KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
COIMBATORE – 641 029

.

DEPARTMENT OF COMPUTER SCIENCE (UG)

(2023 - 2024 onwards)

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper I – C Programming**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To gain adequate knowledge on the need of programming languages and problem-solving techniques.
2. To develop an in-depth understanding of functional and logical concepts of C Programming.
3. To get exposure to problem-solving through C programming.

Course Outcomes (CO)

K1 to K5	CO1	Remember various programming constructs and to develop C programs.
	CO2	Understand the fundamentals of C programming.
	CO3	Apply the right data representation formats based on the requirements of the problem.
	CO4	Analyze the different Operations on arrays, functions, pointers, structures, unions and files.
	CO5	Evaluate the concepts learnt through implementing and testing of the programs that are developed.

Programme Code: **09**		**B.Sc. Computer Science**		
Title of the Paper:		**Core Practical 1 – C Programming Lab**		
Batch	Hours / Week		Total Hours	Credits
2023-2024	**5**		**75**	**4**

Course Objectives

1. To understand the field of programming using C language.

2. To familiarize the fundamental syntax and semantics of C language.

3. To enhance the analyzing and problem-solving skills and use the same for writing programs in C.

Course Outcomes (CO)

K3 to K5	CO1	Develop programming skills using the fundamentals and basics of C Language.
	CO2	Develop programs using the basic elements like control statements, Arrays and Strings
	CO3	Enable effective usage of arrays, structures, functions and pointers.
	CO4	Implement files and command line arguments.
	CO5	Evaluate the ideas and concepts using testing of the programs.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 2 – Data Structure using C++**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To understand and differentiate the Procedure Oriented Paradigm and Object-Oriented Paradigm.

2. To acquire knowledge about Classes, Objects, Inheritance and Polymorphism

3. To develop and implement the programs using Object Oriented concepts.

Course Outcomes (CO)

K1 to K5	CO1	Remember the characteristics of Procedure and Object-Oriented Programming Languages
	CO2	Understand the fundamentals of C++ programming structure, function overloading and constructors.
	CO3	Apply C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism etc., to develop programs.
	CO4	Analyze the concepts of object-oriented programming in terms of software reuse and managing complexity to solve real-world problems.
	CO5	Evaluate the concepts learnt through implementing and testing of the programs that are developed.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Practical 2 – Data Structures using C++ Lab**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**4**

Course Objectives

1. To write programs using operators and data structure concepts.

2. To develop programs using Overloading of operators and Virtual functions.

3. To understand the implementation of File concepts.

Course Outcomes (CO)

	CO1	Apply the concepts of object-oriented programming.
K3 to K5	CO2	Examine the string functions to perform operator overloading,
	CO3	Analyze the virtual functions and inheritance.
	CO4	Illustrate the file concepts and command line arguments.
	CO5	Evaluate the ideas and concepts using testing of the programs

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 3 - Java Programming**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**4**	**60**	**5**

Course Objectives

1. To gain knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods etc.

2. To understand the fundamentals of object-oriented programming in Java, including managing classes, objects, invoking methods and exception handling mechanisms.

3. To know the concepts of inheritance, packages, interfaces and multithreading are introduced.

Course Outcomes (CO)

K1 to K5	CO1	Remember the fundamentals of programming such as variables, conditional statements and iterative execution statements.
	CO2	Understand the concepts of arrays, strings, packages and multithreading.
	CO3	Apply the concepts of applet programming, graphics programming and files.
	CO4	Analyze a software application using the Java programming language
	CO5	Evaluate the concepts learnt through implementing and testing of the programs that are developed.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Practical 3 – Java Programming - Lab**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**4**	**60**	**2**

Course Objectives

1. To understand the object-oriented programming principles implemented through JAVA programs.

2. To know the event-driven programming methods, including creating and manipulating objects, classes, graphics concepts and applet programming.

