Department of Computer Science

B.Sc. Computer Science

S.No.	Course Code	Course Name	Course Outcomes
		SEMESTER- I	
1.	18UCSC11	Core Course – I : Programming in C	1. Develop their art of programming in c. 2. Identify situations where computational methods and computers would be useful. 3. Given a computational problem, identify and abstract the programming task involved. 4. Gain knowledge to use branching, looping, arrays, structures and pointers. 5. Choose the right data representation formats based on the requirements of the problem. 6. Use the comparisons and limitations of the various programming constructs. 7. Implement file operations for given applications.
2.	18UCSC1P	Core Course – II: Programming in C Lab	1. Familiarization of language environment. 2. To implement various concepts related to language. 3. Select and model data using primitive and structured types. 4. Apply C features including arrays, structures and pointers. 5. Employ good software engineering practices such as

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			incremental development. 6. Gain the knowledge in File Operation & file functions. 7. To read, understand and trace the execution of programs written in C language
3.	18UCSE11	Enrichment Course – I: Introduction to Microprocessor & Computer Organization	1. Be familiar with the functions units of the processor such as registers, arithmetic logic unit. 2. Be familiar with the representation of data, addressing modes, instruction set. 3. Understand the 8085 microprocessor kit, knowledge of 8085 instruction set and utilize it in applications. 4. Understand the real mode Memory addressing and interface in various devices to the microprocessor. 5. Gain knowledge about architecture and programming and various applications in advanced microprocessor
4.	18UCSN11	Non Major Elective Course – I: Introduction to Computer Science	1. Understand the basics of computer. 2. Gain the knowledge about the functioning of computer. 3. Able to work with documents. 4. Gain the knowledge about electronic spreadsheet
SEMESTER – II			
5.	18UCSC21	Core Course – III: OOPs with C++ and Data Structure	1. Understand the difference between object oriented programming and procedural oriented languages and data types in C and C++. 2. Be able to program using C++ features such as

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			composition of objects, Operator overloading, inheritance, Polymorphism. 3. Understand the basic concepts of data structures and algorithms. 4. Identify appropriate data structure as applied to specified problem definition. 5. Acquire skill to handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures. 6. Gain knowledge to describe and simulate various linear data structures like stacks, queues, linked lists using static and dynamic allocation and use them in solving problems. 7. Acquire knowledge to simulate nonlinear data structures like binary search tree and use them in designing applications like sorting, expression trees.
6.	18UCSC2P	Core Course – IV: C++ and Data Structure Lab	1. Be able to understand the difference between object oriented programming and procedural oriented language and data types in C++. 2. Be able to program using C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism. 3. Making the students to be able to use linear and non-linear data structures like stacks, queues. 4. Understanding simple sorting algorithms.

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			5. Student will be able to choose appropriate data structure as applied to specified problem definition. 6. Understanding various linked list concepts. 7. Students will be able to use linear and non-linear data structures like stacks, queues, linked lists.
7.	18UCSE2P	Enrichment Course – II : DTP and Multimedia Lab	1. Acquire skills to work with various designing tools. 2. Acquire Creativity in banner / logo / invitation / visiting card designing. 3. Develop various effects on images. 4. Apply various animations on images. 5. Familiarization of animation environment.
8.	18UCSN21	Non Major Elective Course – II: Introduction to Internet	1. Understand the basics of internet. 2. Gain the knowledge about internet connection and addresses. 3. Able to send email with necessary attached materials. 4. Able to create and work with webpages.
SEMESTER – III			
9.	18UCSC31	Core Course – V: Java Programming	1. Knowledge of the structure and model of the Java programming language. 2. Use the programming language for various programming technologies. 3. Able to provide practical Evidence of programming concepts to solve problems using object oriented

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			programming language. 4. Provide practical evidence using programming constructs and explanation to express the understanding of the outcomes. 5. Demonstrated by successful completion of the individual report that includes analysis, design and production of object oriented programs and explanations of concept and logic. 6. Evaluate user requirements for software functionality required to decide whether the Java programming language to solve the given synthesis.
10.	18UCSC3P	Core Course – VI: Java Programming Lab	1. Understand and apply Object Oriented features. 2. Apply the concept of polymorphism, inheritance and threading to solve real world problems. 3. Implement Exception handling and file operations. 4. The skills to apply OOP in Java programming in problem solving. 5. Choose an engineering approach to solve problems by knowledge of programming and the operating system. 6. Develop graphical interactive application development and JDBC for database transactions.
11.	18UCSS3P	Skill Based Course – I: UML Lab	1. Recognize the difference between various object relationships.

