COURSE OUTCOMES

DEPARTMENT

OF

M.Sc.

INFORMATION

TECHNOLOGY

STRUCTURE OF THE SYLLABUS

PROGRAM NAME	COURSE	COURSE CODE	COURSE NAME
M Sc Information Technology	Core I	P21IT101	Object Oriented Programming with Java
M Sc Information Technology	Core II	P21IT102	Relational Database Systems
M Sc Information Technology	Core III	P21IT103	Advanced Operating Systems
M Sc Information Technology	Core Prac.-I	P21IT1P1	Java Programming Lab
M Sc Information Technology	Core Prac.-II	P21IT1P2	Relational Database Systems Lab
M Sc Information Technology	Elective–I	P21IT1:1	Multimedia Technologies
M Sc Information Technology	Elective–I	P21IT1:A	Computer Graphics
M Sc Information Technology	Elective–I	P21IT1:B	Digital Image Processing
M Sc Information Technology	Core IV	P21IT204	Data Communication Networks
M Sc Information Technology	Core V	P21IT205	Web Programming
M Sc Information Technology	Core VI	P21IT206	Mobile Technologies
M Sc Information Technology	Core Prac.-III	P20IT2P3	Web Programming Lab
M Sc Information Technology	Core Prac.-IV	P20IT2P4	Mobile Applications Development Lab
M Sc Information Technology	Elective–II	P20IT2:2	Unified Modeling Language /
M Sc Information Technology	Elective–II	P20IT2:A	Object Oriented Analysis and Design
M Sc Information Technology	Elective–II	P20IT2:B	Principles of User Experience Design
M Sc Information Technology	Elective–II	P21IT2:3	Cryptography and Network Security
M Sc Information Technology	Elective–II	P21IT2:C	Cyber Crimes and Computer Forensics
M Sc Information Technology	Elective–II	P21IT2: D	Cyber Laws and its Applications
M Sc Information Technology	Core VII	P21IT307	Programming with Python
M Sc Information Technology	Core VIII	P21IT308	Internet of Things
M Sc Information Technology	Core IX	P21IT309	Cloud Computing
M Sc Information Technology	Core Prac.- V	P21IT3P5	Python Programming Lab
M Sc Information Technology	Core Prac.-VI	P21IT3P6	Internet of Things Lab
M Sc Information Technology	Elective–IV	P21IT3:4	Software Engineering /
M Sc Information Technology	Core VII	P21IT3:A	Software Testing /
M Sc Information Technology	Core VIII	P21IT3:B	Software Project Management
M Sc Information Technology	Core X	P21IT410	Big Data Analytics
M Sc Information Technology	Elective–V	P21IT4:5	Machine Learning
M Sc Information Technology	Elective–V	P21IT4:A	Soft Computing
M Sc Information Technology	Elective–V	P21IT4:B	Human Computer Interaction
M Sc Information Technology	Core Project	P21IT4PJ	PROJECT WORK

Core I: OBJECT ORIENTED PROGRAMMING WITH JAVA

SEMESTER: I	COURSE CODE: P21IT101
CREDITS: 5	HOURS/WEEK: 5

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Illustrate the concepts of Object-Oriented Programming.	K2	I
CO2	Develop Packages and Interfaces	K3	I
CO3	Experiment with the methods for handling Events and Exceptions.	K3	II
CO4	Classify and Compare the Collection classes and interfaces	K4	III
CO5	Interpret and Compare the Applet class with AWT and swing controls.	K5	IV
CO6	Build Java based Applications with Database Connectivity	K6	V

Core II: RELATIONAL DATABASE SYSTEMS

SEMESTER: 1	COURSE CODE: P21IT102
CREDITS: 5	HOURS/WEEK: 5

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Choose the popular relational database for real life applications, models and database system concepts and techniques	K1	I
CO2	Demonstrate SQL Queries and compare different SQL statements	K2	II
CO3	Identify Domain Constraints and Integrities.	K3	III
CO4	Analyze different normal forms and their issues	K4	III
CO5	Criticize File Organization, File storage and structure and Indexing and Hashing	K5	IV
CO6	Build Transaction Management mechanism for efficient data transfer in SQL.	K6	V

COURSE – III: ADVANCED OPERATING SYSTEM

SEMESTER: 1   COURSE CODE: P21IT103

CREDITS: 5   HOURS/WEEK:5

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Classify different types of operating system and its pros and cons.	K2	I
CO2	Analyze the various algorithms and comment about performance of various algorithms used for CPU scheduling of a process.	K3	II
CO3	Examine various concepts related with Deadlock to solve problems related with Resource's allocation, to find whether a system is in safe state or not.	K4	III
CO4	Inspect various memory management techniques and the necessity of virtual memory.	K4	III
CO5	Explain the design issues of distributed operating systems and discuss various communication mechanisms.	K5	IV
CO6	Discuss Real time Operating System and its applications and classify scheduling algorithms.	K6	V