3. To design, code, debug and implement JAVA programs.

Course Outcomes (CO)

	CO1	Apply the fundamentals of Java programming language in software development.
K3 to K5	CO2	Examine the basics of Java programming, multi-threaded programs and Exception handling.
	CO3	Analyze and use Java in a variety of applications.
	CO4	Illustrate a software application using the Java programming language.
	CO5	Evaluate the ideas and concepts using testing of the programs.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Skill Based Subject 1 – Cyber Security**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**2**	**30**	**3**

Course Objectives

1. The course introduces the basic concepts of Cyber Security.

2. To develop an ability to understand about various modes of Cyber Crimes and Preventive measures.

3. To understand about the Cyber Legal laws and Punishments.

Course Outcomes (CO)

K1	CO1	To Understand the Concepts of Cybercrime and Cyber Frauds
K2	CO2	To Know about Cyber Terrorism and its preventive measures
K3	CO3	To Analyze about the Internet, Mobile Phone and E-commerce security issues
K4	CO4	To Understand about E-mail and Social Media Issues
K5	CO5	To Describe about various legal responses to Cybercrime

Sub.Code:23USC404

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 4 - .Net Framework**		
Batch	Hours/Week	Total Hours	Credits
2023 - 2024	**4**	**60**	**4**

Course Objectives

1. To develop ASP.NET Web application using standard controls.

2. To create rich database applications using ADO.NET.

3. To implement file handling operations.

4. To utilize ASP.NET security features for authenticating the website.

5. To handles SQL Server Database using ADO.NET.

Course Outcomes (CO)

K1 to K5	CO1	To identify and understand the goals and objectives of the .NET framework and ASP.NET with C# language.
	CO2	To develop web application using various controls.
	CO3	To analyze C# programming techniques in developing web applications.
	CO4	To assess a Web application using Microsoft ADO.NET.
	CO5	To develop a software to solve real-world problems using ASP.NET.

ProgrammeCode:**09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Practical 4 - .Net Lab**		
Batch	Hours/Week	Total Hours	Credits
2023-2024	**5**	**60**	**4**

Course Objectives

1. To develop ASP.NET Web application using standard controls.

2. To create rich database applications using ADO.NET.

3. To implement file handling operations.

4. To utilize ASP.NET security features for authenticating the website.

5. To handles SQL Server Database using ADO.NET.

Course Outcomes (CO)

K1 to K5	CO1	To identify and understand the goals and objectives of the .NET framework and ASP.NET with C# language.
	CO2	To develop web application using various controls.
	CO3	To analyze C# programming techniques in developing web applications.
	CO4	To assess a Web application using Microsoft ADO.NET.
	CO5	To develop a software to solve real-world problems using ASP.NET.

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper: **Allied Paper 4 - Digital Principles and Computer System Architecture**			
Batch	Hours/Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To know the basics of computer hardware and how software interacts with computer hardware.

2. To familiarize with different numbering methods like binary, octal, and hexadecimal.

3. To understand the concepts of memory hierarchy and compare different methods for computer architecture.

		Course Outcomes (CO)	
K1 to K5	CO1	Remember basic structure of computer, numbering methods, arithmetic and logical operations performed by computers.	
	CO2	Understand various data transfer techniques in digital computer and control unit operations.	
	CO3	Apply performance issues in processor and memory design of a digital computer various data representations.	
	CO4	Analyze architectures and computational designs and computer architecture concepts related to design of modern processors, memories and I/Os.	
	CO5	Evaluate the performance of commercially available computers.	

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper: **Skill Based Subject 2- Mobile Application Development Lab**			
Batch	Hours/Week	Total Hours	Credits
2023-2024	**2**	**30**	**3**

Course Objectives

1. To understand the Android application development environment.

2. To know the user interfaces for interacting with apps and triggering actions.

3. To realize the tasks used in handling multiple activities.

Course Outcomes (CO)		
K1 to K5	CO1	Apply the skills for designing and implementing basic mobile apps
	CO2	Examine the basic programming skills needed for developing mobile apps for a specific platform.
	CO3	Analyze the options to save persistent application data
	CO4	Illustrate the role of security and performance in Android applications
	CO5	Evaluate the functionality of mobile application using android sdk

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 5 – Software Engineering and Testing**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**6**	**90**	**4**

Course Objectives

1. To understand the basic software engineering methods and practices.

2. To familiarize the techniques for developing software systems.

3. To enrich the knowledge about object-oriented design and software testing approaches.

Course Outcomes (CO)

	CO1	Remember the basic concepts of software engineering
	CO2	Understand the software engineering models in developing software applications.
K1 to K5	CO3	Apply the object-oriented design in various projects
	CO4	Analyze the various software testing approaches
	CO5	Evaluate the Software testing Plan and Reporting

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 6 - Operating Systems**		
Batch	Hours/Week	Total Hours	Credits
2023-2024	**6**	**90**	**4**

Course Objectives

1. To gain knowledge on the basic operating system concepts.
2. To attain an in-depth understanding of process concepts, deadlock and memory management.
3. To get an exposure to scheduling algorithms, devices and information management.

