KONGUNADU ARTS AND SCIENCE COLLEGE

(AUTONOMOUS)

Re-accredited by NAAC with A+ Grade – 4th Cycle

College of Excellence (UGC)

29th Among Colleges in NIRF 2023

COIMBATORE–641029

DEPARTMENT OF COMPUTER SCIENCE [AIDED]

COURSE OUTCOMES (CO)

B.Sc Computer Science
For the students admitted in the
Academic Year 2023 - 2024.

Sub Code: 23UCS101

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper :		**Core Paper 1 – C Programming**		
Batch **2023-2024**	Semester **I**	Hours/Week **4**	Total Hours **60**	Credits **4**

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.

Sub Code: 23UCS1CL

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper :		**Core Practical 1 – C Programming–Lab**		
Batch **2023-2024**	Semester **I**	Hours/Week **6**	Total Hours **90**	Credits **2**

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

Sub Code: **23UCS202**

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper : Core Paper2– Object Oriented Programming with C++				
Batch **2023-2024**	Semester **II**	Hours/Week **4**	Total Hours **60**	Credits **4**

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.

Sub Code: **23UCS2CM**

ProgrammeCode:**09**	**B .Sc ., Computer Science**			
Title of the Paper : Core Practical 2 – Object Oriented Programming with C++ - Lab				
Batch **2023-2024**	Semester **II**	Hours/Week **6**	Total Hours **90**	Credits **2**

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)

K3 to K5	CO1	Apply the concepts of object oriented programming.
	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

Sub Code: **23UCS303**

ProgrammeCode:**09**		**B. Sc .,Computer Science**		
Title of the Paper :		**Core Paper 3 – Java Programming**		
Batch **2023-2024**	Semester **III**	Hours/Week **4**	Total Hours **60**	Credits **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.

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.

Sub Code : **23UCS3CN**

ProgrammeCode:**09**		**B. Sc., Computer Science**		
Title of the Paper :		**Core Practical 3 – Java Programming – Lab**		
Batch **2023-2024**	Semester **III**	Hours/Week **6**	Total Hours **90**	Credits **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)

K3 to K5	CO1	Apply the fundamentals of Java programming language in software development.
	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.

Sub Code: 23UCS3A3

ProgrammeCode:**09**		**B. Sc ., Computer Science**		
Title of the Paper :		**Allied Paper 3 – Data Structures**		
Batch **2023-2024**	Semester **III**	Hours/Week **4**	Total Hours **60**	Credits **5**

Course Objectives

1. To know the concepts of fundamentals of writing algorithms and approach in problem solving.
2. To represent the basic concepts of stack, queue, linked list, trees and graphs.
3. To understand the concepts of searching and sorting techniques.

Course Outcomes (CO)

K1 to K5	CO1	Remember the concepts of algorithms for searching, sorting and dynamic programming.
	CO2	Understand the representations of data and various algorithm
	CO3	Apply appropriate algorithms and data structures for real time applications.
	CO4	Analyze the complexity of different algorithms
	CO5	Evaluate the special trees and Hashing Techniques

Sub Code: **23UCS404**

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper :		**Core Paper 4 – Database Management System**		
Batch **2023-2024**	Semester **IV**	Hours/Week **4**	Total Hours **60**	Credits **5**

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 various database types.
	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.

Sub Code: **23UCS4CO**

ProgrammeCode:**09**		**B.Sc Computer Science**		
Title of the Paper :		**Core Practical 4– Visual Basic and Oracle - Lab**		
Batch **2023-2024**	Semester **IV**	Hours/Week **6**	Total Hours **90**	Credits **2**

Course Objectives

1. To develop applications using Graphical User Interface tools.
2. To understand the design concepts.
3. To design and build database systems and demonstrate their competence.

Course Outcomes (CO)

K3 to K5	CO1	Apply the concepts of Visual Basic
	CO2	Examine the various Controls in Visual Basic
	CO3	Analyze how to design and develop the event- driven applications using Visual Basic frame work.
	CO4	Illustrate the applications using the components of toolbox
	CO5	Evaluate the ideas and concepts using implementation and testing of the programs

Sub Code: 23UCS4A4

ProgrammeCode:**09**	**B.Sc., Computer Science**			
Title of the Paper : Allied Paper 4–Digital Principles and Computer System Architecture				
Batch **2023-2024**	Semester **IV**	Hours/Week **4**	Total Hours **60**	Credits **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.

