CRITERION I **POs and Cos**

Key Indicator - 1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, regional, national and global developmental needs, which is reflected in the Programme outcomes (POs) and Course Outcomes (COs) of the Programmes offered by the institution

Programme Outcomes (POs) and Course Outcomes (COs) – (2019-2020 Onwards)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Sc – Information Technology

COURSE OUTCOMES (COs)

Course Title: PROGRAMMING IN C **Course Code: 19UIT1CC1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the basic concepts of Information Technology	**K1**
CO2	Understanding the structure and basics of programming	**K2**
CO3	Apply the knowledge to develop simple programs	**K3**
CO4	Solve real time problems using C	**K3**

Course Title: PROGRAMMING IN C LAB **Course Code: 19UIT1CC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall program execution and debugging	**K1**
CO2	Demonstrate the ideas of control structures	**K2**
CO3	Make use of functions and arrays	**K3**
CO4	Apply string handling functions and develop files	**K3**

Course Title: DATA STRUCTURES AND C++ **Course Code: 19UIT2CC2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basic concepts of Oops, classes, objects and functions	**K1**
CO2	Build the knowledge about Constructor, Inheritance and polymorphism	**K2**
CO3	Illustrate Linear Data structures	**K2**
CO4	Implement Linked list and Tree data structure	**K3**
CO5	Analyze various search and sorting techniques	**K4**

CRITERION I **POs and Cos**

Course Title: DATA STRUCTURES USING C++ LAB **COURSE CODE: 19UIT2CC2P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Exhibit the knowledge of program execution and Debugging of C++	**K1**
CO2	Demonstrate the use of function and operator overloading	**K2**
CO3	Understanding the use of inheritance	**K2**
CO4	Build the applications with files and Combine pointers	**K3**

Signature Not Verified
Digitally Signed
Signed by: Sujatha.V
Designation: Principal
Reason: NAAC
Location: Tiruchirappalli, Tamil Nadu, India
Date: 30-Sep-2024 10:43:48

Key Indicator - 1.1 Curriculum Design and Development

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Programme Outcomes (POs) and Course Outcomes (COs) – (2020-2021 Onwards)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Sc – Information Technology

COURSE OUTCOMES (COs)

Course Title: PROGRAMMING IN C **Course Code: 19UIT1CC1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the basic concepts of Information Technology	**K1**
CO2	Understanding the structure and basics of programming	**K2**
CO3	Apply the knowledge to develop simple programs	**K3**
CO4	Solve real time problems using C	**K3**

Course Title: PROGRAMMING IN C LAB **Course Code: 19UIT1CC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall program execution and debugging	**K1**
CO2	Demonstrate the ideas of control structures	**K2**
CO3	Make use of functions and arrays	**K3**
CO4	Apply string handling functions and develop files	**K3**

Course Title: DATA STRUCTURES AND C++ **Course Code: 19UIT2CC2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basic concepts of Oops, classes, objects and functions	**K1**
CO2	Build the knowledge about Constructor, Inheritance and polymorphism	**K2**
CO3	Illustrate Linear Data structures	**K2**
CO4	Implement Linked list and Tree data structure	**K3**
CO5	Analyze various search and sorting techniques	**K4**

Course Title: DATA STRUCTURES USING C++ LAB COURSE CODE: 19UIT2CC2P		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Exhibit the knowledge of program execution and Debugging of C++	**K1**
CO2	Demonstrate the use of function and operator overloading	**K2**
CO3	Understanding the use of inheritance	**K2**
CO4	Build the applications with files and Combine pointers	**K3**

COURSE TITLE: DATABASE MANAGEMENT SYSTEMS COURSE CODE: 19UIT3CC3		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the terminology, features, classifications, characteristics and benefits embodied in database systems	**K1**
CO2	Formulate using relational algebra solutions to a broad range of query problems	**K2**
CO3	Demonstrate a broad range of SQL query and its application	**K3**
CO4	Design an information model expressed in the form of an Entity relation diagram	**K3**
CO5	Apply normalization in relational database design and demonstrate PL/SQL program interfaces	**K3**

COURSE TITLE: DBMS LAB COURSE CODE: 19UIT3CC3P		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design and implement a database schema for a given problem	**K1**
CO2	Create and maintain tables using PL/SQL	**K2**
CO3	Populate and query a database	**K3**
CO4	Prepare reports	**K3**
CO5	Application development using PL/SQL	**K3**

COURSE TITLE: INTERNET AND ITS USAGE COURSE CODE: 19UIT3NME1		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the terms related to Internet and its Technologies	**K1**
CO2	Demonstrate the usage of E-Mail and Social works	**K3**
CO3	Analyze the commands used to create and design web pages	**K3**
CO4	Apply HTML to create basic web pages	**K3**
CO5	Design the web content using CSS	**K3**

COURSE TITLE: PROGRAMMING IN JAVA COURSE CODE: 19UIT4CC4		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introducing the basics of platform independent language and its structure	**K1**
CO2	Illustrate the Object-Oriented Programming Concepts with interactivity	**K2**
CO3	Outline the error handling mechanism	**K2**
CO4	Experiment with simple programming exercises	**K3**
CO5	Apply Object Oriented concepts to develop real time applications	**K3**

COURSE TITLE: JAVA PROGRAMMING LAB COURSE CODE: 19UIT4CC4P		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall basic programming logic with simple example	**K1**
CO2	Develop Java Application program using Object Oriented Concepts	**K2**
CO3	Make use of the applet concept to design interactive program	**K3**
CO4	Create and analyze the real time applications	**K4**

COURSE TITLE: WEB DEVELOPMENT TOOL COURSE CODE: 19UIT4SBE1AP		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop a simple web page using basic HTML tags	**K1**
CO2	Create many frames and link them in HTML	**K2**
CO3	Design a web page using Forms and Tables	**K3**
CO4	Embed audio and video in HTML	**K3**

COURSE TITLE: ANIMATION TOOL COURSE CODE: 19UIT4SBE1BP		
CO Number	**CO Statement On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Create graphics using design elements	K1
CO2	Illustrate masking effects	K2
CO3	Demonstrate attributes of images	K3
CO4	Model key drawing for animations	K3

COURSE TITLE: INFORMATION SECURITY & CYBER LAWS COURSE CODE: 19UIT3NME2		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basics of Information Security, its quality, value and aspects	**K1**
CO2	Recall the basic concepts of Threats and its counter measures	**K1**
CO3	Define the types of viruses, its detection and recovery	**K1**
CO4	Summarize the counter measures for Information security and Cryptography	**K2**
CO5	Identify Cyber laws for Prevention and Detection	**K3**