Course Outcomes (CO)		
K1 to K5	CO1	Remember the basic concepts of operating system.
	CO2	Understand the concepts like interrupts, deadlock, memory management and File management.
	CO3	Apply the different algorithms used for representation, scheduling, allocation in DOS and UNIX operating system.
	CO4	Analyze the need for scheduling algorithms.
	CO5	Evaluate the storage management policies with respect to different storage Management techniques.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 7 - Database Management System**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**4**

Course Objectives

1. To understand the different issues involved in the design of a database system.

2. To know the essential DBMS concepts such as: database security, integrity and normalization.

3. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling and designing a DBMS.

Course Outcomes (CO)

K1 to K5	CO1	Remember data independence, data models for database systems, database schema and database instances.
	CO2	Understand and use data manipulation language to query and manage a database.
	CO3	Analyze and design a real database application.
	CO4	Apply normalization concepts for designing a good database with integrity constraints.
	CO5	Evaluate the principles behind systematic database design approaches by covering conceptual design, logical design through normalization.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper: **Core Practical 5 - Database Management System Lab**			
Batch	Hours/Week	Total Hours	Credits
2023-2024	**6**	**90**	**2**

Course Objectives

1. To learn and understand DDL & DML

2. To learn and understand DCL.

3. To implement Basic SQL commands.

4. To execute PL/SQL programs.

5. To develop GUI applications in any platform.

		Course Outcomes (CO)
K1 to K5	CO1	Implement DDL and DML commands.
	CO2	Implement DCL commands.
	CO3	Analyze PL/SQL programs
	CO4	Understand PL/SQL programs.
	CO5	Develop GUI applications in their known platform.

Extra Departmental Course

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper:	**EDC - Web Development Laboratory**		
Batch	Hours/Week	Total Hours	Credits
2023-2024	**2**	**30**	**2**

Course Objectives

1. To design and develop websites using fundamental web languages, technologies, and tools.
2. To implement the concepts in visual design and content structuring
3. To develop an ability to design and implement static and dynamic website
4. To develop skills in analyzing the usability of a web site.
5. To demonstrate the role of languages like HTML, CSS, JavaScript, PHP and protocols in the workings of the web and web applications.

		Course Outcomes(CO)
K1 to K5	CO1	Understanding the use of HTML tags.
	CO2	Create web pages using HTML and Cascading Stylesheets and Develop dynamic web pages using JavaScript.
	CO3	Use cascading style sheets to design web pages
	CO4	Use JavaScript and HTML to create web pages with advanced interactivity.
	CO5	Understand, analyze and build web applications using PHP and Integrate HTML forms to PHP scripts.

Programme Code:**09**	**B.Sc. Computer Science**		
Title of the Paper	**Core Paper 8 – Computer Networks**		
Batch	Hours/Week	Total Hours	Credits
2023-2024	**4**	**60**	**3**

Course Objectives
1. To understand the concept of Data communication and Computer network.
2. To get a knowledge on routing algorithms.
3. To impart knowledge about networking and inter-networking devices.
4. To gain the knowledge on Security over Network communication.