Core Practical I: JAVA PROGRAMMING LAB

SEMESTER: I   COURSE CODE: P21IT1P1

CREDITS: 4   HOURS/WEEK:4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercise
CO1	Identify an element, object scope and access.	K3	1
CO2	Experiment with the code reusability and inheritance.	K3	2 – 4
CO3	Examine constructor overloading, packages and interfaces	K4	5 – 6
CO4	Determine the code to handle built in and user defined exceptions and Multithreading	K5	7 – 8
CO5	Interpret collections classes, interfaces and write programs using applets.	K5	9 – 10
CO6	Develop database applications with AWT controls.	K6	11 – 13

Core Practical II: RELATIONAL DATABASE SYSTEMS LAB	
SEMESTER: 1	COURSE CODE: P21IT1P2
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Exercise
CO1	Build DML and DDL statements in DBMS.	K3	1-2
CO2	Construct SQL Queries to perform different operations with tables.	K3	3
CO3	Experiment with built-in functions, complex and nested queries in SQL.	K3	4-5
CO4	Distinguish Creation of views and Indexes	K4	6
CO5	Importance of functions, procedures, exceptions, cursors and triggers in PL/SQL.	K5	7-11
CO6	Develop an application using PL/SQL.	K6	12

ELECTIVE I: MULTIMEDIA TECHNOLOGIES	
SEMESTER: 1	COURSE CODE: P21IT1: 1
CREDITS: 4	HOURS/WEEK :4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Define the technical aspect of Multimedia Systems.	K1	I
CO2	Demonstrate various Multimedia database applications in real time.	K2	I
CO3	Identify the importance of Compression and decompression techniques and various data and file standards.	K3	II
CO4	List the Multimedia applications design and components of multimedia systems.	K4	III
CO5	Interpret the concepts of Multimedia authoring and user interface.	K5	IV
CO6	Elaborate hypermedia messaging and Integrated multimedia messaging standards	K6	V

ELECTIVE COURSE -1A: COMPUTER GRAPHICS

SEMESTER: 1	COURSE CODE:P21IT1:A
CREDITS: 4	HOURS/WEEK :4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Choose various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling and clipping.	K1	I
CO2	Explain applications, principles, commonly used techniques of computer graphics and algorithms for line drawing, circle and ellipse generating.	K2	I
CO3	Make use of simple 2D graphics with lines, curves and can implement algorithms to rasterize simple shapes, fill and clip polygons.	K3	II
CO4	Analyze the techniques for representing geometrical objects, transformations and 3D viewing.	K4	III
CO5	Determine the concepts of lighting and shading models, textures, ray tracing, hidden surface elimination.	K5	IV
CO6	Build projected objects to naturalized the scene in 2D view and use of illumination methods and color models	K6	V

ELECTIVE I: DIGITAL IMAGE PROCESSING

SEMESTER: 1	COURSE CODE: P21IT1: B
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Illustrate the fundamental concepts of a digital image processing system.	K2	I
CO2	Choose images in the frequency domain using various transforms.	K3	II
CO3	Make use of different types of image transforms and their properties.	K3	II
CO4	Analyze the techniques for image enhancement and image restoration.	K4	III
CO5	the need for compression and to learn the spatial and frequency domain techniques of image compression.	K5	IV
CO6	Compose Image Segmentation and Representation.	K6	V

CORE COURSE – IV: DATA COMMUNICATION NETWORKS	
SEMESTER: II	COURSE CODE: P21IT204
CREDITS: 4	HOURS/WEEK:4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Explain Data Communications System and its components and explain the types of transmission media with real time applications.	K2	I
CO2	Identify an error occurs in data link layer by error detection and correction mechanisms	K3	II
CO3	Distinguish various multiplexing techniques in data transmission.	K4	II
CO4	Examine the switching mechanisms and the necessity of ATM.	K4	III
CO5	Determine the routing protocols and analyze how to assign the IP addresses for the given network and establish congestion occurs in network layer.	K5	IV
CO6	Discuss with the protocols of computer networks, and how they can be used to assist in network design and implementation.	K6	V

Core V: WEB PROGRAMMING	
SEMESTER: II	COURSE CODE: P21IT205
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO. No.	CO Statement	Level	Unit
CO1	Demonstrate web page creation using HTML and its extension	K2	I
CO2	Identify the concepts of CSS and JavaScript	K3	II
CO3	Apply the jQuery and AJAX concepts in database	K3	III
CO4	Distinguish .NET framework and C# basic concepts	K4	III
CO5	Explain Classes and Class Members in C#	K5	IV
CO6	Construct Web services and Deployment of web programming	K6	V

Core VI: MOBILE TECHNOLOGIES

SEMESTER: III   **COURSE CODE: P21IT206**

CREDITS: 5   **HOURS/WEEK: 6**

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Define Mobile Telecommunication networks and wireless communication systems.	K1	I
CO2	Demonstrate the understanding of mobile computing and wireless networking.	K2	II
CO3	Compare mobile databases for the best fit transaction process in mobile environment.	K3/K4	III
CO4	Categorize various Mobile Operating Systems.	K4	IV
CO5	Determine the android application with suitable User Interface and data manipulation.	K5	1V
CO6	Develop Applications for Android Devices includes content providers and networking.	K6	V

