COURSE OUTCOME B.Sc. Computer Science CSA-100 Problem Solving and Programming At the end of this course a student will have developed the ability to	
CO-1	Understand the ways and stages of Problem Solving.
CO-2	Understand basic computing concepts, algorithm design, flowchart design, programming constructs and debugging.
CO-3	Apply the problem solving & programming concepts in designing solution to simpler problems.
CO-4	Code and implement a well-structured programming logic using a suitable programming language.

COURSE OUTCOME B.Sc. Computer Science CSC-112 Computer Software Fundamentals At the end of this course a student will have developed the ability to	
CO-1	Remember basics of IT, software, networking, trends in IT
CO-2	Understand various I/O devices, systems, networking devices, IT uses
CO-3	Apply the concepts in systems, devices, networking for IT
CO-4	Analyse the applications of IT, Software, Networking and trends in IT

COURSE OUTCOME B.Sc. Computer Science CSC-131 Emerging Trends in Computers At the end of this course a student will have developed the ability to	
CO-1	Remember different emerging technologies
CO-2	Define emerging trends in Computer Science
CO-3	Select appropriate technology for a given task
CO-4	Identify necessary inputs for applications of emerging technologies

COURSE OUTCOME B.Sc. Computer Science CSC-142 Multimedia and Web Design At the end of this course a student will have developed the ability to	
CO-1	Create and edit images, audio and video

CO-2	Build websites using the elements of HTML& interactive, stylish websites using the client-side programming techniques with CSS and JavaScript.
CO-3	Learn to validate client-side data.
CO-4	Define the structure and contents of the website using different features of CSS

COURSE OUTCOME **B.Sc. Computer Science** **CSC-143 Data analytics using Spreadsheets I** At the end of this course a student will have developed the ability to	
CO-1	Format a given spreadsheet with various formatting features and use appropriate functions given relevant description of desired output.
CO-2	Sort, filter, summarize data given in a spreadsheet as per given instructions
CO-3	Visualize data using appropriate charts and conditional formatting.
CO-4	Solve basic queries on a given data set by preparing basic pivot tables for a given data set.

COURSE OUTCOME **B.Sc. Computer Science** **CSC-133 Cyber Security Essentials** At the end of this course a student will have developed the ability to	
CO-1	Remember the concept of Cyber Crime & Cyber security and issues and challenges associated with it.
CO-2	Understand the nature of cyber crimes, legal remedies and as to how to report the crimes through available platforms and procedures.
CO-3	Explain various privacy and security concerns on online social media and the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of Social media platforms.
CO-4	Explain the basic concepts related to E-Commerce and digital payments, digital payment modes and related cyber security aspects, RBI guidelines and preventive measures against digital payment frauds.

COURSE OUTCOME B.Sc. Computer Science CSC-114 Social Media Marketing At the end of this course a student will have developed the ability to	
CO-1	Remember the basics of Social Media Marketing.
CO-2	Understand the use of mobile and video media for online advertising, & AdWords campaign management.
CO-3	Apply Twitter, LinkedIn, Instagram & similar media for promotion. Tools and concepts to execute measure and monitor an annual online marketing plan and use analytics to drive action able improvements
CO-4	Design digital marketing techniques into strategic marketing plan

COURSE OUTCOME B.Sc. Computer Science CSC-147 Graphical User Interface Design At the end of this course a student will have developed the ability to	
CO-1	Explain the principles and concepts of Interface Design.
CO-2	Create intuitive interfaces.
CO-3	Explain UX
CO-4	Create better interfaces for effective UX

COURSE OUTCOME B.Sc. Computer Science CSC-148 Data Analytics using Spreadsheets-II At the end of this course a student will have developed the ability to	
CO-1	Use conditional arithmetic functions to summarize data and use financial functions, given a spreadsheet with data and relevant description of desired output.
CO-2	Perform what-if analysis and data validation on given data for a given scenario.
CO-3	Summarize and analyze data using Pivot Tables and Pivot Charts

CO-4	Apply and visualize data using Dashboard and descriptive statistics using Analysis Tool Pack

COURSE OUTCOME **B.Sc. Computer Science** **CSC-148 Data Analytics using Spreadsheets-II** At the end of this course a student will have developed the ability to	
CO-1	Use conditional arithmetic functions to summarize data and use financial functions, given a spreadsheet with data and relevant description of desired output.
CO-2	Perform what-if analysis and data validation on given data for a given scenario.
CO-3	Summarize and analyze data using Pivot Tables and Pivot Charts
CO-4	Apply and visualize data using Dashboard and descriptive statistics using Analysis Tool Pack

COURSE OUTCOME **B.Sc. Computer Science** **CSC-200 Programming Using C++** At the end of this course a student will have developed the ability to	
CO-1	Remember the basic concepts & terminologies of Object-Oriented Programming.
CO-2	Understand basic computing concepts in C++ programming language.
CO-3	Apply Object Oriented Programming concepts in designing solutions to simpler problems using algorithm, flowchart and pseudocode.
CO-4	Code, debug and analyze a well-structured programming logic using C++.