CRITERION I **POs and Cos**

Key Indicator - 1.1 Curriculum Design and Development

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Programme Outcomes (POs) and Course Outcomes (COs) – (2021-2022 Onwards)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Sc – Information Technology

COURSE OUTCOMES (COs)

Course Title: PROGRAMMING IN C **Course Code: 19UIT1CC1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the basic concepts of Information Technology	**K1**
CO2	Understanding the structure and basics of programming	**K2**
CO3	Apply the knowledge to develop simple programs	**K3**
CO4	Solve real time problems using C	**K3**

Course Title: PROGRAMMING IN C LAB **Course Code: 19UIT1CC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall program execution and debugging	**K1**
CO2	Demonstrate the ideas of control structures	**K2**
CO3	Make use of functions and arrays	**K3**
CO4	Apply string handling functions and develop files	**K3**

Course Title: DATA STRUCTURES AND C++ **Course Code: 19UIT2CC2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basic concepts of Oops, classes ,objects and functions	**K1**
CO2	Build the knowledge about Constructor, Inheritance and polymorphism	**K2**
CO3	Illustrate Linear Data structures	**K2**
CO4	Implement Linked list and Tree data structure	**K3**
CO5	Analyze various search and sorting techniques	**K4**

CRITERION I **POs and Cos**

Course Title: DATA STRUCTURES USING C++ LAB **COURSE CODE: 19UIT2CC2P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Exhibit the knowledge of program execution and Debugging of C++	**K1**
CO2	Demonstrate the use of function and operator overloading	**K2**
CO3	Understanding the use of inheritance	**K2**
CO4	Build the applications with files and Combine pointers	**K3**

COURSE TITLE: DATABASE MANAGEMENT SYSTEMS **COURSE CODE: 19UIT3CC3**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the terminology, features, classifications, characteristics and benefits embodied in database systems	**K1**
CO2	Formulate using relational algebra solutions to a broad range of query problems	**K2**
CO3	Demonstrate a broad range of SQL query and its application	**K3**
CO4	Design an information model expressed in the form of an Entity relation diagram	**K3**
CO5	Apply normalization in relational database design and demonstrate PL/SQL program interfaces	**K3**

COURSE TITLE: DBMS LAB **COURSE CODE: 19UIT3CC3P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design and implement a database schema for a given problem	**K1**
CO2	Create and maintain tables using PL/SQL	**K2**
CO3	Populate and query a database	**K3**
CO4	Prepare reports	**K3**
CO5	Application development using PL/SQL	**K3**

COURSE TITLE: INTERNET AND ITS USAGE **COURSE CODE: 19UIT3NME1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the terms related to Internet and its Technologies	**K1**
CO2	Demonstrate the usage of E-Mail and Social works	**K3**
CO3	Analyze the commands used to create and design web pages	**K3**
CO4	Apply HTML to create basic web pages	**K3**
CO5	Design the web content using CSS	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: PROGRAMMING IN JAVA **COURSE CODE: 19UIT4CC4**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introducing the basics of platform independent language and its structure	**K1**
CO2	Illustrate the Object-Oriented Programming Concepts with interactivity	**K2**
CO3	Outline the error handling mechanism	**K2**
CO4	Experiment with simple programming exercises	**K3**
CO5	Apply Object Oriented concepts to develop real time applications	**K3**

COURSE TITLE: JAVA PROGRAMMING LAB **COURSE CODE: 19UIT4CC4P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall basic programming logic with simple example	**K1**
CO2	Develop Java Application program using Object Oriented Concepts	**K2**
CO3	Make use of the applet concept to design interactive program	**K3**
CO4	Create and analyze the real time applications	**K4**

COURSE TITLE: WEB DEVELOPMENT TOOL **COURSE CODE: 19UIT4SBE1AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop a simple web page using basic HTML tags	**K1**
CO2	Create many frames and link them in HTML	**K2**
CO3	Design a web page using Forms and Tables	**K3**
CO4	Embed audio and video in HTML	**K3**

COURSE TITLE: ANIMATION TOOL **COURSE CODE: 19UIT4SBE1BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Show various formatting operations in MSWord	**K1**
CO2	Create multiple documents using Mail merge	**K2**
CO3	Design a table and implement various operations	**K2**
CO4	Apply various operation and charts in MS-Excel	**K3**
CO5	Make use of PowerPoint features to create E content	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: INFORMATION SECURITY & CYBER LAWS **COURSE CODE: 19UIT3NME2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basics of Information Security, its quality, value and aspects	**K1**
CO2	Recall the basic concepts of Threats and its counter measures	**K1**
CO3	Define the types of viruses, its detection and recovery	**K1**
CO4	Summarize the counter measures for Information security and Cryptography	**K2**
CO5	Identify Cyber laws for Prevention and Detection	**K3**

COURSE TITLE: PYTHON PROGRAMMING & MACHINE LEARNING **COURSE CODE: 19UIT5CC5**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introduce the basic concepts of Python	**K1**
CO2	Write and Execute programs using Arrays and Functions	**K2**
CO3	Illustrate the concepts of Strings and Dictionaries	**K2**
CO4	Design coding using Regular Expressions and GUI	**K3**
CO5	Applying knowledge in handling Data Frames	**K3**

COURSE TITLE: PROGRAMMING IN PYTHON LAB **COURSE CODE: 19UIT5CC5P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop programs using fundamental concepts	**K1**
CO2	Demonstrate the concepts of Arrays and Functions	**K2**
CO3	Make use of Regular Expressions and GUI	**K3**
CO4	Apply Data Frame operations in a dataset	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: COMPUTER NETWORKS **COURSE CODE: 19UIT5CC6**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Describe the structure and organization of computer network layers, responsibilities of each layer, and relationships between the layers	**K1**
CO2	Discuss over the types of transmission media and various switching techniques	**K2**
CO3	Explain the data link layer properties including error-detection and correction techniques and flow control mechanisms and wireless communication	**K3**
CO4	Illustrate the network layer concepts and protocols including datagram forwarding, routing algorithms and transport layer concepts that include connection oriented and connection-less models, techniques to provide reliable data delivery and algorithms for congestion control	**K3**
CO5	Explain the concepts of application layer protocol for various applications like HTTP, FTP and Email and cryptography	**K3**

COURSE TITLE: DIGITAL LOGIC AND COMPUTER DESIGN **COURSE CODE: 19UIT5CC7**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall the basic principles of digital electronics	**K1**
CO2	Understand different types of digital electronic circuits for particular operation	**K2**
CO3	Demonstrate the functions of combinational and sequential circuits	**K2**
CO4	Build micro-operations and can experiment with basic design	**K3**
CO5	Sketch the microcomputer organization	**K3**