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			2. Construct various UML models using the appropriate notation. 3. Analyse and design complex problems related to project or product. 4. Design case documents that capture requirements for a software system development.
12.	18UCSV3P	Value Based Course – I : Web Designing Lab	1. Understanding the basics of web designing. 2. Able to work with different formatting tags. 3. Able to implement tags and elements efficiently. 4. Able to deal with CSS elements and tags. 5. Able to use JavaScript.
SEMESTER - IV			
13.	18UCSC41	Core Course – VII: Relational Database Management System	1. Understand the database concepts. 2. Gain adequate knowledge to design various database models, schemas and SQL statements. 3. Understand the insights of security and authorization. 4. Improve database efficiency using normal form. 5. Qualify to write queries using algebraic and calculus notations. 6. Access data from various databases.
14.	18UCSC4P	Core – VIII: RDBMS and Visual Programming Lab	1. Create Table with necessary fields. 2. Obtain knowledge to create Table using DDL Commands. 3. Familiarizing in adding constrains in Scheme designing

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			4. Understand the concept of Triggers, Cursors, and Procedures. 5. Qualify in Database connection with front end application. 6. Familiarizing in storing, retrieving and displaying table data.
15.	18UCSO41	Major Elective Course – I: Web Programming	1. Gain knowledge in server side web applications. 2. Attain skills in working standard controls. 3. Acquire knowledge in validation control types and its usage. 4. Acquire in depth skill to implement login control, various menu control for their website. 5. Gain depth knowledge in database control for their website. 6. Skillfully handle master page and themes
16.	18UCSO42	Major Elective Course – I : Computer Algorithm	1. Identify appropriate data structure as applied to specified problem definition. 2. Acquire skill to handle operations like searching, insertion, deletion, traversing mechanism etc. on various techniques. 3. Gain knowledge to describe and simulate various linear data structures like stacks, queues 4. Gain knowledge about linked lists using static and dynamic allocation and use them in solving problems.

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			5. Acquire knowledge to simulate nonlinear data structures like binary search tree and use them in designing applications like sorting, expression trees etc
17.	18UCSO42	Major Elective Course – I: Consumer Affairs	1. Know about the need for consumer protection and the areas covered by consumer protection law. 2. Have a clear idea on legislative controls on unconscionable conduct, misleading or deceptive conduct, false or misleading representations and other unfair practices. 3. Know the legal obligations of a supplier of goods or services. 4. Know the obligations of manufacturers and the rights of consumers to compensation. 5. Know the bodies available to protect the rights of the consumer and discuss their operations. 6. Know the obligations of consumer rights and duties.
SEMESTER - V			
18.	18UCSC51	Core Course – IX: Software Engineering	1. Able to provide solution for any real time problem. 2. Able to apply different software development process models for any kind of domain. 3. Determine software engineering principles and develop an ability to apply them to software design of real life problems. 4. Understanding towards teamwork and quality management in software project management.

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			5. Able to create a test plan for the software. 6. Able to analyze and test a software system, when it is evolved to accommodate a set of change requirements such as adding new functionalities, bug fixing.
19.	18UCSC52	Core Course – X: System Software and Operating System	1. Understand system software such as assembler, interpreter, linker, loader and Compilers. 2. Understanding towards design for Intermediate Code Generation in compiler. 3. Understand the principles and working of computer systems. 4. Learn different types of operating systems along with concept of file systems and 5. CPU scheduling algorithms used in operating system 6. Acquire knowledge in memory management and deadlock handling algorithms.
20.	18UCSC5P	Core Course– XI: PHP Lab	1. State and apply syntaxes of PHP. 2. Practice and use web development tools in order to gain web programming skills. 3. Use and set the values of PHP session variables. 4. The skills to apply web development in problem solving. 5. Efficient use of get and post method. 6. Choose an engineering approach to solve problems by

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			knowledge of programming
21.	18UCSC5Q	Core Course - XII: Web Programming Lab	1. Able to design web applications. 2. Able to use controls required for web applications. 3. Perform form validation with validation controls. 4. Ability to create web application to read, insert and update data in a database. 5. Building webpages using classes, events, methods, properties. 6. Perform form validation with validation controls.
22.	18UCSO51	Major Elective Course – II : Python Programming	1. Ability to develop algorithmic solutions to simple computational problems in Python. 2. Ability to write and execute simple Python programs.. 3. Knowledge to represent compound data using Python lists, tuples, dictionaries.. 4. Knowledge to handle input/output with files in Python. 5. Ability to develop python programs with class and functions. 6. Understanding in data handling with Lists and Dictionaries.
23.	18UCSO52	Major Elective Course – II: Computer Graphics and Multimedia	1. Gain the knowledge about the applications of computer graphics. 2. Able to work with algorithm for drawing basic shapes.