Core Practical III: WEB PROGRAMMING LAB

SEMESTER: II   **COURSE CODE: P21IT2P3**

CREDITS: 2   **HOURS/WEEK 4**

At the end of this course, the students will be able to

CO. No.	CO Statement	Level	Exercise
CO1	Build Web Pages for Department and Travel Agency using HTML Concepts	K3	1 -2
CO2	Construct Web Pages for menu card and student admission process apply CSS and use forms	K3	3 – 4
CO3	Examine the features of JavaScript and JQuery to validate data and perform events	K4	5 – 6
CO4	Determine the form controls in ASP.NET and apply validations , CSS in registration form	K5	7 – 8
CO5	Interface ASP.NET web application to manipulate data from database and XML to display in Grid Control	K5	9 – 11
CO6	Develop Job portal , application of Bharathidasan University, portal for BHC and a simple web service	K6	12 – 15

Core Practical – IV: MOBILE APPLICATIONS DEVELOPMENT LAB	
SEMESTER: II	**COURSE CODE: P21IT2P4**
CREDITS: 4	**HOURS/WEEK 4**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercise
CO1	Build Android application with suitable user interface and android controls	K3	1 – 3, 14
CO2	Make use of image controls perform coloring screen and animate bitmap images.	K3	4 – 6, 11
CO3	Examine the user interface with dialog box and countdown timer.	K4	7 – 8
CO4	Interpret the android controls to store contact details and make phone call.	K5	9 – 10
CO5	Build Android Application to access media file from memory and store images from native applications	K5	12, 15
CO6	Create Android Application to perform data manipulation such as Insert, update, delete and retrieve from SQLite database	K6	13

ELECTIVE– II: UNIFIED MODELING LANGUAGE	
SEMESTER: II	**COURSE CODE: P21IT2:2**
CREDITS: 4	**HOURS/WEEK : 4**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Recall the concepts of requirement model using UML	K1	I
CO2	Outline the basic structural modeling.	K2	I
CO3	Identify advanced structural modeling in terms of high level and low-level model	K3	II
CO4	Identify basics for modeling the behavior if the system.	K4	III
CO5	Determine the insight knowledge into analyzing and designing software using advanced behavioral modeling.	K5	IV
CO6	Create components for deploying the logical concepts of software.	K6	V

ELECTIVE COURSE – II B: OBJECT ORIENTED ANALYSIS AND DESIGN
SEMESTER: II   COURSE CODE: P21IT2: A
CREDITS: 4   HOURS/WEEK: 4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Describe the importance, aims and principles of modelling.	K2	I
CO2	Identify the OOPs concepts and Object-Oriented Modelling languages and its advantages.	K3	II
CO3	Examine the case studies and model it in different views with respect user requirement such as use case, logical, component and deployment and etc.,	K4	III
CO4	Explain unified library Applications, case study and modeling diagrams using UML.	K5	III
CO5	Explain UML architecture, conceptual model of Unified Modelling Language.	K5	IV
CO6	Analyze various phases of Software development life cycle and preparation of document of the project for the unified Library application	K6	V

ELECTIVE – II C: PRINCIPLES OF USER EXPERIENCE DESIGN
SEMESTER: II   COURSE CODE: P21IT2: B
CREDITS: 4   HOURS/WEEK:4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Recall the concepts of User Experience Design.	K1	I
CO2	Outline the tools and techniques used in Research.	K2	II
CO3	Construct the site map and prototypes.	K3	III
CO4	Organize the content, patterns and Layout of the page.	K3	III
CO5	Determine trees, charts and design forms for user input.	K5	IV
CO6	Develop mobile and desktop applications.	K6	V

Elective – III A: CRYPTOGRAPHY AND NETWORK SECURITY

SEMESTER: II   COURSE CODE: P21IT2:3
CREDITS: 4   HOURS/WEEK :4

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Relate the working principle of the Cryptographic using number theory	K1	I
CO2	Classify the Symmetric and Asymmetric algorithms	K2	II
CO3	Apply the User Authentication and Kerberos techniques.	K3	III
CO4	Analyze the security concepts through secure socket layer	K4	IV
CO5	Agree to improve the Electronic mail security	K5	V
CO6	Develop the IP security mechanism	K6	V

Elective – III B: CYBER CRIMES AND COMPUTER FORENSICS

SEMESTER: II   COURSE CODE: P21IT2:C
CREDITS:4   HOURS/WEEK :4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Define the basics of cyber crime	K1	I
CO2	Classify the various cases of cyber crime	K2	I
CO3	Identify the types of security attacks and defensive measures	K3	II
CO4	Analyse the motivation of attackers in cyber security	K4	III
CO5	Select the intrusion detection and prevention system	K6	IV
CO6	Assess the different forensics tools.	K6	V