COURSE TITLE: SOFTWARE ENGINEERING **COURSE CODE: 19UIT5MBE1A**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the progression in software and software engineering practice	**K1**
CO2	Categorize the development phases and life cycle models of a project.	**K2**
CO3	Illustrate the model in software project design and quality.	**K2**
CO4	Discuss the fundamentals of software testing with its various types.	**K3**
CO5	Explain the method of performance and internationalization testing.	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: OBJECT ORIENTED ANALYSIS AND DESIGN **COURSE CODE: 19UIT5MBE1B**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Analyse, Design, Document the requirements through the use case driven approach	**K1**
CO2	Identify, analyse and model structural and behavioral concepts of the system	**K2**
CO3	Explore the conceptual model into various scenarios and Applications	**K3**
CO4	Apply the concepts of architectural design for deploying the code for software	**K3**
CO5	Demonstrate a rudimentary understanding of UML interfaces	**K3**

COURSE TITLE: SOFTWARE PROJECT MANAGEMENT **COURSE CODE: 19UIT5MBE1C**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Define the scope of software project management	**K1**
CO2	Describe the projects at each stage of the software development life cycle	**K2**
CO3	Outline the software cost estimation techniques	**K2**
CO4	Discuss about the activity planning and risk management principles	**K3**
CO5	To develop skills to manage the various phases involved in project management and people management	**K3**

COURSE TITLE: CONTENT MANAGEMENT SYSTEM TOOL **COURSE CODE: 19UIT5SBE2AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Apply the fundamental features to create a website	**K1**
CO2	Develop blogs and post	**K2**
CO3	Access images and media files	**K2**
CO4	Demonstrate website customization	**K3**
CO5	Implement the plugin capabilities	**K3**

COURSE TITLE: INTERACTIVE MULTIMEDIA SOFTWARE **COURSE CODE: 19UIT5SBE2BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handling Layout with color and fonts	**K1**
CO2	Illustrate the operation for working on layers	**K2**
CO3	Create graphics using templates	**K2**
CO4	Demonstrate Masking technique	**K3**
CO5	Design an Animated video	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: WEB DESIGNING LAB **COURSE CODE: 19UIT5SBE3AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Perform different operations on text and images	**K1**
CO2	Create forms with different types of controls	**K2**
CO3	Apply various Graphics effects	**K3**
CO4	Create links between multiple frames	**K3**
CO5	Design and finalize the web page using software	**K3**

COURSE TITLE: GRAPHICS LAB **COURSE CODE: 19UIT5SBE3BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handle basics tools and include drawing in design of a web page	**K1**
CO2	Perform different operations on text	**K2**
CO3	Perform comprehensive processing of word and publishing integration	**K3**
CO4	Enable to create and modify objects for graphics design purposes.	**K3**
CO5	Create full-fledged document with various page backgrounds and layouts	**K3**

COURSE TITLE: OPERATING SYSTEM **COURSE CODE: 19UIT6CC8**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the role of operating system	**K1**
CO2	Compare various algorithms and comment about the performance of various algorithms used for process management and CPU scheduling.	**K3**
CO3	Apply various concepts related to deadlock to solve problems related with resource allocation.	**K3**
CO4	Analyze the role of process synchronization towards increasing throughput of the system.	**K3**
CO5	Utilize the Unix commands pertaining with process, File and I/O Management.	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: MOBILE APPLICATION DEVELOPMENT **COURSE CODE: 19UIT6CC9**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Choose the development framework and the need for mobile applications	**K1**
CO2	Demonstrate the activity and intent usage	**K2**
CO3	Design applications with intents and broadcast receivers.	**K3**
CO4	Compile an application with database connectivity	**K4**
CO5	Develop real time applications to improvise user experience	**K5**

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT **COURSE CODE: 19UIT6MBE2A**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introduce the basic concepts of HTML5	**K1**
CO2	Introducing JavaScript and developing programs in HTML with CSS	**K1**
CO3	Write and execute programs with JavaScript Event Handlers	**K2**
CO4	Illustrating the concepts of PHP for designing a webpage	**K3**
CO5	Applying knowledge in handling databases with PHP and introduction to Laravel Framework	**K4**

COURSE TITLE: C# PROGRAMMING **COURSE CODE: 19UIT6MBE2B**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Knowledge of the structure and model of the programming language C #	**K1**
CO2	Understand use of C# basics, Objects and Types, Inheritance	**K2**
CO3	Develop, implement and creating Applications with C#	**K3**
CO4	Compile an application with database connectivity	**K3**
CO5	Design and execute Web-based real time applications to improvise user experience	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: ARTIFICIAL INTELLIGENCE **COURSE CODE: 19UIT6MBE2C**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Create an appropriate state space searching techniques to maximize the performance	**K1**
CO2	Compute first-order propositional and predicate logic to represent knowledge	**K2**
CO3	Analyze the problem solving methods involved in uncertain information using probabilistic techniques.	**K3**
CO4	Apply planning algorithms to find optimal solutions	**K3**
CO5	Explain the steps involved in Natural language processing	**K3**

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT LAB **COURSE CODE: 19UIT6MBE3AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop webpages using HTML5 and CSS	**K1**
CO2	Create simple programs and apply Event Handlers in JavaScript using HTML	**K2**
CO3	Implement programs using MYSQL with PHP	**K3**

COURSE TITLE: .NET WITH C# **COURSE CODE: 19UIT6MBE3BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Exhibit the knowledge of program execution and Debugging Of C#	**K1**
CO2	Develop programs using Object-Oriented concepts of C#	**K2**
CO3	Design Window-based applications with database connectivity	**K3**
CO4	Compile an application to demonstrate web services	**K3**
CO5	Apply the complete knowledge of C# to develop Web-based real time applications using webserver controls	**K3**

COURSE TITLE: MOBILE APPLICATION USING ANDROID **COURSE CODE: 19UIT6MBE3CP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design the layout with various controls	**K1**
CO2	Exploring the User Interface	**K2**
CO3	Implementing interactivity through application	**K3**
CO4	Compile an application to access database	**K3**
CO5	Experiencing with background services	**K3**

Signature Not Verified

Digitally Signed
Signed by: Sujatha.V
Designation: Principal
Reason: NAAC
Location: Tiruchirappalli, Tamil Nadu, India
Date: 30-Sep-2024 10:43:48

Key Indicator - 1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, regional, national and global developmental needs, which is reflected in the Programme outcomes (POs) and Course Outcomes (COs) of the Programmes offered by the institution

Programme Outcomes (POs) and Course Outcomes (COs) – (2022-2023 Onwards)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Sc – Information Technology

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEOs	Statements
PEO1	**LEARNING ENVIRONMENT** To facilitate value-based holistic and comprehensive learning by integrating innovative learning practices to match the highest quality standards and train the students to be effective leaders in their chosen fields.
PEO2	**ACADEMIC EXCELLENCE** To provide a conducive environment to unleash their hidden talents and to nurture the spirit of critical thinking and encourage them to achieve their goal.
PEO3	**EMPLOYABILITY** To equip students with the required skills in order to adapt to the changing global scenario and gain access to versatile career opportunities in multidisciplinary domains.
PEO4	**PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY** To develop a sense of social responsibility by formulating ethics and equity to transform students into committed professionals with a strong attitude towards the development of the nation.
PEO5	**GREEN SUSTAINABILITY** To understand the impact of professional solutions in societal and environmental contexts and demonstrate the knowledge for an overall sustainable development.