Course Outcomes (CO)		
K1 to K5	CO1	To Understand the basics of Computer Network architecture, OSI and TCP/IP Reference models.
	CO2	To gain knowledge on Telephone systems and Satellite communications.
	CO3	To impart the concept of Elementary data link protocols.
	CO4	To analyze the characteristics of Routing and Congestion control algorithms.
	CO5	To understand network security and define various protocols such as FTP, HTTP, Telnet, DNS.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Paper 9 – Python Programming and IoT**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**3**

Course Objectives

1. To understand the fundamentals of Python Programming and IOT

2. To get exposure to Programming Raspberry Pi with Python.

3. To acquire knowledge about IOT Enabling Technologies.

Course Outcomes (CO)

K1 to K5	CO1	Remember the concept of operators, data types, looping statements in python programming.
	CO2	Understand the concepts of Input / Output operations in file.
	CO3	Apply the various protocols for IOT.
	CO4	Analyze the applications of IOT in real time scenario.
	CO5	Evaluate the concept of Python's web Application

Programme Code:**09**	**B.Sc. Computer Science**
Title of the Paper:	**CorePaper10–Artificial Intelligence and Machine Learning**

Batch	Hours/Week	Total Hours	Credits
2023-2024	**5**	**75**	**4**

Course Objectives

1. To understand the basic concept of AI& ML.
2. To understand strength and weakness of problem solving and search algorithms.
3. To know about basic concepts of knowledge, and reasoning, Machine Learning.
4. To optimize the different linear methods of regression and classification.
5. To interpret the different supervised classification methods of support vector machine and tree based models.
   .

Course Outcomes (CO)		
	CO1	Evaluate Artificial Intelligence (AI) methods and describe their foundations.
	CO2	Analyze and illustrate how search algorithms play vital role in problem solving, inference, perception, knowledge representation and learning
K1toK5	CO3	Fundamentals of knowledge representation, building of simple knowledge-based Systems and to apply knowledge representation.
	CO4	To introduce the basic concepts and techniques of machine learning and the need for Machine learning techniques for real world problem
	CO5	ToprovideunderstandingofvariousMachinelearningalgorithmsandthewayto Evaluate the performance of ML algorithms.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Core Practical 6 – Python Programming and IoT Lab**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**3**

Course Objectives

1. To understand the fundamentals of Python Programming and IOT

2. To get exposure to Programming Raspberry Pi with Python.

3. To acquire knowledge about IOT Enabling Technologies.

		Course Outcomes (CO)
K1 to K5	CO1	Remember the concept of operators, datatypes, looping statements in python programming.
	CO2	Understand the concepts of Input / Output operations in file.
	CO3	Apply the various protocols for IOT.
	CO4	Analyze the applications of IOT in real time scenario.
	CO5	Evaluate the concept of Python's web Application.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Project ***		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**4**	**60**	**5**

Course Objectives

1. To understand and select the task-based core skills.

2. To get knowledge about analytical skill for solving the selected task.

3. To get confidence for implementing the task and solving the real time problems.

Course Outcomes (CO)

	CO1	Apply the domain specific knowledge and define the project.
K3 to K5	CO2	Analyze the achievable goals and choose the right software for project development
	CO3	Estimate the resources and create the project schedule
	CO4	Test the deliverables
	CO5	Evaluate the project results.

Programme Code: **09**		**B.Sc. Computer Science**	
Title of the Paper:		**Skill Based Subject 3 – Software Testing**	
Batch **2023 - 2024**	Hours /Week **2**	Total Hours **30**	Credits **3**

Course Objectives

1. To get exposure to the fundamental concepts of R Programming

2. To analyze large amount of data using algorithms and mathematical models.

3. To know the fundamental techniques and principles of big data analytics.

Course Outcomes (CO)

K3 to K5	CO1	Apply the basics in R programming in terms of constructs, control statements, string functions
	CO2	Examine the use of Scilab, SPSS and R tool for Big Data analytics
	CO3	Analyze the concepts and metrics to evaluate and optimize digital marketing efforts
	CO4	Illustrate R programming from a statistical perspective
	CO5	Evaluate the tools required to manage and analyze big data like Hadoop, NoSQL MapReduce

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Elective – Cloud Computing**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To understand the basics of cloud computing and its architecture.

2. To acquire the knowledge on accessing the cloud and cloud storage.

3. To familiarize the concepts of cloud applications, cloud services and cloud security.

Course Outcomes (CO)

K1 to K5	CO1	Remember the concepts of cloud Architecture and its services.
	CO2	Understand the different services providers and its services, tools.
	CO3	Apply the various web-based applications for collaborating everyone in the cloud computing.
	CO4	Analyze the best service provider for cloud computing in terms of storage, services.
	CO5	Evaluate the appropriate cloud computing solutions and recommendations according to application use

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Elective – Network Security**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To understand the need for network security and security approaches.