Elective – III C: CYBER LAWS AND ITS APPLICATIONS

SEMESTER: II	COURSE CODE: P21IT2:D
CREDITS: 4	HOURS/WEEK :4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Define the fundamentals of cyber law and its applications	K1	I
CO2	Compare the cybercrime and cyber terrorism	K2	I
CO3	Identify and apply the law of trade mark and domain name	K3	II
CO4	Examine the usage of digit certificate	K4	III
CO5	Asses the steps for investigation and preventive measures	K5	IV
CO6	combine the appropriate cybercrime with the cyber law	K6	V

Core Course – VII: PROGRAMMING WITH PYTHON

SEMESTER: III	COURSE CODE: P21IT307
CREDITS: 5	HOURS /WEEK: 5

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Ilustrate the basics of Computer programming languages	K2	I
CO2	Apply the concept of user Defined function and make use of the built in functions	K3	II
CO3	Determine the Importance of file programs and Exceptions handling	K3	II
CO4	Develop programs using classes and Objects.	K4	III
CO5	Determine the Importance of database architecture and functions	K5	IV
CO6	Build CGI and GUI applications	K6	V

Core VIII: INTERNET OF THINGS

SEMESTER: III	**COURSE CODE: P21IT308**
CREDITS: 5	**HOURS/WEEK 5**

At the end of this course, the students will be able to

CO. No.	CO Statement	Level	Unit
CO1	Demonstrate the designs and levels of IoT	K2	I
CO2	Identify Domain Specific IoTs	K3	II
CO3	Utilize both IoT and M2M	K3	II
CO4	Discover IoT design methodology, Devices and Endpoints	K4	III
CO5	Interpret IoT design using case studies	K5	IV
CO6	Elaborate Data analytics for IoT and Tools for IoT	K6	V

Core Course – IX: CLOUD COMPUTING

Semester - III	**COURSE CODE : P21IT309**
CREDITS: 5	**HOURS/WEEK: 5**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Summarize the fundamentals and essentials. of Cloud Computing	K2	I
CO2	Review various cloud computing concepts and technologies	K3	I
CO3	Explain the services and fundamentals of Hadoop	K3	II
CO4	Design and development of Cloud applications	K4	III
CO5	Determine data center and business Applications	K5	IV
CO6	Understanding various concepts on Cloud security	K6	V

Core Practical Course – V: PYTHON PROGRAMMING LAB	
SEMESTER: III	**COURSE CODE: P21IT3P5**
CREDITS: 4	**HOURS /WEEK: 4**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercises
CO1	Apply the basic concepts of programming using Python	**K3**	**1-4**
CO2	Construct the program using built in functions of List and string	**K3**	**5,6**
CO3	Test for mapping using Dictionary	**K4**	**7, 8**
CO4	Asses the execution speed of the program using recursion	**K5**	**9, 10**
CO5	Demonstrate Database and Networking Connectivity	**K5**	**11, 12**
CO6	Develop GUI and Web Programming	**K6**	**13, 14**

Core Practical VI: INTERNET OF THINGS LAB	
SEMESTER: III	**COURSE CODE: P21IT3P6**
CREDITS: 3	**HOURS/WEEK 3**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercise
CO1	Build Raspberry Pi and program to access ports	**K3**	**1**
CO2	Identify RGB LED, 7 segment display and temperature measurement using sensors	**K3**	**2 – 3**
CO3	Examine different motors and IR sensors	**K4**	**4 – 5**
CO4	Determine Wi-Fi and GSM controller and design online Voltmeter	**K5**	**6 – 7**
CO5	Interface LoRA and using RTC design IoT Clock	**K5**	**8 – 9**
CO6	Design online Radio and Cloud Application	**K6**	**10 –11**

ELECTIVE-IV A: SOFTWARE ENGINEERING

SEMESTER: III	COURSE CODE:P21IT3:4
CREDITS: 4	HOURS/WEEK:4

At the end of this course, the students will be able to

CO. NO	Course Outcomes	Level	Unit
CO1	Tells the members and Needs of Software Engineering.	K1	I
CO2	Recall the process modeling and Life cycle of Software Engineering.	K1	I
CO3	Identify how to plan and manage the project.	K3	II
CO4	Examine the requirement specification notations.	K4	III
CO5	Interpret the architectural styles, standards and procedures.	K5	IV
CO6	Adapt different testing strategies and quality factors of process models.	K6	V

ELECTIVE – IV B: SOFTWARE TESTING

SEMESTER: III	COURSE CODE: P21IT3:A
CREDITS: 4	HORUS/WEEK: 4

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Recall the Software Development Life cycle.	K1	I
CO2	Illustrate the need for testing in software development process.	K2	II
CO3	Identify the needs of system testing.	K3	III
CO4	Analyze test phases and formulate tools for testing.	K4	IV
CO5	Build test plan, manage and report the software developed.	K6	V
CO6	Create test automation tools for programming model.	K6	V