PROGRAMME OUTCOMES (POs)

CRITERION I **POs and Cos**

POs	Programme Outcome On completion of B. Sc Information Technology Programme, the students will be able to,
PO1	**Academic Skills & Social Responsibility** Apply Computing, Mathematical and Scientific knowledge in various disciplines by understanding the concerns of the society
PO2	**Critical Thinking and Innovative Progress** Design the software applications with varying intricacies using programming languages for innovative learning in technology world to meet the changing demands.
PO3	**Personality Development** Perceive Leadership skills to accomplish a common goal with effective communication and understanding of professional, ethical, and social responsibilities.
PO4	**Lifelong Learning** Identify resources for Professional development and apply the skills and tools necessary for computing practice to gain real life experiences.
PO5	**Creativity and Holistic Approach** Create a Scientific temperament and novelties of ideas to support research and development in Computer Science to uphold scientific integrity and objectivity.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSOs	Programme Specific Outcomes Students of B. Sc Information Technology will be able to	POs Addressed
PSO1	To apply the knowledge of Science and Computing in Information Technology	**PO1**
PSO2	Analyze the local and global impact of computing on individuals, organizations, society and implant lifelong learning for professional development	**PO4**
PSO3	Improve the capability to apply the knowledge in interrelated domains and solve real world problems with modern technological tools	**PO2**
PSO4	To strengthen the academic and research quality, effective communication, good ethics and responsibilities during professional practice	**PO5**
PSO5	Excel in job-oriented skills which are required to meet the current demand in the field of IT industry and to become an entrepreneur with confidence	**PO3**

COURSE OUTCOMES (COs)

Course Title: PROGRAMMING IN C

CRITERION I **POs and Cos**

Course Code: 22UIT1CC1		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Define the basic concepts of C Programming	**K1**
CO2	Illustrate the components of C programming	**K2**
CO3	Build algorithms and data structures swiftly and faster computation using programs	**K3**
CO4	Apply the knowledge of programming concepts to develop programs	**K4**
CO5	Solve real time problems using C	**K5**

Course Title: PROGRAMMING IN C (P) **Course Code: 22UIT1CC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall program execution and Debugging	**K1**
CO2	Demonstrate the ideas of control structures	**K2**
CO3	Make use of functions, arrays, apply string handling functions and develop files	**K3**
CO4	Develops the ability to analyze a problem and implement an algorithm to solve it.	**K4**
CO5	Acquire logical thinking, Identify the correct and efficient ways of solving problems	**K5**

Course Title: DATA STRUCTURES & ALGORITHMS **Course Code: 22UIT2CC2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Understand the abstract data types and basics of Algorithms	**K1**
CO2	Demonstrate the performance of basic linear and nonlinear data structures	**K2**
CO3	Implement the basic data structures and Algorithm design techniques	**K3**
CO4	Analyze the efficiency and proofs of correctness	**K4**
CO5	Assess, evaluate and choose appropriate data structure and algorithmic technique to solve real-world problems.	**K5**

COURSE TITLE: DATA STRUCTURES USING C (P) **COURSE CODE: 22UIT2CC2P**

CRITERION I **POs and Cos**

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Recall program execution and Debugging	**K1**
CO2	Demonstrate the ideas of Data structures	**K2**
CO3	Make use of Operations of Linear and Non- linear data structures	**K3**
CO4	Develops the ability to analyze a problem and implement an algorithm to solve it.	**K4**
CO5	Acquire logical thinking, Identify the correct and efficient ways of solving problems	**K5**

COURSE TITLE: DIGITAL FUNDAMENTALS
COURSE CODE: 22UIT2CC3

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Understand the basics of digital logic	**K1**
CO2	Apply the conversion of number system	**K3**
CO3	Apply the Boolean algebra to generate digital circuits	**K3**
CO4	Design combinational circuits using gates	**K5**
CO5	Construct sequential circuits using registers	**K4**

COURSE TITLE: DATABASE MANAGEMENT SYSTEMS
COURSE CODE: 19UIT3CC3

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Outline the terminology, features, classifications, characteristics and benefits embodied in database systems	**K1**
CO2	Formulate using relational algebra solutions to a broad range of query problems	**K2**
CO3	Demonstrate a broad range of SQL query and its application	**K3**
CO4	Design an information model expressed in the form of an Entity relation diagram	**K3**
CO5	Apply normalization in relational database design and demonstrate PL/SQL program interfaces	**K3**

COURSE TITLE: DBMS LAB

CRITERION I **POs and Cos**

COURSE CODE: 19UIT3CC3P		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design and implement a database schema for a given problem	**K1**
CO2	Create and maintain tables using PL/SQL	**K2**
CO3	Populate and query a database	**K3**
CO4	Prepare reports	**K3**
CO5	Application development using PL/SQL	**K3**

COURSE TITLE: INTERNET AND ITS USAGE **COURSE CODE: 19UIT3NME1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the terms related to Internet and its Technologies	**K1**
CO2	Demonstrate the usage of E-Mail and Social works	**K3**
CO3	Analyze the commands used to create and design web pages	**K3**
CO4	Apply HTML to create basic web pages	**K3**
CO5	Design the web content using CSS	**K3**

COURSE TITLE: PROGRAMMING IN JAVA **COURSE CODE: 19UIT4CC4**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introducing the basics of platform independent language and its structure	**K1**
CO2	Illustrate the Object Oriented Programming Concepts with interactivity	**K2**
CO3	Outline the error handling mechanism	**K2**
CO4	Experiment with simple programming exercises	**K3**
CO5	Apply Object Oriented concepts to develop real time applications	**K3**

COURSE TITLE: JAVA PROGRAMMING LAB **COURSE CODE: 19UIT4CC4P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall basic programming logic with simple example	**K1**
CO2	Develop Java Application program using Object Oriented Concepts	**K2**
CO3	Make use of the applet concept to design interactive program	**K3**
CO4	Create and analyze the real time applications	**K4**