Sub Code: 23UCS505

ProgrammeCode:**09**		**B.Sc ., Computer Science**		
Title of the Paper :		**Core Paper 5 – Artificial Intelligence**		
Batch **2023-2024**	Semester **V**	Hours/Week **6**	Total Hours **90**	Credits **6**

Course Objectives

1. To understand the basic concepts of Artificial Intelligence and identify the AI problems and domains.
2. To know appropriate search techniques to solve the problems.
3. To represent and access the domain specific knowledge.

Course Outcomes (CO)

K1 to K5	CO1	Remember the nature of AI problems and task domains of AI.
	CO2	Under stand the appropriate search procedures to solve the problems.
	CO3	Apply the suitable knowledge representation method.
	CO4	Analyze the acquired knowledge and infer new knowledge.
	CO5	Evaluate the AI techniques for encoding and accessing the knowledge in the development of AI systems.

Sub Code**:** 23UCS506

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper :		**Core Paper 6 – Python Programming and IoT**		
Batch **2023-2024**	Semester **V**	Hours/Week **5**	Total Hours **75**	Credits **5**

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

Sub Code: **23UCS5CP**

ProgrammeCode:**09**		**B.Sc ., Computer Science**		
Title of the Paper :		**Core Practical 5 – Python Programming and IoT - Lab**		
Batch **2023-2024**	Semester **V**	Hours/Week **6**	Total Hours **90**	Credits **2**

Course Objectives

1. To gain knowledge on the concepts of python programming.
2. To design IoT applications in different domain and be able to analyze their performance
3. To know the various hardware and sensing technologies to build IoT applications.

Course Outcomes (CO)

K3 to K5	CO1	Apply the basic concepts of python programming with IoT.
	CO2	Examine the IoT Enabling Technologies and Domain Specific IoTs.
	CO3	Analyze Programming in Arduino with Python
	CO4	Illustrate the Python Packages for IoT.
	CO5	Evaluate the ideas and concepts using Python with IoT.

Sub Code: 23UCS507

ProgrammeCode:**09**		**B.Sc ., Computer Science**		
Title of the Paper :		**Core Paper7 – Software Engineering and Testing**		
Batch **2023-2024**	Semester **V**	Hours/Week **6**	Total Hours **90**	Credits **5**

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)

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

Sub Code: 23UCS608

ProgrammeCode:**09**		**B .Sc., Computer Science**		
Title of the Paper :		**Core Paper 8 – Data Analytics**		
Batch **2023-2024**	Semester **VI**	Hours/Week **4**	Total Hours **60**	Credits **4**

Course Objectives

1. To understand the fundamental concepts in data science.
2. To familiarize Data Classification, Sources of Data, Data Science user- roles and skills.
3. To acquire knowledge in Basics of R tool and statistical measures.

Course Outcomes (CO)

K1 to K5	CO1	Understand data classification, process of big data technology, user roles and skills in data science.
	CO2	Apply the fundamental concepts and techniques of data science in 360 view of Customer
	CO3	Analyze the methodologies of data science
	CO4	Implement the statistical measures using R
	CO5	Evaluate the data analysis techniques for applications handling large data.

Sub Code: **23UCS609**

ProgrammeCode:**09**		**B. Sc ., Computer Science**		
Title of the Paper :		**Core Paper 9 – PHP Programming**		
Batch **2023-2024**	Semester **VI**	Hours/Week **4**	Total Hours **60**	Credits **5**

Course Objectives

1. To understand the basic programming techniques using PHP.
2. To gain an insight of creating classes and using functions in PHP.
3. To know the process of developing a PHP application and to work with files and directories.

Course Outcomes (CO)

K1 to K5	CO1	Remember the basic syntax of PHP
	CO2	Understand Arrays and Strings in PHP
	CO3	Apply the concepts of files and directories
	CO4	Analyze the database connectivity using PHP and SQL
	CO5	Evaluate the effectiveness of PHP programming concepts in developed applications.

Sub Code: **23UCS6CQ**

ProgrammeCode:**09**		**B. Sc ., Computer Science**		
Title of the Paper :		**Core Practical 6 – PHP Programming Lab**		
Batch **2023-2024**	Semester **VI**	Hours/Week **6**	Total Hours **90**	Credits **2**

Course Objectives

1. To develop the ability to build efficient web based applications using PHP
2. To learn the basic constructs in PHP Programming.
3. To utilize the concepts of Strings and Array functions in PHP applications.

