



# MANNAR THIRUMALAI NAICKER COLLEGE

A Co-educational, Autonomous and Linguistic Minority Institution

Affiliated to Madurai Kamaraj University

Re-accredited with "A" Grade by NAAC

Pasumalai, Madurai – 625 004 Tamil Nadu.

## CURRICULUM RELEVANCE TO THE LOCAL, REGIONAL, NATIONAL AND GLOBAL NEEDS

NAME OF THE PROGRAMME: INFORMATION TECHNOLOGY

PROGRAMME CODE: UIT

### PROGRAMME OUTCOMES

**PO1:** Apply the knowledge of mathematics, science, computational fundamentals, and specialization for the solution of complex IT problems.

**PO2:** Identify, formulate, review research literature, and analyze complex problems reaching substantiated conclusion using first principles of mathematics, natural sciences, and computing sciences.

**PO3:** Design, Implement and evaluate a computing based solution to meet the given set of Computing Requirement with Technologies of current and recent development.

**PO4:** Create, select, and apply appropriate techniques, resources, and modern tools, including prediction and modeling to complex computing activities, with an understanding of the limitations, Also the ability to engage them independent and learning lifelong.

**PO5:** Apply reasoning with relevant to contextual Knowledge to assess, provide the impact of the professional solutions in need for sustainable development and commit them to professional ethics and responsibilities

**PO6:** Demonstrate knowledge and understanding of the management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.



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## PROGRAMME SPECIFIC OUTCOMES

**PSO1:** Understand the technical concepts and practices in the core Information Technologies of human computer interaction, information management, programming, and networking.

**PSO2:** Ability to identify and define the computing requirements appropriate to its solution and implement the same.

**PSO3:** Apply and recommend the appropriate IT infrastructure required for the implementation of a project.

**PSO4:** Design, develop and test software systems for world-wide network of computer stop provide solutions to real world problem.

**PSO5:** Effectively integrate IT-based solutions in to the user environment.

**PSO6:** Pursue and successfully complete an advanced degree, if desired.



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Sl. No	Course Code	Course Name	Course Outcomes
1.	21UITC11	<b>Computing Fundamentals and C Programming</b>	<p><b>C01:</b> Use the concepts for solving scientific and mathematical problems.</p> <p><b>C02:</b> Demonstrate an understanding of computer programming language concepts.</p> <p><b>C03:</b> Design and develop computer program, analyses and interprets the concept of pointers, declarations, initialization, operations on Pointers and them implementations.</p> <p><b>C04:</b> Define data types, use them in simple data processing applications and able to describe the concept of array of structures.</p> <p><b>C05:</b> Relate the concepts of programming and develop confidence to learn the C language for life time.</p>
2.	21UITCP1	<b>Programming in C Lab</b>	<p><b>C01:</b> Identify and understand the logic for a given problem.</p> <p><b>C02:</b> Memorize the C programming keywords build new programs.</p> <p><b>C03:</b> Execute and mind mapping the syntax and construction of C programming code</p> <p><b>C04:</b> Understand and validating the use of header files.</p> <p><b>C05:</b> Remember and applying the steps involved in compiling, linking and debugging C code.</p>



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3.	21UITSP1	Internet Basics Lab	<p><b>C01:</b> Understand, create email id, sending and receiving emails.</p> <p><b>C02:</b> Apply and design Web Page using HTML and Java script.</p> <p><b>C03:</b> Familiarize with Web page design using HTML / DHTML.</p> <p><b>C04:</b> Create a Web site using text, images, links, lists.</p> <p><b>C05:</b> Demonstrate simple applications programs using HTML controls</p>
4.	21UITC21	Object Oriented Programming- C++	<p><b>C01:</b> Define various data types, use them in simple data processing applications, object oriented concepts for solving scientific and mathematical problems.</p> <p><b>C02:</b> Understand of object oriented programming concepts in real time problems.</p> <p><b>C03:</b> Implement the concept of overloading, inheritance, exception handling.</p> <p><b>C04:</b> Find the advantages of OOPs over Procedural Languages</p> <p><b>C05:</b> Develop Application of C++ program skills in real time project and develop confidence to update the C++ language for life time.</p>
5.	21UITCP2	Object Oriented Programming with C++ Lab	<p><b>C01:</b> Understand the concept of class, member function and member variable.</p> <p><b>C02:</b> Understand the difference between the top-down and bottom-up approach</p> <p><b>C03:</b> Categorize the inheritance types and polymorphism</p> <p><b>C04:</b> Apply and analyze</p>