COURSE TITLE: WEB DEVELOPMENT TOOL

CRITERION I **POs and Cos**

COURSE CODE: 19UIT4SBE1AP		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop a simple web page using basic HTML tags	**K1**
CO2	Create many frames and link them in HTML	**K2**
CO3	Design a web page using Forms and Tables	**K3**
CO4	Embed audio and video in HTML	**K3**

COURSE TITLE: ANIMATION TOOL **COURSE CODE: 19UIT4SBE1BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Show various formatting operations in MSWord	**K1**
CO2	Create multiple documents using Mail merge	**K2**
CO3	Design a table and implement various operations	**K2**
CO4	Apply various operation and charts in MS-Excel	**K3**
CO5	Make use of PowerPoint features to create E content	**K3**

COURSE TITLE: INFORMATION SECURITY & CYBER LAWS **COURSE CODE: 19UIT3NME2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the basics of Information Security, its quality, value and aspects	**K1**
CO2	Recall the basic concepts of Threats and its counter measures	**K1**
CO3	Define the types of viruses, its detection and recovery	**K1**
CO4	Summarize the counter measures for Information security and Cryptography	**K2**
CO5	Identify Cyber laws for Prevention and Detection	**K3**

COURSE TITLE: PYTHON PROGRAMMING & MACHINE LEARNING **COURSE CODE: 19UIT5CC5**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introduce the basic concepts of Python	**K1**
CO2	Write and Execute programs using Arrays and Functions	**K2**
CO3	Illustrate the concepts of Strings and Dictionaries	**K2**
CO4	Design coding using Regular Expressions and GUI	**K3**
CO5	Applying knowledge in handling Data Frames	**K3**

COURSE TITLE: PROGRAMMING IN PYTHON LAB

CRITERION I **POs and Cos**

COURSE CODE: 19UIT5CC5P		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop programs using fundamental concepts	**K1**
CO2	Demonstrate the concepts of Arrays and Functions	**K2**
CO3	Make use of Regular Expressions and GUI	**K3**
CO4	Apply DataFrame operations in a dataset	**K3**

COURSE TITLE: COMPUTER NETWORKS **COURSE CODE: 19UIT5CC6**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Describe the structure and organization of computer network layers, responsibilities of each layer, and relationships between the layers	**K1**
CO2	Discuss over the types of transmission media and various switching techniques	**K2**
CO3	Explain the data link layer properties including error-detection and correction techniques and flow control mechanisms and wireless communication	**K3**
CO4	Illustrate the network layer concepts and protocols including datagram forwarding, routing algorithms and transport layer concepts that include connection oriented and connection-less models, techniques to provide reliable data delivery and algorithms for congestion control	**K3**
CO5	Explain the concepts of application layer protocol for various applications like HTTP, FTP and Email and cryptography	**K3**

COURSE TITLE: DIGITAL LOGIC AND COMPUTER DESIGN **COURSE CODE: 19UIT5CC7**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall the basic principles of digital electronics	**K1**
CO2	Understand different types of digital electronic circuits for particular operation	**K2**
CO3	Demonstrate the functions of combinational and sequential circuits	**K2**
CO4	Build micro-operations and can experiment with basic design	**K3**
CO5	Sketch the microcomputer organization	**K3**

COURSE TITLE: SOFTWARE ENGINEERING

CRITERION I **POs and Cos**

COURSE CODE: 20UIT5MBE1A		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the progression in software and software engineering practice	**K1**
CO2	Categorize the development phases and life cycle models of a project.	**K2**
CO3	Illustrate the model in software project design and quality.	**K2**
CO4	Discuss the fundamentals of software testing with its various types.	**K3**
CO5	Explain the method of performance and internationalization testing.	**K3**

COURSE TITLE: OBJECT ORIENTED ANALYSIS AND DESIGN **COURSE CODE: 19UIT5MBE1B**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Analyse, Design, Document the requirements through the use case driven approach	**K1**
CO2	Identify, analyse and model structural and behavioral concepts of the system	**K2**
CO3	Explore the conceptual model into various scenarios and Applications	**K3**
CO4	Apply the concepts of architectural design for deploying the code for software	**K3**
CO5	Demonstrate a rudimentary understanding of UML interfaces	**K3**

COURSE TITLE: SOFTWARE PROJECT MANAGEMENT **COURSE CODE: 19UIT5MBE1C**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Define the scope of software project management	**K1**
CO2	Describe the projects at each stage of the software development life cycle	**K2**
CO3	Outline the software cost estimation techniques	**K2**
CO4	Discuss about the activity planning and risk management principles	**K3**
CO5	To develop skills to manage the various phases involved in project management and people management	**K3**

COURSE TITLE: CONTENT MANAGEMENT SYSTEM TOOL **COURSE CODE: 19UIT5SBE2AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Apply the fundamental features to create a website	**K1**
CO2	Develop blogs and post	**K2**
CO3	Access images and media files	**K2**
CO4	Demonstrate website customization	**K3**
CO5	Implement the plugin capabilities	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: INTERACTIVE MULTIMEDIA SOFTWARE **COURSE CODE: 19UIT5SBE2BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handling Layout with color and fonts	**K1**
CO2	Illustrate the operation for working on layers	**K2**
CO3	Create graphics using templates	**K2**
CO4	Demonstrate Masking technique	**K3**
CO5	Design an Animated video	**K3**

COURSE TITLE: WEB DESIGNING LAB **COURSE CODE: 19UIT5SBE3AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Perform different operations on text and images	**K1**
CO2	Create forms with different types of controls	**K2**
CO3	Apply various Graphics effects	**K3**
CO4	Create links between multiple frames	**K3**
CO5	Design and finalize the web page using software	**K3**

COURSE TITLE: GRAPHICS LAB **COURSE CODE: 19UIT5SBE3BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handle basics tools and include drawing in design of a web page	**K1**
CO2	Perform different operations on text	**K2**
CO3	Perform comprehensive processing of word and publishing integration	**K3**
CO4	Enable to create and modify objects for graphics design purposes.	**K3**
CO5	Create full-fledged document with various page backgrounds and layouts	**K3**

COURSE TITLE: OPERATING SYSTEM **COURSE CODE: 19UIT6CC8**

CRITERION I **POs and Cos**

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Discuss the role of operating system	K1
CO2	Compare various algorithms and comment about the performance of various algorithms used for process management and CPU scheduling.	K3
CO3	Apply various concepts related to deadlock to solve problems related with resource allocation.	K3
CO4	Analyze the role of process synchronization towards increasing throughput of the system.	K3
CO5	Utilize the Unix commands pertaining with process, File and I/O Management.	K3

COURSE TITLE: MOBILE APPLICATION DEVELOPMENT
COURSE CODE: 20UIT6CC9

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Choose the development framework and the need for mobile applications	K1
CO2	Demonstrate the activity and intent usage	K2
CO3	Design applications with intents and broadcast receivers.	K3
CO4	Compile an application with database connectivity	K4
CO5	Develop real time applications to improvise user experience	K5

