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