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			Exception handling. <b>C05:</b> Test the templates concept of OOP.
6.	21UITSP2	PC Software Lab	<b>C01:</b> Understand the concept of files and folders in a system. <b>C02:</b> Execute the usage of word document and its properties. <b>C03:</b> Execute the usage of Excel worksheet and its properties. <b>C04:</b> Understand the basics of PowerPoint. <b>C05:</b> Execute the tools in PowerPoint.
7.	21UITC31	Relational Database Management System	<b>C01:</b> Enumerate the underlying concepts of the management of database systems. <b>C02:</b> Describe the structure and model of the relational database System <b>C03:</b> Analyze a database based on a data model considering the normalization to a specified level <b>C04:</b> Construct simple and moderately advanced database queries using s tructured Query Language (SQL) <b>C05:</b> Design multiple tables using group functions, sub queries and Implement cursor and trigger concept for a given scenario



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8.	21UITCP3	Relational Database Management System Lab	<p><b>C01:</b>Use data manipulation language to query, update and manage a database</p> <p><b>C02:</b>Describe the fundamental elements of relational database management systems</p> <p><b>C03:</b>Analyze the database using queries to retrieve records</p> <p><b>C04:</b>Create views to satisfy the user's changing requirements</p> <p><b>C05:</b> Apply PL/SQL for processing data base.</p>
9.	21UITSP3	R Programming Lab	<p><b>C01:</b> Construct the programming logic using R Packages.</p> <p><b>C02:</b> Differentiate the Data types for developing programs.</p> <p><b>C03:</b>Show the installation of R Programming Environment.</p> <p><b>C04:</b> Analyze the datasets using R programming capabilities.</p> <p><b>C05:</b> Classify the use of different R Data Structures</p>
10.	21UITC41	Programming in Java	<p><b>C01:</b> Identify classes, Objects, Members of a class and relationships among them needed for a specific problem.</p> <p><b>C02:</b> Essential concepts of Java programs in Constants , variables and operators and then Decision making 's branching and looping</p> <p><b>C03:</b>Determining the concepts of classes, objects, inheritance, Packages and Interface in java.</p> <p><b>C04:</b> Associating exception handling, multithreaded applications with synchronization</p> <p><b>C05:</b> Validating Java programs to learning Managing errors &amp; exceptions and implement</p>



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			applets for web applications
11.	21UITCP4	Programming in Java Lab	<p><b>CO1:</b> Identifying the basic data types and control flow constructs.</p> <p><b>CO2 :</b> Summarizing object oriented class structures with parameters, constructors, and utility and calculations methods, including inheritance, test classes and exception handling.</p> <p><b>CO3:</b> Gathering Java programs using arrays, functions, manipulating strings and recursion.</p> <p><b>CO4:</b> Analyze memory allocation methods, input output devices and file system</p> <p><b>CO5:</b> Acquire knowledge in Memory Management systems and page replacement algorithms</p>
12.	21UITA41	Systems Programming and Operating Systems	<p><b>CO1:</b> Understand the system implemented programming and operating system abstractions can be implemented</p> <p><b>CO2 :</b> Linkers, loaders and so knowledge software tools in system programming implementing</p> <p><b>CO3:</b> Get more knowledge in operating systems</p> <p><b>CO4:</b> Analyze memory allocation methods, input output devices and file system</p> <p><b>CO5:</b> Acquire knowledge in</p>



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			Memory Management systems and page replacement algorithms
13.	21UITSP4	Linux Lab	<p><b>C01:</b>Develop solutions to simple computational problems using linux programs.</p> <p><b>C02:</b>Solve problems using conditionals and loops in linux.</p> <p><b>C03:</b>Understand the concepts of Arrays.</p> <p><b>C04:</b>Develop shell programs by date functions.</p> <p><b>C05:</b>Develop shell programs using files.</p>
14.	21UITN41	Introduction to Internet	<p><b>C01:</b>List editors which can be used to create HTML documents.</p> <p><b>C02:</b>Describe the Structure of Mail.</p> <p><b>C03:</b>Identity different Tags are given in HTML.</p> <p><b>C04:</b>Compare the various Securities.</p> <p><b>C05:</b>List the audio and video on the Web.</p>
15.	21UITC51	Software Engineering	<p><b>C01:</b> To understand the nature of software development and software life cycle process models, agile software development, SCRUM and other agile practices.</p> <p><b>C02:</b> To explain methods of capturing, specifying, visualizing and analyzing software requirements.</p> <p><b>C03:</b>To understand concepts and principles of software design and user-centric approach and Principles of effective user</p>