Course Outcomes (CO)

K3 to K5	CO1	Apply the concepts of PHP programming fundamental features
	CO2	Examine string functions and arrays to develop the applications.
	CO3	Analyze file system functions.
	CO4	Illustrate SESSION and COOKIE concepts in PHP applications.
	CO5	Evaluate the web pages implemented containing PHP and MySQL.

Sub Code: **23UCS610**

ProgrammeCode:**09**		**B. Sc., Computer Science**		
Title of the Paper : Core Paper 10 – Data Communication and Networking				
Batch **2023-2024**	Semester **VI**	Hours/Week **5**	Total Hours **75**	Credits **5**

Course Objectives

1. To know the OSI reference model and the TCP/IP reference model and protocols such as TCP,UDP and IP.
2. To familiarize the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.
3. To understand the concepts of transmission media, routing algorithms and collision control.

Course Outcomes (CO)

K1 to K5	CO1	Remember the organization of computer networks, factors influencing computer network development and the reasons for having variety of different types of networks.
	CO2	Understand the Internet structure and can see how standard problems are solved and the use of cryptography and network security
	CO3	Apply the knowledge of different techniques of error detection and correction to detect and solve error bit during data transmission.
	CO4	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies
	CO5	Evaluate the different types of network devices and their functions within a network. Identify the different types of network topologies and protocols.

Sub Code: 23UCS6Z1

ProgrammeCode:**09**	**B. Sc., Computer Science**			
Title of the Paper :	**Project Work and Viva-Voce**			
Batch **2023-2024**	Semester **VI**	Hours/Week **4**	Total Hours **60**	Credits **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)

K3 to K5	CO1	Apply the domain specific knowledge and define the project.
	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.

ProgrammeCode:**09**	**B .Sc .,Computer Science.**		
Batch:**2023-2024**	**Elective Paper–Cloud Computing**		
	Hours/Week **5**	Total Hours **75**	Credits **5**

Course Objective

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

ProgrammeCode:**09**	**B. Sc., Computer Science**		
Elective Paper – Information Security			
Batch **2023-2024**	Hours/Week **5**	Total Hours **75**	Credits **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)

K1 to K5	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.

ProgrammeCode:**09**	**B.Sc ., Computer Science**		
Batch:**2023-2024**	**Elective Paper–Embedded Systems**		
	Hours/Week **5**	Total Hours **75**	Credits **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.

ProgrammeCode:**09**	**B.Sc., Computer Science**		
Batch:**2023-2024**	**Elective Paper–Systems Software and Operating Systems**		
	Hours/Week **5**	Total Hours **75**	Credits **5**

Course Objective

1. To understand the design and implementation of language processors, compilers and Linkers.
2. To attain an in-depth understanding of Process Concepts, Memory Management, Job Scheduling
3. To get exposure to seek optimization techniques and File Systems

Course Outcomes (CO)

K1 to K5	CO1	Remember the program generation and program execution activities.
	CO2	Understand the functioning of Assembler, Compiler and Linker
	CO3	Apply various process concepts
	CO4	Analyze job scheduling algorithms
	CO5	Evaluate various storage management strategies

ProgrammeCode:**09**	**B.Sc ., Computer Science**		
Batch:**2023-2024**	**Elective Paper–Mobile Computing**		
	Hours/Week **5**	Total Hours **75**	Credits **5**

Course Objectives

1. To know the basic concepts of Mobile Computing and its Applications.
2. To familiarize the various emerging technologies in Mobile computing services.
3. To gain knowledge about GSM, GPRS, CDMA and3G.

Course Outcomes (CO)

K1 to K5	CO1	Remember the concept of Wireless LANs, PAN, Mobile Networks
	CO2	Understand positioning techniques of location-based services and applications
	CO3	Apply all techniques used in the GSM and GPRS
	CO4	Analyze CDMA and wireless LANS.
	CO5	Evaluate the infrastructures and technologies of mobile computing.