ELECTIVE – IV C: SOFTWARE PROJECT MANAGEMENT

SEMESTER: III   **COURSE CODE: P21IT3: B**
CREDITS: 4   **HOURS/WEEK : 4**

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Recall steps involved in project planning.	K1	I
CO2	Outline the cost and risk in project.	K2	II
CO3	Plan the project schedule, manage risk and identify hazards in project.	K3	III
CO4	Analyze how to prioritize and manage and controls the contract.	K4	IV
CO5	Determine the team involved in project.	K5	V
CO6	Build the safety and health of the people involved in project.	K6	V

COURSE – X: BIG DATA ANALYTICS

SEMESTER: 1V   **COURSE CODE: P21IT410**
CREDITS: 5   **HOURS/WEEK: 5**

At the end of this course, the students will be able to

CO. No.	Course Outcome	Level	Unit
CO1	Explain the building blocks of Big Data Identify Big Data and its Business Implications	K2	I
CO2	Examine the big data using intelligent techniques.	K3	II
CO3	Explain access and process Data on Distributed File System	K4	III
CO4	List the components of Hadoop and Hadoop Eco-System		
CO5	Discuss programming tools PIG & HIVE in Hadoop echo system.	K6	III
CO6	Explain the applications using Map Reduce Concepts	K5	IV

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Elective - V: MACHINE LEARNING

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SEMESTER: IV	**COURSE CODE: P21IT4:5**
CREDITS: 4	**HORUS/WEEK: 4**

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Understanding the ability to identify the relevant algorithms for a specific application.	K1	I
CO2	Compare the Parametric and Multivariate methods	K2	II
CO3	Identify the concept behind Dimensionality reduction and clustering	K3	III
CO4	Categorize Decision trees and Rule based models	K4	IV
CO5	Build the advanced learning rules	K5	V
CO6	Improve the usage of Reinforcement learning techniques	K6	V

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Core VII: SOFT COMPUTING

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SEMESTER: IV	**COURSE CODE:P21IT4: A**
CREDITS: 5	**HOURS/WEEK: 5**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Define fuzzy Set Theory	K2	I
CO2	Recall Mamdani Fuzzy, Sugeno Fuzzy and Tsukamoto Fuzzy Models	K2	I
CO3	Apply the Neural Networks with Supervised Learning, Unsupervised Learning and Competitive Learning Networks	K3	II
CO4	Inspect the Neuron Functions for Adaptive Networks	K4	III
CO5	Establish the Soft Computing for Color Recipe Prediction	K5	IV
CO6	Appraise the Application of Computational Intelligence in Soft Computing	K6	V

CORE VII: HUMAN COMPUTER INTERACTION

SEMESTER: IV	COURSE CODE: P21IT4: B
CREDITS: 5	HOURS/WEEK: 5

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Show HCI, User interface software tools, Models, Theories, and Frameworks	K1	I
CO2	Explain Usability Engineering Methods and Concepts	K3	II
CO3	Apply HCI techniques and concepts of software design	K3	II
CO4	Motivate Groupware and Cooperative Activity	K5	III
CO5	Estimate Media and Information	K6	IV
CO6	Elaborate Integrating Computation and Real Environments	K6	V

STRUCTURE OF THE SYLLABUS

PROGRAM NAME	COURSE	COURSE CODE	COURSE NAME
B Voc Information Technology	Core	U21IT101	Fundamentals of Information Technology
B Voc Information Technology	Core	U21IT102	Programming with C and C++
B Voc Information Technology	Core Practical	U21IT1P1	PC Software Packages Lab
B Voc Information Technology	Core Practical	U21IT1P2	C and C++ Programming Lab
B Voc Information Technology	Core Project	U21ITPJ1	Project Work – 1
B Voc Information Technology	Core	U21IT203	Java Programming and Database Management Systems
B Voc Information Technology	Core	U21IT204	Data Communication Networks
B Voc Information Technology	Core Practical	U21IT2P3	Java and DBMS Lab
B Voc Information Technology	Core Practical	U21IT2P4	Computer Hardware and Networking Lab
B Voc Information Technology	Core Project	U21ITPJ2	Project Work – 2
B Voc Information Technology	Core	U21IT305	.Net Progtamming
B Voc Information Technology	Core	U21IT306	Data structures and Algorithms
B Voc Information Technology	Core	U21IT307	Digital Principles and Computer Organization
B Voc Information Technology	Core	U21IT308	Personal Effectiveness
B Voc Information Technology	Core	U21IT309	Mathematics for Competitive Examinations-1
B Voc Information Technology	Core Practical	U21IT3P5	.Net Programming Lab
B Voc Information Technology	Core Practical	U21IT3P6	Data structures and Algorithms Lab
B Voc Information Technology	Core Project	U21ITPJ3	Project Work – 3
B Voc Information Technology	Core	U21IT410	Operating System
B Voc Information Technology	Core	U21IT411	Mobile Computing Technologies
B Voc Information Technology	Core	U21IT412	Microprocessor s and its Applications
B Voc Information Technology	Core	U21IT413	Professional Ethics and Cyber Laws
B Voc Information Technology	Core	U21IT414	Mathematics for competitive examination-II

