B.Sc COMPUTER SCIENCE COURSE OUTCOMES
Single Major(2023-24)

COURSE 1: ESSENTIALS AND APPLICATIONS OF MATHEMATICAL, PHYSICAL AND CHEMICAL SCIENCES

CO-1. Apply critical thinking skills to solve complex problems involving complex numbers, trigonometric ratios, vectors, and statistical measures.

CO-2. To explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to connect their knowledge of physics to everyday situations

CO-3. To explain the basic principles and concepts underlying a broad range of fundamental areas of chemistry and to connect their knowledge of chemistry to daily life.

CO-4. Understand the interplay and connections between mathematics, physics, and chemistry in various applications. Recognize how mathematical models and physical and chemical principles can be used to explain and predict phenomena in different contexts.

CO-5 To explore the history and evolution of the Internet and to gain an understanding of network security concepts, including threats, vulnerabilities, and countermeasures.

COURSE 2: ADVANCES IN MATHEMATICAL, PHYSICALAND CHEMICAL SCIENCES

CO-1. Explore the applications of mathematics in various fields of physics and chemistry, to understand how mathematical concepts are used to model and solve real-world problems.

CO-2. To Explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to Connect their knowledge of physics to everyday situations.

CO-3. Understand the different sources of renewable energy and their generation processes and advances in nano materials and their properties, with a focus on quantum dots. To study the emerging field of quantum communication and its

potential applications. To gain an understanding of the principles of biophysics in studying biological systems. Explore the properties and applications of shape memory materials.

CO-4. Understand the principles and techniques used in computer-aided drug design and drug delivery systems, to understand the fabrication techniques and working principles of nanosensors. Explore the effects of chemical pollutants on ecosystems and human health.

CO-5. Understand the interplay and connections between mathematics, physics, and chemistry in various advanced applications. Recognize how mathematical models and physical and chemical principles can be used to explain and predict phenomena in different contexts.

CO-6 Understand and convert between different number systems, such as binary, octal, decimal, and hexadecimal. Differentiate between analog and digital signals and understand their characteristics. Gain knowledge of different types of transmission media, such as wired (e.g.,copper cables, fiber optics) and wireless (e.g., radio waves, microwave, satellite)

COURSE 3: PROBLEM SOLVING USING C

CO-1: Understand the working of a digital computer and Fundamental constructs of Programming

CO-2: Analyze and develop a solution to a given problem with suitable control structures

CO-3: Apply the derived data types in program solutions

CO-4: Use the 'C' language constructs in the right way

CO-5: Apply the Dynamic Memory Management for effective memory utilization

COURSE 4: DIGITAL LOGIC DESIGN

CO-1: Understand how to Convert numbers from one radix to another radix and performarithmetic operations.

CO-2. Simplify Boolean functions using Boolean algebra and k- maps

CO-3. Design adders and subtractors circuits

CO-4. Design combinational logic circuits such as decoders, encoders, multiplexers and

demultiplexers.

CO-5. Use flip flops to design registers and counters.

MINOR(2023-24)

COURSE 1: DIFFERENTIAL EQUATIONS

CO1. solve first order first degree linear differential equations.

CO2. convert a non-exact homogeneous equation to exact differential equation by using an integrating factor.

CO3. know the methods of finding solution of a differential equation of first order but not of first degree.

CO4. solve higher-order linear differential equations for both homogeneous and non-homogeneous, with constant coefficients.

CO5. understand and apply the appropriate methods for solving higher order differential equations.