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			3. Able to deal with output primitives. 4. Able to perform geometric transformations. 5. Able to understand the characteristics of digital video. 6. Able to apply their knowledge in computer animation.
24.	18UCSO53	Major Elective Course – II: Embedded Systems	1. Understanding the basics of embedded system, processor architecture. 2. Knowing network devices and communication buses, device drivers, threads and inter process communications. 3. Knowing about applying programming concept to embedded devices using C and C++ and java. 4. Enriching real time operating system and its services, process management.
25.	18UCSS5P	Skill Based Course – II : Python Lab	1. Ability to write simple programs. 2. Ability to develop Python programs using Strings, Lists and Tuples. 3. Knowledge to develop programs using the concepts of Dictionary and Sets. 4. Ability to handle file using Python constructs. 5. Ability to write programs using classes and objects in Python.
26.	18UCSS5Q	Skill Based Course – III: Soft Skill Training	1. Identify the significance of soft skills in working environment.

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			2. Learn to connect and work with others to achieve a set of task. 3. Ability to handle emotions and respect for the opinions, personal space. 4. Ability to develop self-motivation, raised aspirations and beliefs in one's own abilities. 5. Excel with focused approach in working environment. 6. Ability to communicate effectively with creativity.
SEMESTER - VI			
27.	18UCSC61	Core Course – XIII : Computer Networks	1. Learn the concepts of Networking. 2. Gain knowledge in the functionalities of every layer in network. 3. Ability to realize and compare different LAN topologies. 4. Implement and Compare the performance of different layer protocols. 5. Differentiate different routing algorithms and their usage. 6. Knowledge in Security issues.
28.	18UCSC62	Core Course – XIV: Data Warehouse and Data Mining	1. Understand warehouse architecture. 2. Gain knowledge on various data storage models. 3. Retrieve interesting patterns. 4. Acquire skills to plot data in multidimensional space. 5. Qualify to generate rule from data-set.

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			6. Gain Familiarity with classification algorithm.
29.	18UCSC6P	Core Course – XV: Mobile Application Development Lab	1. Apply general programming knowledge in the field of developing mobile applications. 2. Learn specific requirements, possibilities and challenges in developing for a mobile context. 3. Get understanding work on Android Development Environment. 4. Develop effective .apk files. 5. Understand interaction between user interface and underlying application infrastructure. 6. Develop and design work including developing prototype that can be evaluated with specified user group. 7. Enhance practical skills and knowledge to construct software for a mobile application.
30.	18UCSO61	Major Elective Course – III : Artificial Intelligence and Expert Systems	1. Analyze the elements of formal learning law theorem, and types of learning process and computational process. 2. Identify the basic pattern structure and algorithms for pattern approaches and mapping, clustering a pattern. 3. Apply the fundamental algorithms and techniques in the area of Artificial Intelligence. 4. Learn the Artificial Intelligence direct applications in Natural Language Processing and speech recognition techniques the various types of language processors, and

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			the vowels and verbal communications. 5. Learn the Artificial Intelligence direct applications in visual image understanding.
31.	18UCSO62	Major Elective Course – III: IoT and its Applications	1. Understand the fundamentals of Internet of Things. 2. Familiar with the basics of cloud computing. 3. Gain Knowledge in Arduino Platform. 4. Analyze applications of IoT in real time scenario. 5. Capable to work with Cosm as a Cloud Service.
32.	18UCSO63	Major Elective Course – III : Software Testing	1. Gain knowledge to write test cases and test scripts for different types of testing. 2. Learn Methods to implement test generation from requirement. 3. Implementation of test plan, reporting and its practices in real IT projects. 4. Apply project metrics in Quality Assurance. 5. Acquire skills to work in all kinds of testing methodologies. 6. Capable of applying various test metrics.
33.	18UCSS61	Skill Based Course –IV: Bio-Informatics	1. Understand the basic principles, concepts and applications of bioinformatics. 2. Be familiar with the basic practical techniques of bioinformatics.

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			3. Familiar with the use of a wide variety of internet applications, biological database And apply these methods to research problems. 4. Gain knowledge on basic techniques of Bioinformatics.
34.	18UCSV6P	Value Based Course – II: R Programming Lab	1. Understanding in data types and objects in R. 2. Understanding in various data mining techniques. 3. Able to work with image analysis using R. 4. Able to work with different data formats.
35.	18CCA0P	Certificate Course in Computer Application - Office Automation Lab	1. Gain Basic knowledge in Office package. 2. Familiar with Invitation design and News Paper Creation. 3. Insertion and Creation of Tables, Symbols and Pictures. 4. Use inbuilt mathematical functions. 5. Apply various Slide Design, Animation and Slide Transition.
36.	18CCA0Q	Certificate Course in Computer Application - DTP and Multimedia Lab	1. Acquire skills to work with various designing tools. 2. Able to provide clarity to an image. 3. Acquire skills to work with various designing tools. 4. Develop various effects on images using pencil. 5. Create graphical designs. 6. Apply various animations on images.
37.	18CDA0P	Certificate Course in Data	1. Understanding in data types and objects in R.

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		Analytics Introduction to R Programming Lab	2. Understanding in various data mining techniques. 3. Able to work with functions in R. 4. Able to analyse matrix data.