B Voc Information Technology	Core Practical	U21IT4P7	Operating System Lab
B Voc Information Technology	Core Practical	U21IT4P8	Mobile Application Development Lab
B Voc Information Technology	Core Project	U21ITPJ4	Project Work – 4
B Voc Information Technology	Core	U21IT515	Programming with PHP and MySQL
B Voc Information Technology	Core	U21IT516	Information Security
B Voc Information Technology	Core	U21IT517	Principles of Marketing
B Voc Information Technology	Elective	U21IT5:1	Software Engineering /
B Voc Information Technology	Elective	U21IT5:A	Software Project Management /
B Voc Information Technology	Elective	U21IT5:B	Software Testing
B Voc Information Technology	Core Practical	U21ITP09	Web development Lab
B Voc Information Technology	Core Practical	U21ITP10	PHP and MySQL Programming Lab
B Voc Information Technology	Core Practical	U21ITP11	Information Security Lab
B Voc Information Technology	Core Project	U21ITPJ5	Project Work – 5
B Voc Information Technology	Core	U21IT618	Programming with Python
B Voc Information Technology	Core	U21IT619	Internet of Things
B Voc Information Technology	Core	U21IT620	Entrepreneurial Development
B Voc Information Technology	Elective	U21IT6:2	Web Service Technologies /
B Voc Information Technology	Elective	U21IT6:A	Open Source Technologies /
B Voc Information Technology	Elective	U21IT6:B	Distributed Computing Technologies
B Voc Information Technology	Core Practical	U21ITP12	Multimedia lab
B Voc Information Technology	Core Practical	U21ITP13	Python Programming Lab
B Voc Information Technology	Core Practical	U21ITP14	Interne of Things Lab
B Voc Information Technology	Core Project	U21ITPJ6	Project Work – 6

FUNDAMENTALS OF INFORMATION TECHNOLOGY

SEMESTER-1	COURSE CODE: U21IT101
CREDITS :2	HOURS/WEEK :2

At the end of this course, the students will be able to

CO. No.	COURSE OUTCOMES	Level	Unit
CO1	Illustrate the. basic concepts of computers, classification, generations of computers and architecture of computers	K2	I
CO2	Develop hardware, Software and Database Management system principles.	K3	II
CO3	Discover the recent advancements in the field of computing and telecommunications Internet and Intranet.	K4	III
CO4	Criticize computer Security, virtual reality and Multimedia Content Creation.	K5	IV
CO5	Recommend the techniques of Artificial Intelligence, Business Intelligence and Data warehouse in Information Technology.	K5	V
CO6	Build applications on computers in the field of education, training, science, engineering and other Recent Technologies.	K6	V

PROGRAMMING WITH C AND C++

SEMESTER: I	COURSE CODE: U21IT102
CREDITS:2	HOURS/WEEK: 2

At the end of this course, the students will be able to

CO. No.	COURSE OUTCOMES	Level	Unit
CO1	Define the basic structure of the program and concepts of programming languages.	K2	I
CO2	Explain the representation of Arrays, Functions,Structures and Unions	K2	II
CO3	Experiment with the usage of pointers and files	K3	III
CO4	Examine the concept of Object-Oriented Programming	K3	IV
CO5	Build the object instantiation using constructors and destructors	K4	IV
CO6	Construct the hierarchy and reusability of the concepts	K5/K6	V

C AND C++ PROGRAMMING LAB	
SEMESTER: I	**COURSE CODE: U21IT1P2**
CREDITS: 4	**HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Construct the programs using operators, mathematical functions with branching and looping statements	K3	1 – 10
CO2	Inspect the array of strings and functions with simple programs	K4	11 – 14
CO3	Determine the usage of structures and unions	K5	15 – 18
CO4	Interpret different operations of file processing	K5	19 , 25
CO5	Create a program to explain the concept of classes and objects using constructors and destructors	K6	20 – 22
CO6	Test the code using inheritance and overloading	K6	23 – 24

JAVA PROGRAMMING AND DATABASE MANAGEMENT SYSTEMS	
SEMESTER: II	**COURSE CODE: U21IT203**
CREDITS: 2	**HOURS/WEEK: 2**

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Unit
CO1	Recall the concepts of Object-Oriented Programming.	K1	I
CO2	Illustrate Classes, Objects and explain the Packages and Interfaces.	K2	II
CO3	Develop the methods for handling Events and Exceptions.	K3	III
CO4	Examine the Java Database connectivity.	K4	III
CO5	Explain the popular relational database system concepts and techniques	K5	IV
CO6	Construct different normal forms and practice with SQL packages.	K6	V