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			<p>interfaces.</p> <p><b>C04:</b> To know the basics of testing and understanding the concept of software quality assurance and software configuration management process.</p> <p><b>C05:</b> To gain the knowledge of how Analysis, Design, Implementation, Testing and Maintenance Processes are conducted in a software project.</p>
16.	21UITC51	<b>.NET and C# Programming</b>	<p><b>C01:</b> To Highlighting Knowledge of Object- oriented paradigm in the C# Program Language and to Gathering knowledge of .NET environments.</p> <p><b>C02:</b> To design and develop console and window-based .NET Application.</p> <p><b>C03:</b> Demonstrate the usage of recent platforms like C#, XML, and ASP.Net which is used in the development of web application</p> <p><b>C04:</b> Represent the security in the .NET framework.</p> <p><b>C05:</b> To practice the fundamental programming mythologies in the C# programming via laboratory experiences.</p>
17.	21UITCP5	<b>.NET and C# Programming Lab</b>	<p><b>C01:</b> Making student understand the concept of framework.</p> <p><b>C02:</b> To develop logics this will help them to create programs, applications in Net Framework.</p> <p><b>C03:</b> To create a simple</p>



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			<p>application through framework and its native Language</p> <p><b>C04:</b> To understand the Programming concepts in .Net Framework and create website using .Net Control.</p> <p><b>C05:</b> Design and develop dynamic, database using .Net.</p>
18.	21UITE51	<b>Data Structures</b>	<p><b>C01:</b> The Objective of the course is to introduce the fundamentals of Data Structure.</p> <p><b>C02:</b> Abstract Concepts and how these concepts are used in Problem Solving.</p> <p><b>C03:</b> Allow to assess how the choice of data structures and algorithm design methods impacts the performance of programs</p> <p><b>C04:</b> To solve problems using data structures such as linear lists, stacks, queues, hash tables, binary trees, heaps, binary search trees, and graphs and writing programs for these solutions.</p> <p><b>C05:</b> Understanding Various Searching and Sorting Techniques File Structure.</p>
19.	21UITE52	<b>Multimedia and Applications</b>	<p><b>C01:</b> To learn the basic concepts of Multimedia.</p> <p><b>C02:</b> To identify a range of concepts, techniques and tools for creating and editing the interactive Multimedia applications.</p> <p><b>C03:</b> To identify the current and future issues related to Multimedia Technology.</p> <p><b>C04:</b> To identify both theoretical and practical aspects in designing</p>



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			<p>Multimedia systems surrounding the emergence of Multimedia technologies using contemporary hardware and software technologies.</p> <p><b>C05:</b> To Identify the Multimedia computing technologies.</p>
20.	21UITE53	<b>Computer Graphics and Design</b>	<p><b>C01:</b> To introduce to the students the concepts of computer graphics</p> <p><b>C02:</b> To introduce to the students the concepts of computer graphics</p> <p><b>C03:</b> To Learn algorithmic development of graphics primitives like: line, circle, polygon etc.</p> <p><b>C04:</b> To Learn the representation and transformation of graphical images and pictures</p> <p><b>C05:</b> To demonstrate drawing algorithm, two-dimensional transformation and clipping.</p>
21.	21UITE54	<b>Data Communications and Networks</b>	<p><b>C01:</b> To introduce the fundamental types of computer networks.</p> <p><b>C02:</b> To include learning about computer network organization</p> <p><b>C03:</b> To understand the data communication and computer networks, and gaining practical experience in installation, monitoring, and troubleshooting of current LAN systems.</p> <p><b>C04:</b> To demonstrate the TCP/IP &amp; OSI model merits &amp; demerits.</p> <p><b>C05:</b> To know the role of various protocols in Networking.</p>



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22.	21UITE55	<b>Network Security and Cryptography</b>	<p><b>C01:</b> To define terms related to cryptography, hashing, message authentication code, digital signature</p> <p><b>C02:</b> To understand vulnerability analysis of network security and acquire background on hash functions; authentication; firewalls; intrusion detection techniques.</p> <p><b>C03:</b> To demonstrate the generation of keys and execution of symmetric and public key algorithms from given data.</p> <p><b>C04:</b> To understand vulnerability analysis of network security and acquire background on hash functions; authentication; firewalls; intrusion detection techniques.</p> <p><b>C05:</b> To discuss Web security and Firewalls.</p>
23.	21UITE56	<b>Principles of Software Testing</b>	<p><b>C01:</b> To understand Software development model.</p> <p><b>C02:</b> To learn major concepts of the testing methodologies.</p> <p><b>C03:</b> To create and manage test cases and defect profiles</p> <p><b>C04:</b> To build strategies to track testing processes in the bug tracking systems.</p> <p><b>C05:</b> To do document of the test report in the testing enclosure document.</p>