2. To know the concept of transferring authentic data along the network with several algorithms.

3. To enrich the knowledge on different types of Internet Security Protocols.

Course Outcomes (CO)

K1 to K5	CO1	Remember the basic concept of Cryptography and various types of attacks.
	CO2	Understand about various types of protocols for Internet Security.
	CO3	Apply the various algorithms for Cryptography
	CO4	Analyze the Firewall and IP security
	CO5	Evaluate the strengths and limitations of network security in real time scenarios.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Embedded Systems**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**5**	**75**	**5**

Course Objectives

1. To familiarize all aspects of design and development of an embedded System.

2. To understand hardware and software requirements for developing a system.

3. To know the basic concepts of operating systems and embedded system project management.

Course Outcomes (CO)

K1 to K5	CO1	Remember the basics about microcontrollers, embedded processors and their applications.
	CO2	Understand the internal architecture and interfacing of different peripheral devices with Microcontrollers.
	CO3	Apply key concepts of embedded systems like interrupts interaction, drivers, and ports with peripheral devices.
	CO4	Analyze the design concept of embedded systems.
	CO5	Evaluate the requirements of programming Embedded Systems, related software architectures and tool chain for Embedded Systems.

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Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Elective – Systems Software**		
Batch **2023-2024**	Hours / Week **5**	Total Hours **75**	Credits **5**

Course Objectives

1. To comprehend the processing of programs on a computer system.

2. To understand the design and implementation of language processors.

3. To gain knowledge about code optimization and software tools.

Course Outcomes (CO)

	CO1	Remember the program generation and program execution activities.
	CO2	Understand the design of an assembler
	CO3	Apply the concept of macro expansion
	CO4	Analyze the process of compilation
	CO5	Evaluate the phases of program development by applying software tools.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Elective – Information Security**		
Batch **2023-2024**	Hours / Week	Total Hours	Credits
	5	**75**	**5**

Course Objectives

1. To understand the basics of computer security and cyber-crimes.

2. To familiarize the role of security in operations system and databases.

3. To know various types of viruses, attacks and threats in hardware, software and data security.

Course Outcomes (CO)

	CO1	Remember the basics of computer security and its terminology.
	CO2	Understand the various Attacks, Threats and Vulnerabilities in the system.
	CO3	Apply cyber security risk management policies in order to adequately protect critical information and assets.
	CO4	Analyze the needs of the Information security of data.
	CO5	Evaluate the appropriate security technologies and policies to protect computers and digital information.

Sub.Code: 23UHR3N1

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Non - Major Elective – I ** Human Rights**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**2**	**30**	**2**

Course Objectives

1. To prepare for responsible citizenship with awareness of the relationship between Human Rights, democracy and development.
2. To impart education on national and international regime on Human Rights.
3. To sensitive students to human suffering and promotion of human life with dignity.
4. To develop skills on human rights advocacy
5. To appreciate the relationship between rights and duties
6. To foster respect for tolerance and compassion for all living creature.

Course Outcomes (CO)

K1 to K5	CO1	To understand the hidden truth of Human Rights by studying various theories.
	CO2	To acquire overall knowledge regarding Human Rights given by United Nation Commission. (UNO)
	CO3	To gain knowledge about various organs responsible for Human Rights such as National Human Rights Commission and state Human Right commission (UNHCR)
	CO4	To get habits of how to treat aged person, others and positive social responsibilities
	CO5	To treat and confirm, child, refugees and minorities with positive social justice.

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Non- Major Elective – 2 ** Women's Rights**		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**2**	**30**	**2**

Course Objectives

1. To know about the laws enacted to protect women against violence.
2. To impart awareness about the hurdles faced by women.
3. To develop a knowledge about the status of all forms of women to access to justice.
4. To create awareness about women's rights.
5. To know about laws and norms pertaining to protection of women.
6. To understand the articles which enables the women's rights.
7. To understand the Special Women Welfare laws.
8. To realize how the violence against women puts an undue burden on healthcare services.