ProgrammeCode:**09**	**B.Sc ., Computer Science**		
Batch:**2023-2024**	**Elective Paper–Machine Learning**		
	Hours/Week **5**	Total Hours **75**	Credits **5**

Course Objectives

1. To know the basic concepts of machine learning.
2. To apply the appropriate machine learning strategy for any given problem
3. To distinguish between, supervised, unsupervised and semi-supervised learning

Course Outcomes (CO)

K1 to K5	CO1	Remember the basic concepts and techniques of Machine Learning.
	CO2	Understand supervised, unsupervised or semi-supervised learning algorithms
	CO3	Apply the appropriate machine learning strategy for any given problem
	CO4	Analyze the uses of appropriate graph models of machine learning
	CO5	Evaluate the existing machine learning algorithms to improve its efficiency

Sub Code: 23UGC3S1

ProgrammeCode:**09**	**B.Sc ., Computer Science**			
Title of the Paper : Part IV – Skill Based Subject 1 : Cyber Security				
Batch **2023-2024**	Semester **III**	Hours/Week **2**	Total Hours **30**	Credits **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: 23UCS4SL

ProgrammeCode:**09**		**B.Sc ., Computer Science**		
Title of the Paper : Skill Based Subject 2 – Mobile Application Development Lab				
Batch **2023-2024**	Semester **IV**	Hours/Week **2**	Total Hours **30**	Credits **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)

K3 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

Sub Code : 23UCS6SM

ProgrammeCode:**09**	**B.Sc., Computer Science**			
Title of the Paper : Skill based Subject-3 - Advanced Excel Lab				
Batch **2023-2024**	Semester **VI**	Hours/Week **2**	Total Hours **30**	Credits **3**

Course Objectives

1. Knowing the advanced features of MS-Excel
2. To gain knowledge about Macros.
3. To learn Visual Basic Analysis(VBA) .

Course Outcomes(CO)

K3 to K5	CO1	Remembering Sorting and Filtering procedures
	CO2	Understand the concept of Pivot Table
	CO3	Apply Macros features in worksheet
	CO4	Analyze User defined functions
	CO5	Evaluate Visual Basic Analysis (VBA)

Sub Code: **23UCS5XL**

ProgrammeCode:**09**		**B. Sc ., Computer Science**		
Title of the Paper :		**EDC– Web Designing using HTML**		
Batch **2023-2024**	Semester **V**	Hours/Week **2**	Total Hours **30**	Credits **3**

Course Objectives

1. To know the basic concepts of the World Wide Web, principles and tools used to develop Web applications.
2. To develop an ability to design and implement static and dynamic website.
3. To design and develop a Web site using text, images, links, lists, and tables for navigation and layout.

Course Outcomes (CO)

K3 to K5	CO1	Apply the internet related concepts that are vital in understanding web site development.
	CO2	Examine the important HTML tags for designing web pages.
	CO3	Analyze the interactive web applications through coding using HTML.
	CO4	Illustrate the creation of static webpage using HTML.
	CO5	Evaluate the results on creativity and innovation of web pages developed using HTML tags.

Sub Code : 23EVS101

ProgrammeCode:**09**		**B.Sc., Computer Science**		
Title of the Paper :		**Part IV – Environmental Studies**		
Batch **2023-2024**	Semester **I**	Hours/Week **2**	Total Hours **30**	Credits **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 "Ecocitizens" 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	Acquire 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

ProgrammeCode:**09**	**B.Sc ., Computer Science**			
Title of the Paper : Part IV – Value Education – Moral and Ethics				
Batch **2023-2024**	Semester **II**	Hours/Week **2**	Total Hours **30**	Credits **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)

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

K1 to K5	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
	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

Sub Code: **23UHR3N1**

ProgrammeCode:**09**		**B. Sc .,Computer Science**		
Title of the Paper :		**Part IV – Non – Major Elective–1 Human Rights**		
Batch **2023-2024**	Semester **III**	Hours/Week **2**	Total Hours **30**	Credits **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.

Sub Code: **23UWR4N2**

ProgrammeCode:**09**	**B. Sc ., Computer Science**			
Title of the Paper : Part IV -Non-Major Elective–2 Women's Rights				
Batch **2023-2024**	Semester IV	Hours/Week 2	Total Hours 30	Credits 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)

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 of the important elements in the Indian Constitution, Indian Laws for Protection of Women.
	CO5	To be aware of Government Developmental schemes for women and create awareness on modernization and impact of technology on Women.

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ProgrammeCode:09	**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)

K1 to K5	CO1	Able to know the rights and responsibility of consumers.
	CO2	Understand the importance and benefits of Consumer Protection Act.
	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