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT
COURSE CODE: 19UIT6MBE2A

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Introduce the basic concepts of HTML5	K1
CO2	Introducing JavaScript and developing programs in HTML with CSS	K1
CO3	Write and execute programs with JavaScript Event Handlers	K2
CO4	Illustrating the concepts of PHP for designing a webpage	K3
CO5	Applying knowledge in handling databases with PHP and introduction to Laravel Framework	K4

COURSE TITLE: C# PROGRAMMING
COURSE CODE: 19UIT6MBE2B

CRITERION I **POs and Cos**

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Knowledge of the structure and model of the programming language C #	K1
CO2	Understand use of C# basics, Objects and Types, Inheritance	K2
CO3	Develop, implement and creating Applications with C#	K3
CO4	Compile an application with database connectivity	K3
CO5	Design and execute Web-based real time applications to improvise user experience	K3

COURSE TITLE: ARTIFICIAL INTELLIGENCE
COURSE CODE: 19UIT6MBE2C

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Create an appropriate state space searching techniques to maximize the performance	K1
CO2	Compute first-order propositional and predicate logic to represent knowledge	K2
CO3	Analyze the problem solving methods involved in uncertain information using probabilistic techniques.	K3
CO4	Apply planning algorithms to find optimal solutions	K3
CO5	Explain the steps involved in Natural language processing	K3

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT LAB
COURSE CODE: 19UIT6MBE3AP

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Develop webpages using HTML5 and CSS	K1
CO2	Create simple programs and apply Event Handlers in JavaScript using HTML	K2
CO3	Implement programs using MYSQL with PHP	K3

COURSE TITLE: .NET WITH C#
COURSE CODE: 19UIT6MBE3BP

CO Number	CO Statement On the successful completion of the course, students will be able to,	Knowledge Level
CO1	Exhibit the knowledge of program execution and Debugging Of C#	K1
CO2	Develop programs using Object-Oriented concepts of C#	K2
CO3	Design Window-based applications with database connectivity	K3
CO4	Compile an application to demonstrate web services	K3
CO5	Apply the complete knowledge of C# to develop Web-based real time applications using webserver controls	K3

COURSE TITLE: MOBILE APPLICATION USING ANDROID

CRITERION I **POs and Cos**

COURSE CODE: 19UIT6MBE3CP		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design the layout with various controls	**K1**
CO2	Exploring the User Interface	**K2**
CO3	Implementing interactivity through application	**K3**
CO4	Compile an application to access database	**K3**
CO5	Experiencing with background services	**K3**

Signature Not Verified
Digitally Signed
Signed by: Sujatha.V
Designation: Principal
Reason: NAAC
Location: Tiruchirappalli, Tamil Nadu, India
Date: 30-Sep-2024 10:43:48

Key Indicator - 1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, regional, national and global developmental needs, which is reflected in the Programme outcomes (POs) and Course Outcomes (COs) of the Programmes offered by the institution

Programme Outcomes (POs) and Course Outcomes (COs) – (2023-2024 Onwards)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Sc – Information Technology

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEOs	Statements
PEO1	**LEARNING ENVIRONMENT** To facilitate value-based holistic and comprehensive learning by integrating innovative learning practices to match the highest quality standards and train the students to be effective leaders in their chosen fields.
PEO2	**ACADEMIC EXCELLENCE** To provide a conducive environment to unleash their hidden talents and to nurture the spirit of critical thinking and encourage them to achieve their goal.
PEO3	**EMPLOYABILITY** To equip students with the required skills in order to adapt to the changing global scenario and gain access to versatile career opportunities in multidisciplinary domains.
PEO4	**PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY** To develop a sense of social responsibility by formulating ethics and equity to transform students into committed professionals with a strong attitude towards the development of the nation.
PEO5	**GREEN SUSTAINABILITY** To understand the impact of professional solutions in societal and environmental contexts and demonstrate the knowledge for an overall sustainable development.

CRITERION I **POs and Cos**

PROGRAMME OUTCOMES (POs)

POs	Programme Outcome On completion of B. Sc Information Technology Programme, the students will be able to,
PO1	**Academic Skills & Social Responsibility** Apply Computing, Mathematical and Scientific knowledge in various disciplines by understanding the concerns of the society
PO2	**Critical Thinking and Innovative Progress** Design the software applications with varying intricacies using programming languages for innovative learning in technology world to meet the changing demands.
PO3	**Personality Development** Perceive Leadership skills to accomplish a common goal with effective communication and understanding of professional, ethical, and social responsibilities.
PO4	**Lifelong Learning** Identify resources for Professional development and apply the skills and tools necessary for computing practice to gain real life experiences.
PO5	**Creativity and Holistic Approach** Create a Scientific temperament and novelties of ideas to support research and development in Computer Science to uphold scientific integrity and objectivity.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSOs	Programme Specific Outcomes Students of B. Sc Information Technology will be able to	POs Addressed
PSO1	To apply the knowledge of Science and Computing in Information Technology	**PO1**
PSO2	Analyze the local and global impact of computing on individuals, organizations, society and implant lifelong learning for professional development	**PO4**
PSO3	Improve the capability to apply the knowledge in interrelated domains and solve real world problems with modern technological tools	**PO2**
PSO4	To strengthen the academic and research quality, effective communication, good ethics and responsibilities during professional practice	**PO5**
PSO5	Excel in job-oriented skills which are required to meet the current demand in the field of IT industry and to become an entrepreneur with confidence	**PO3**

CRITERION I **POs and Cos**

COURSE OUTCOMES (COs)

Course Title: PROGRAMMING IN C **Course Code: 23UIT1CC1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the fundamental concepts of C programming languages, and its features	**K1**
CO2	Demonstrate the programming methodology	**K2**
CO3	Identify suitable programming constructs for problem solving	**K3**
CO4	Select the appropriate data representation, control structures, functions and concepts based on the problem requirement	**K4**
CO5	Evaluate the program performance by fixing the errors	**K5**

Course Title: C PROGRAMMING (P) **Course Code: 23UIT1CC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Demonstrate the understanding of syntax and semantics of C programs	**K1**
CO2	Identify the problem and solve using C programming techniques	**K2**
CO3	Identify suitable programming constructs for problem solving	**K3**
CO4	Analyze various concepts of C language to solve the problem in an efficient way	**K4**
CO5	Develop a C program for a given problem and test for its correctness	**K5**