Course Outcomes (CO)

After Completion of the Course the student will be able to

K1 to K5	CO1	Understand the importance of Women's Studies and incorporate Women's Studies with other fields.
	CO2	Analyze the realities of Women Empowerment, Portrayal of Women in Media, Development and Communication.
	CO3	Interpret the laws pertaining to violence against Women and legal consequences.
	CO4	Study the important elements in the Indian Constitution, Indian Laws for Protection of Women.
	CO5	To be Aware of Government Developmental schemes for women and to create Awareness on modernization and impact of technology on Women.

Programme Code: **12**	**B.Sc. Computer Science**		
Title of the Paper:	**Non- Major Elective – Consumer Affairs**		
Batch **2023-2024**	Hours/Week **2**	Total Hours **30**	Credits **2**

Course Objectives

1. To familiarize the students with their rights and responsibilities as a consumer.
2. To understand the procedure of redress of consumer complaints.
3. To know more about decisions on Leading Cases by Consumer Protection Act.
4. To get more knowledge about Organizational set-up under the Consumer Protection Act.
5. To impart awareness about the Role of Industry Regulators in Consumer Protection.
6. To understand Contemporary Issues in Consumer Affairs.

Course Outcomes (CO)

	CO1	Able to know the rights and responsibility of consumers.
	CO2	Understand the importance and benefits of Consumer Protection Act.
K1 to K5	CO3	Applying the role of different agencies in establishing product and service standards.
	CO4	Analyze to handle the business firms' interface with consumers.
	CO5	Assess Quality and Standardization of consumer affairs

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Environmental Studies**		
Batch	Hours /Week	Total Hours	Credits
2023-2024	**2**	**30**	**2**

Course Objectives

1. The course will provide students with an understanding and appreciation of the complex interactions of man, health and the environment. It will expose students to the multi-disciplinary nature of environmental health sciences

2. To inculcate knowledge and create awareness about ecological and environmental concepts, issues and solutions to environmental problems.

3. To shape students into good "Eco citizens" thereby catering to global environmental needs.

4. This course is designed to study about the types of pollutants including gases, chemicals petroleum, noise, light, global warming and radiation as well as pollutant flow and recycling and principles of environmental pollution such as air, water and soil.

5. The course will address environmental stress and pollution, their sources in natural and workplace environments, their modes of transport and transformation, their ecological and public health effects, and existing methods for environmental disease prevention and remediation.

Course Outcomes (CO)

On successful completion of the course, the students will be able to

K1 to K5	CO1	Understand how interactions between organisms and their environments drive the dynamics of individuals, populations, communities and ecosystems
	CO2	Develop an in-depth knowledge on the interdisciplinary relationship of cultural, ethical and social aspects of global environmental issues
	CO3	Acquiring values and attitudes towards complex environmental socio-economic challenges and providing participatory role in solving current environmental problems and preventing the future ones.
	CO4	To gain inherent knowledge on basic concepts of biodiversity in an ecological context and about the current threats of biodiversity
	CO5	To appraise the major concepts and terminology in the field of environmental pollutants, its interconnections and direct damage to the wildlife, in addition to human communities and ecosystems

Sub. Code: 23VED201

Programme Code: **09**	**B.Sc. Computer Science**		
Title of the Paper:	**Value Education – Moral and Ethics****		
Batch	Hours / Week	Total Hours	Credits
2023-2024	**2**	**30**	**2**

Course Objectives

1. To impart Value Education in every walk of life.
2. To help the students to reach excellence and reap success.
3. To impart the right attitude by practicing self-introspection.
4. To portray the life and messages of Great Leaders.
5. To insist the need for universal brotherhood, patience and tolerance.
6. To help the students to keep them fit.
7. To educate the importance of Yoga and Meditation.

Course Outcomes (CO)

After completing the course, the students

	CO1	will be able to recognize Moral values, Ethics, contribution of leaders, Yoga and its practice
	CO2	will be able to differentiate and relate the day to day applications of Yoga and Ethics in real life situations
K1 to K5	CO3	can emulate the principled life of great warriors and take it forward as a message to self and the society
	CO4	will be able to analyze the Practical outcome of practicing Moral values in real life situation
	CO5	could Evaluate and Rank the outcome of the pragmatic approach to further develop the skills