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24.	21UITS51	Programming in Php and Mysql Lab	<p><b>C01:</b> Design and develop dynamic, database-driven web applications using PHP.</p> <p><b>C02:</b> Get hands on experience on various techniques of web development and will be able to design and develop a complete website.</p> <p><b>C03:</b> Apply and analyze PHP programs to design real life problems.</p> <p><b>C04:</b> Examine the use of PHP programming that uses SQL tables.</p> <p><b>C05:</b> Design PHP programs using parsing functions.</p>
25.	21UITC61	Python Programming	<p><b>C01:</b> Introduces the concepts of computer basics &amp; programming in python.</p> <p><b>C02:</b> Explain the basics of OOP and translate the variables and code by utilize the control statement and Modules in Python.</p> <p><b>C03:</b> Manipulate the variables and statements using Loops, Function, Strings.</p> <p><b>C04:</b> Understand the method to reduce source code metrics with exception.</p> <p><b>C05:</b> Gain the knowledge thorough program using OOP and additional features of Python.</p>
26.	21UITCP5	Python Programming Lab	<p><b>C01:</b> Understand the Variable, Tokens, keyword in python.</p> <p><b>C02:</b> Learn the syntax and semantics of python programming.</p> <p><b>C03:</b> Identify the analysis the decision making statements.</p> <p><b>C04:</b> Analysis the exception handling techniques in python.</p> <p><b>C05:</b> Justify the concept of</p>



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			various technique efficiency and performance.
27.	21UITPR1	Project And Viva Voce	<p><b>C01:</b> To develop an ability to design and implement a software</p> <p><b>C02:</b> To select individually Commercial or Technical Project based on Application Development Technologies</p> <p><b>C03:</b> To know the technologies they can develop the software</p> <p><b>C04:</b> To Facilitates experiential learnin</p> <p><b>C05:</b> To do Real time projects.</p>
28.	21UITE61	Management Information System	<p><b>C01:</b> To understand the basic concepts Management Information Systems.</p> <p><b>C02:</b> To develop the Management Information quality.</p> <p><b>C03:</b> To emphasize the importance business intelligence.</p> <p><b>C04:</b> To develop the knowledge of management system</p> <p><b>C05:</b> To understand the concepts of Technology of Information System, Data Warehouse.</p>
29.	21UITE62	Artificial Intelligence and Knowledge Representation	<p><b>C01:</b> Describe the concept of Artificial Intelligence.</p> <p><b>C02:</b> Analyze the search techniques and knowledge representation.</p> <p><b>C03:</b> Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents</p> <p><b>C04:</b> Acquire knowledge to solve problems in areas ranging from optimization Problems to text analytics</p>



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			<b>C05:</b> Learn the purpose of heuristic search techniques.
30.	21UITE63	<b>Internet of Things</b>	<p><b>C01:</b> Describe and explain about IoT, Physical and Logical design of IoT, IoT levels, domain Specific IoTs</p> <p><b>C02:</b> Determine physical and logical design of IoT.</p> <p><b>C03:</b> Compare Physical and Logical IoT, different levels and domain specific IoTs.</p> <p><b>C04:</b> Conclude the importance of IoT, Physical and Logical IoT, IoT levels, domain specific IoTs.</p> <p><b>C05:</b> Design and develop Physical and Logical IoT, IoT deployment templates.</p>
31.	21UITE64	<b>Data Mining</b>	<p><b>C01:</b> Discover the knowledge imbibed in the high dimensional system.</p> <p><b>C02:</b> Illustrate algorithms for finding the hidden interesting patterns in data.</p> <p><b>C03:</b> Determine the overview of developing areas – Web mining, Text mining and Big Data Mining Tools</p> <p><b>C04:</b> Analyze the concepts of Data warehousing Architecture and implementation.</p> <p><b>C05:</b> Develop research interest towards advances in data mining.</p>





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32.	21UITE65	Cloud Computing Principles	<p><b>C01:</b> To analyze the components of Cloud concepts &amp; technologies.</p> <p><b>C02:</b> To understand the cloud storage technologies, databases and object storage.</p> <p><b>C03:</b> To evaluate the various cloud development tools</p> <p><b>C04:</b> To collaborate with real time cloud services.</p> <p><b>C05:</b> To Analyze the role technology plays in the design of a storage solution in a cloud architecture</p>
33.	21UITE66	Big Data Analytics	<p><b>C01:</b> To provide an overview of an exciting growing field of big data analytics</p> <p><b>C02:</b> To introduce the tools required to manage and analyze big data like Hadoop, No Sql Map Reduce.</p> <p><b>C03:</b> To learn the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability.</p> <p><b>C04:</b> To provide them the knowledge of Data and its analysis.</p> <p><b>C05:</b> To enable students to have skills that will help them to solve complex real-world problems in for decision support.</p>





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34.	21UITSP6	MONGODB Lab	<p><b>CO1:</b> To Learn how to build a database and query it using open source tools.</p> <p><b>CO2:</b> To Learn to perform flexible scheme design.</p> <p><b>CO3:</b> To understand the load balancing and scalability.</p> <p><b>CO4:</b> To demonstrate the working of aggregation of frame work.</p> <p><b>CO5:</b> To perform complex analytics pipelines.</p>
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