COMPUTER NETWORKS

SEMESTER: II   **COURSE CODE: U21IT204**
CREDITS: 2   **HOURS/WEEK: 2**

At the end of this course, the students will be able to

CO.No.	Course Outcome	Level	Unit
CO1	Explain Data Communications System and its components and explain the types of transmission media with real time applications.	K2	I
CO2	Examine ISDN mechanisms and the necessity of ATM	K2	II
CO3	Identify an error occurs in data link layer by error detection and correction mechanisms	K3	II
CO4	Explain the transmission equipment used in LAN and WAN networks.	K4	III
CO5	Describe transport layer protocols and routing mechanism to design wireless LAN to improve network performance.	K5	IV
CO6	Familiarity with the basic protocols of computer networks, and how they can be used to assist in network applications.	K6	V

JAVA AND DBMS LAB

SEMESTER: II   **COURSE CODE: U21IT2P3**
CREDITS: 5   **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO.No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Identify classes, objects with Inheritance	K3	1 – 2
CO2	Examine Packages and Interfaces	K4	3 – 4
CO3	Evaluate user defined exceptions, multithreading and applets	K5	5 – 7
CO4	Develop database applications with AWT controls	K6	8 – 9
CO5	Explain various SQL commands with nested queries	K3/K4	10 – 12
CO6	Construct form builders and create reports with database operations	K5/K6	13 – 14

COMPUTER HARDWARE AND NETWORKING LAB

SEMESTER: 2   **COURSE CODE: U21IT2P4**

CREDITS: 4   **HOURS/WEEK: 5**

At the end of this course, the students will be able to

CO.No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Identify the hardware components in a PC and organize it.	K3	1,2
CO2	Examine the size of a hard disk and divide the space required to install OS.	K4	3,4
CO3	Deduct failure in computer components through troubleshooting process.	K5	5
CO4	Construct a network through network cables, network devices and test the connections.	K6	6,7,8
CO5	Compare various routing algorithms to communicate with nodes in a network.	K5	9,10,11
CO6	Analyze performance of various communication protocols	K6	12,13

.NET PROGRAMMING

SEMESTER: III   **COURSE CODE: U21IT305**

CREDITS: 3   **HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Unit
CO1	Define the concepts and features of HTML	K1	I
CO2	Demonstrate the .NET framework, C# language and Visual Studio	K2	II
CO3	Compare web application and windows application and their controls	K3	III
CO4	Categorize the deployment of ASP.NET Application	K4	IV
CO5	Determine the validation controls, Rich controls and Navigation	K5	IV
CO6	Develop an ADO.NET data application and web service	K6	V

DATA STRUCTURES AND ALGORITHMS	
SEMESTER: III	COURSE CODE: U21IT306
CREDITS: 3	HOURS/WEEK: 3

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Unit
CO1	Recall the linear representation of data structures.	K1	I
CO2	Illustrate Non-linear representation of organization of data.	K2	I
CO3	Identify the graph representation of data.	K3	II
CO4	Examine the best and worst cases of searching and sorting techniques.	K4	III
CO5	Determine the greedy method to find the optimal solution.	K5	IV
CO6	Adapt backtracking in a greedy method for finding a solution.	K6	V

PERSONAL EFFECTIVENESS	
SEMESTER: III	COURSE CODE: U21IT308
CREDITS: 2	HOURS/WEEK: 2

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Unit
CO1	Relate the role of Paradigms and Principles in personal effectiveness	K2	I
CO2	Make use of proactivity and planning to achieve Private Victory	K3	I
CO3	Utilize the habit of prioritizing to attain Private Victory	K3	II
CO4	Develop Win-Win and Empathetic attitudes to achieve Public Victory	K6	III
CO5	Improve the habit of Synergizing to realize Public Victory	K6	IV
CO6	Build effectiveness by Sharpening and Renewing all the seven habits	K6	V

.NET PROGRAMMING LAB

SEMESTER: III   **COURSE CODE: U21IT3P5**
CREDITS: 3   **HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Build web pages using basic HTML and tables	K3	1 – 3
CO2	Make use of hyperlinks, images and image maps	K3	4 – 6
CO3	Examine the concepts of Lists, frames, CSS and Forms	K4	7 – 10
CO4	Interpret the concepts to create shopping mall website, job seeker application and email registration forms with appropriate validations	K5	11 – 14
CO5	Build a database application in ASP.NET to manage and manipulate data	K5	15-19
CO6	Create web portal for college, application for Bharathidasan university and create first web service	K6	20-22

DATA STRUCTURES AND ALGORITHMS LAB

SEMESTER: III   **COURSE CODE: U21IT3P6**
CREDITS: 4   **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercise
CO1	Identify the linear representation of data structures using arrays.	K3	1,2
CO2	Examine the various applications of stacks and queues.	K4	3,4
CO3	Apply the concepts of linked lists.	K3	5-8
CO4	Determine best and worst case of various sorting and searching algorithms.	K5	9-14
CO5	Recommend greedy methods to find optimal solutions.	K5	15
CO6	Adapt backtracking in a greedy method for finding a solution.	K6	16,17