Course Title: DATA STRUCTURES AND ALGORITHMS **Course Code: 23UIT2CC2**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Understand the abstract data types and basics of Algorithms	**K1**
CO2	Demonstrate the performance of basic linear and nonlinear data structures	**K2**
CO3	Implement the basic data structures and Algorithm design techniques	**K3**
CO4	Analyze the efficiency and proofs of correctness	**K4**
CO5	Assess, evaluate and choose appropriate data structure and algorithmic technique to solve real-world problems.	**K5**

CRITERION I **POs and Cos**

COURSE TITLE: DATA STRUCTURES USING C (P) **COURSE CODE: 23UIT2CC2P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall program execution and debugging	**K1**
CO2	Demonstrate the ideas of Data structures	**K2**
CO3	Make use of Operations of Linear and Non- linear data structures	**K3**
CO4	Develops the ability to analyze a problem and implement an algorithm to solve it.	**K4**
CO5	Acquire logical thinking, Identify the correct and efficient ways of solving problems	**K5**

COURSE TITLE: DIGITAL FUNDAMENTALS **COURSE CODE: 22UIT2CC3**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Understand the basics of digital logic	**K1**
CO2	Apply the conversion of number system	**K3**
CO3	Apply the Boolean algebra to generate digital circuits	**K3**
CO4	Design combinational circuits using gates	**K5**
CO5	Construct sequential circuits using registers	**K4**

COURSE TITLE: RELATIONAL DATABASE MANAGEMENT SYSTEMS **COURSE CODE: 22UIT3CC4**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the terminology, features, classifications, characteristics and benefits embodied in database systems	**K1**
CO2	Formulate using relational algebra solutions to a broad range of query problems	**K2**
CO3	Demonstrate a broad range of SQL query and its application	**K3**
CO4	Design an information model expressed in the form of an Entity relation diagram	**K3**
CO5	Apply normalization in relational database design and demonstrate PL/SQL program interfaces	**K3**

CRITERION I **POs and Cos**

COURSE TITLE: RDBMS (P) **COURSE CODE: 22UIT3CC3P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design and implement a database schema for a given problem	**K1**
CO2	Create and maintain tables using PL/SQL	**K2**
CO3	Populate and query a database	**K3**
CO4	Prepare reports	**K3**
CO5	Application development using PL/SQL	**K3**

COURSE TITLE: WEB DESIGN **COURSE CODE: 22UIT3GEC1**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Understand the basic commands of HTML	**K1**
CO2	Illustrate the basic structure of HTML document and the methods to create, save and open it.	**K2**
CO3	Apply HTML commands to use various events and elements like Text, Media, Tables, Lists, Images in a web page	**K3**
CO4	Analyze the method of creating a web page with different events and elements including images and hyperlinks.	**K4**
CO5	Inspect a web page with various commands and interactive elements of HTML	**K4**

COURSE TITLE: PROGRAMMING IN JAVA **COURSE CODE: 22UIT4CC5**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Identify the basic elements of Java programming, principles of OOP and graphical user interface.	**K1**
CO2	Infer the program structure, syntax and semantics of the programming language and interactive environment.	**K2**
CO3	Analyze the variables, data types, OOPs concept, AWT package and database.	**K4**
CO4	Use the programming skills in OOPs, GUI programming and database connectivity in various domains.	**K3**
CO5	Solve the real time problems using object-oriented concepts, interactive environment and JDBC connectivity	**K5**

CRITERION I **POs and Cos**

COURSE TITLE: PROGRAMMING IN JAVA (P) **COURSE CODE: 22UIT4CC4P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Demonstrate and implement the fundamentals of Java programming concepts	**K2, K3**
CO2	Analyze the problem and develop skills on identifying appropriate programming constructs like looping, branching and functions	**K3, K4**
CO3	Examine the problem and create a reusable program by combining the features of Java such as Classes, Objects, Packages, Interfaces and Exception handling	**K4, K6**
CO4	Analyze the complexity of problem in real world and design an event driven and web based interactive programs using swing	**K4, K6**
CO5	Build applications with database connectivity to mimic the real world scenarios	**K6**

COURSE TITLE: WEB DESIGN (P) **COURSE CODE: 22UIT4GEC2P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Understand the basic commands of HTML	**K1**
CO2	Illustrate the basic structure of HTML document and the methods to create, save and open it.	**K2**
CO3	Apply HTML commands to use various events and elements like Text, Media, Tables, Lists, Images in a web page	**K3**
CO4	Analyze the method of creating a web page with different events and elements including images and hyperlinks.	**K4**
CO5	Inspect a web page with various commands and interactive elements of HTML	**K4**

COURSE TITLE: PC PACKAGES (P) **COURSE CODE: 22UIT4SEC1P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Show various formatting operations in MSWord	**K1**
CO2	Create multiple documents using Mail merge	**K2**
CO3	Design a table and implement various operations	**K2**
CO4	Apply various operation and charts in MS-Excel	**K3**
CO5	Make use of PowerPoint features to create E content	**K3**

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COURSE TITLE: PYTHON PROGRAMMING & MACHINE LEARNING **COURSE CODE: 19UIT5CC5**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introduce the basic concepts of Python	**K1**
CO2	Write and Execute programs using Arrays and Functions	**K2**
CO3	Illustrate the concepts of Strings and Dictionaries	**K2**
CO4	Design coding using Regular Expressions and GUI	**K3**
CO5	Applying knowledge in handling Data Frames	**K3**

COURSE TITLE: PROGRAMMING IN PYTHON LAB **COURSE CODE: 19UIT5CC5P**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop programs using fundamental concepts	**K1**
CO2	Demonstrate the concepts of Arrays and Functions	**K2**
CO3	Make use of Regular Expressions and GUI	**K3**
CO4	Apply DataFrame operations in a dataset	**K3**

COURSE TITLE: COMPUTER NETWORKS **COURSE CODE: 19UIT5CC6**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Describe the structure and organization of computer network layers, responsibilities of each layer, and relationships between the layers	**K1**
CO2	Discuss over the types of transmission media and various switching techniques	**K2**
CO3	Explain the data link layer properties including error-detection and correction techniques and flow control mechanisms and wireless communication	**K3**
CO4	Illustrate the network layer concepts and protocols including datagram forwarding, routing algorithms and transport layer concepts that include connection oriented and connection-less models, techniques to provide reliable data delivery and algorithms for congestion control	**K3**
CO5	Explain the concepts of application layer protocol for various applications like HTTP, FTP and Email and cryptography	**K3**

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COURSE TITLE: DIGITAL LOGIC AND COMPUTER DESIGN **COURSE CODE: 19UIT5CC7**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Recall the basic principles of digital electronics	**K1**
CO2	Understand different types of digital electronic circuits for particular operation	**K2**
CO3	Demonstrate the functions of combinational and sequential circuits	**K2**
CO4	Build micro-operations and can experiment with basic design	**K3**
CO5	Sketch the microcomputer organization	**K3**