COURSE OUTCOME B.Sc. Computer Science CSC-201 Mathematical Foundations for Computer Science At the end of this course a student will have developed the ability to	
CO-1	Understand truth tables for complex propositional expressions, identify tautologies, contradictions, and contingent statements and write programs to evaluate propositional expressions using logical operators
CO-2	Apply to translate English sentences into predicate logic, determine the validity of predicate logic expressions, and implement programs to evaluate predicate logic statements.
CO-3	Perform set operations, analyze properties of binary relations, and implement closure operations on relations
CO-4	Solve problems related to graph representations and implement basic graph algorithms

COURSE OUTCOME B.Sc. Computer Science CSC-212 Office Administration At the end of this course a student will have developed the ability to	
CO-1	Remember the basic concepts of computer and their application.
CO-2	Understand the use and various functions of spreadsheets.
CO-3	Create and format documents, create and format tables and mail merge.
CO-4	Apply the knowledge of tools to create effective presentations, use the latest Internet technologies in office administration.

COURSE OUTCOME B.Sc. Computer Science CSC-231 Web Designing At the end of this course a student will have developed the ability to	
CO-1	Recall and list key web design terminology, principles, and tools
CO-2	Explain the functionalities and purposes of different web development technologies like HTML, CSS, and JavaScript
CO-3	Apply different types features and functionalities of static and dynamic sites, content management systems, and e-commerce platforms.
CO-4	Analyse existing websites based on UX principles and accessibility guidelines.

COURSE OUTCOME B.Sc. Computer Science CSC-241 Mobile App Development At the end of this course a student will have developed the ability to	
CO-1	Describe the anatomy of a mobile app, and use Android components in designing simple mobile applications.
CO-2	Identify the significance of each of the Android basic building blocks and determine when to use which component.
CO-3	Discuss the data storage options available on android platform and perform basic CRUD operations on persistent data.
CO-4	Design complete Android app by integrating the android building blocks and using firebase as backend tool.

COURSE OUTCOME B.Sc. Computer Science CSC-202 Data Structures and Algorithms At the end of this course a student will have developed the ability to	
CO-1	Understand basic data structures, their implementation and some of their standard applications.
CO-2	Analyze space-time complexity of basic algorithms.

CO-3	Design and analyze basic algorithms using appropriate data structures.
CO-4	Code, debug and analyze programs using suitable data structures.

COURSE OUTCOME **B.Sc. Computer Science** **CSC-203 Object Oriented Technologies** At the end of this course a student will have developed the ability to	
CO-1	Define and recall fundamental Object-Oriented (OO) concepts, including classes, objects, encapsulation, and inheritance.
CO-2	Understand object-oriented principles.
CO-3	Analyze given problem, breakdown into logical units and solve using bottom-up approach.
CO-4	Develop simple Object-Oriented programs using a chosen programming language to implement basic concepts like classes, objects, inheritance and polymorphism in practical programming scenarios

COURSE OUTCOME **B.Sc. Computer Science** **CSC-204 Operating System** At the end of this course a student will have developed the ability to	
CO-1	Remember the concepts of operating systems, its structure and process management.
CO-2	Understand process synchronization techniques to formulate solution for critical section problems and CPU scheduling algorithms.
CO-3	Apply memory management schemes of operating system.
CO-4	Analyze the storage management and file management techniques of operating systems.

COURSE OUTCOME B.Sc. Computer Science CSC-205 Operating System Lab At the end of this course a student will have developed the ability to	
CO-1	Understand how to use commands in operating system.
CO-2	Apply and code programs using shell programming.
CO-3	Apply and code process management using system calls.

COURSE OUTCOME B.Sc. Computer Science CSC-221 Introduction to Python Programming At the end of this course a student will have developed the ability to	
CO-1	Recall and apply fundamental Python constructs in programming tasks.
CO-2	Understand the foundational concepts of scientific computing, including the use of libraries for mathematical operations and data analysis.
CO-3	Apply Python programming skills to solve scientific problems, utilizing libraries for specific scientific computations and analysis.
CO-4	Critically analyze scientific problems, applying Higher-Order Thinking (HOT) questions and real-world applications to develop effective problem-solving skills.