COURSE TITLE: SOFTWARE ENGINEERING **COURSE CODE: 20UIT5MBE1A**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Outline the progression in software and software engineering practice	**K1**
CO2	Categorize the development phases and life cycle models of a project.	**K2**
CO3	Illustrate the model in software project design and quality.	**K2**
CO4	Discuss the fundamentals of software testing with its various types.	**K3**
CO5	Explain the method of performance and internationalization testing.	**K3**

COURSE TITLE: OBJECT ORIENTED ANALYSIS AND DESIGN **COURSE CODE: 19UIT5MBE1B**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Analyse, Design, Document the requirements through the use case driven approach	**K1**
CO2	Identify, analyse and model structural and behavioral concepts of the system	**K2**
CO3	Explore the conceptual model into various scenarios and Applications	**K3**
CO4	Apply the concepts of architectural design for deploying the code for software	**K3**
CO5	Demonstrate a rudimentary understanding of UML interfaces	**K3**

COURSE TITLE: SOFTWARE PROJECT MANAGEMENT **COURSE CODE: 19UIT5MBE1C**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Define the scope of software project management	**K1**
CO2	Describe the projects at each stage of the software development life cycle	**K2**
CO3	Outline the software cost estimation techniques	**K2**
CO4	Discuss about the activity planning and risk management principles	**K3**
CO5	To develop skills to manage the various phases involved in project management and people management	**K3**

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COURSE TITLE: CONTENT MANAGEMENT SYSTEM TOOL **COURSE CODE: 19UIT5SBE2AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Apply the fundamental features to create a website	**K1**
CO2	Develop blogs and post	**K2**
CO3	Access images and media files	**K2**
CO4	Demonstrate website customization	**K3**
CO5	Implement the plugin capabilities	**K3**

COURSE TITLE: INTERACTIVE MULTIMEDIA SOFTWARE **COURSE CODE: 19UIT5SBE2BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handling Layout with color and fonts	**K1**
CO2	Illustrate the operation for working on layers	**K2**
CO3	Create graphics using templates	**K2**
CO4	Demonstrate Masking technique	**K3**
CO5	Design an Animated video	**K3**

COURSE TITLE: WEB DESIGNING LAB **COURSE CODE: 19UIT5SBE3AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Perform different operations on text and images	**K1**
CO2	Create forms with different types of controls	**K2**
CO3	Apply various Graphics effects	**K3**
CO4	Create links between multiple frames	**K3**
CO5	Design and finalize the web page using software	**K3**

COURSE TITLE: GRAPHICS LAB **COURSE CODE: 19UIT5SBE3BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Handle basics tools and include drawing in design of a web page	**K1**
CO2	Perform different operations on text	**K2**
CO3	Perform comprehensive processing of word and publishing integration	**K3**
CO4	Enable to create and modify objects for graphics design purposes.	**K3**
CO5	Create full-fledged document with various page backgrounds and layouts	**K3**

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COURSE TITLE: OPERATING SYSTEM **COURSE CODE: 19UIT6CC8**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Discuss the role of operating system	**K1**
CO2	Compare various algorithms and comment about the performance of various algorithms used for process management and CPU scheduling.	**K3**
CO3	Apply various concepts related to deadlock to solve problems related with resource allocation.	**K3**
CO4	Analyze the role of process synchronization towards increasing throughput of the system.	**K3**
CO5	Utilize the Unix commands pertaining with process, File and I/O Management.	**K3**

COURSE TITLE: MOBILE APPLICATION DEVELOPMENT **COURSE CODE: 20UIT6CC9**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Choose the development framework and the need for mobile applications	**K1**
CO2	Demonstrate the activity and intent usage	**K2**
CO3	Design applications with intents and broadcast receivers.	**K3**
CO4	Compile an application with database connectivity	**K4**
CO5	Develop real time applications to improvise user experience	**K5**

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT **COURSE CODE: 19UIT6MBE2A**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Introduce the basic concepts of HTML5	**K1**
CO2	Introducing JavaScript and developing programs in HTML with CSS	**K1**
CO3	Write and execute programs with JavaScript Event Handlers	**K2**
CO4	Illustrating the concepts of PHP for designing a webpage	**K3**
CO5	Applying knowledge in handling databases with PHP and introduction to Laravel Framework	**K4**

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COURSE TITLE: C# PROGRAMMING **COURSE CODE: 19UIT6MBE2B**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Knowledge of the structure and model of the programming language C #	**K1**
CO2	Understand use of C# basics, Objects and Types, Inheritance	**K2**
CO3	Develop, implement and creating Applications with C#	**K3**
CO4	Compile an application with database connectivity	**K3**
CO5	Design and execute Web-based real time applications to improvise user experience	**K3**

COURSE TITLE: ARTIFICIAL INTELLIGENCE **COURSE CODE: 19UIT6MBE2C**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Create an appropriate state space searching techniques to maximize the performance	**K1**
CO2	Compute first-order propositional and predicate logic to represent knowledge	**K2**
CO3	Analyze the problem solving methods involved in uncertain information using probabilistic techniques.	**K3**
CO4	Apply planning algorithms to find optimal solutions	**K3**
CO5	Explain the steps involved in Natural language processing	**K3**

COURSE TITLE: PHP AND MYSQL WEB DEVELOPMENT LAB **COURSE CODE: 19UIT6MBE3AP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Develop webpages using HTML5 and CSS	**K1**
CO2	Create simple programs and apply Event Handlers in JavaScript using HTML	**K2**
CO3	Implement programs using MYSQL with PHP	**K3**

COURSE TITLE: .NET WITH C# **COURSE CODE: 19UIT6MBE3BP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Exhibit the knowledge of program execution and Debugging Of C#	**K1**
CO2	Develop programs using Object-Oriented concepts of C#	**K2**
CO3	Design Window-based applications with database connectivity	**K3**
CO4	Compile an application to demonstrate web services	**K3**
CO5	Apply the complete knowledge of C# to develop Web-based real time applications using webserver controls	**K3**

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COURSE TITLE: MOBILE APPLICATION USING ANDROID **COURSE CODE: 19UIT6MBE3CP**		
CO Number	**CO Statement** **On the successful completion of the course, students will be able to,**	**Knowledge Level**
CO1	Design the layout with various controls	**K1**
CO2	Exploring the User Interface	**K2**
CO3	Implementing interactivity through application	**K3**
CO4	Compile an application to access database	**K3**
CO5	Experiencing with background services	**K3**

Signature Not Verified
Digitally Signed
Signed by: Sujatha.V
Designation: Principal
Reason: NAAC
Location: Tiruchirappalli, Tamil Nadu, India
Date: 30-Sep-2024 10:43:48