OPERATING SYSTEMS

SEMESTER-IV	**COURSE CODE: U21IT410**
CREDITS :3	**HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Unit
CO1	Interpret basics of Operating system, characteristics and features of modern OS like UNIX, LINUX and WINDOWS etc.	K2	I
CO2	Experiment with the requirement for process synchronization and coordination handled by Operating System.	K3	II
CO3	Examine the various CPU scheduling algorithms and analyze the characteristics of deadlock and recovery of deadlock	K4	III
CO4	Determine memory management techniques and the necessity of virtual memory.	K5	IV
CO5	Evaluate the storage management policies with respect to different storage management technologies	K5	V
CO6	Discuss file system interface, protection and security mechanisms.	K6	V

MOBILE COMPUTING TECHNOLOGIES

SEMESTER: IV	**COURSE CODE: U21IT411**
CREDITS: 3	**HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO. No.	CO Statement	Level	Unit
1	Define Mobile Telecommunication networks and wireless communication system.	K1	I
2	Demonstrate the understanding of mobile computing and wireless networking.	K2	II
3	Compare mobile databases for the best fit transaction process in mobile environment.	K3	III
4	Categorize various Mobile Operating Systems.	K4	IV
5	Determine the android application with suitable User Interface and data manipulation.	K5	IV
6	Develop Applications for Android Devices includes content providers and networking.	K6	V

MICROPROCESSOR AND ITS APPLICATIONS

SEMESTER-IV   COURSE CODE: U21IT412
CREDITS :2   HOURS/WEEK:2

At the end of this course, the students will be able to

S.No.	1.COURSE OUTCOMES	Level	Unit
1	Recall and apply a basic concept of digital fundamentals to Microprocessor based personal computer system	K2	I
2	Make use of Assembly Language Program in Microprocessor.	K3	II
3	Illustrate how the different peripherals (8255, 8253 etc.) are interfaced with Microprocessor.	K2	III
4	Distinguish and analyze the properties of Microprocessors & Microcontrollers.	K4	III
5	Evaluate application on assembly language program download the machine COURSE CODE to provide solutions to real world control problems.	K5	IV
6	Discuss the architectures of other popular Microprocessors and its Addressing Modes.	K6	V

PROFESSIONAL ETHICS AND CYBER LAWS

SEMESTER-IV   COURSE CODE : U21IT413
CREDITS :2   HOURS/WEEK:2

At the end of this course, the students will be able to

S. No.	1.COURSE OUTCOMES	Level	Unit
1.	Apply values and ethics in profession	K3	I
2.	Explain the principles and concepts associated with Cyber Security	K2	II
3.	Classify and explain the aspects of Cyber Attacks	K2	III
4.	Analyse the nature and consequences of Cyber Crimes	K4	IV
5.	Determine the nature of Cyber Laws and their legal implications	K5	V
6.	Evaluate the nature and consequences of Cyber Crimes	K5	V

OPERATING SYSTEMS LAB

SEMESTER: IV   **COURSE CODE : U21IT4P7**
CREDITS :4   **HOURS/WEEK:4**

At the end of this course, the students will be able to

S.No.	1.COURSE OUTCOMES	Level	Exercise
1	Extend basic, directory and VI editor commands of Linux	K2	1-3
2	Make use of Linux commands for file handling	K3	5-7
3	Experiment with Linux commands with shell programming	K3	8-12
4	Examine the use of various grep commands	K4	4
5	Determine various shell scripts for simple applications	K5	16-19
6	Create a User and Group Login permission	K6	14,15

MOBILE APPLICATIONS DEVELOPMENT LAB

SEMESTER: IV   **COURSE CODE : U21IT4P8**
CREDITS: 4   **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO. No.	CO Statement	Level	Exercise
1	Build Android application with suitable user interface and android controls	K3	1 – 3
2	Make use of image controls, perform coloring screen and animate bitmap images.	K3	4 – 6
3	Examine the user interface with a dialog box and countdown timer.	K4	7 – 8
4	Interpret the android controls to store contact details and make phone call.	K5	9 – 10
5	Build Android Application to access media file from memory and store images from native applications	K5	11-12
6	Create Android Application to perform data manipulation such as Insert, update, delete and retrieve from SQLite database	K6	13

PROGRAMMING WITH PHP AND MYSQL

SEMESTER V	**COURSE CODE: U21IT515**
CREDITS: 4	**HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO.No	COURSE OUTCOMES	Level	Unit
CO1	Define Expressions, Operators, Conditionals, Looping, Implicit and Explicit Casting	K1	I
CO2	Explain the Functions and Objects	K2	I
CO3	Apply the Arrays and File Handling	K3	II
CO4	Classify Indexes, MySQL Functions, Accessing MySQL via phpMyAdmin	K4	III
CO5	Explain Accessing MySQL Using PHP	K5	IV
CO6	Discuss the Functions, Objects, and Arrays using with JavaScript	K6	V

INFORMATION SECURITY

SEMESTER: V	**COURSE CODE: U21IT516**
CREDITS: 3	**HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO.No	COURSE OUTCOMES	Level	Unit
CO1	Define the basics of Cryptography	K1	I
CO2	Compare the working principle of the Symmetric and Asymmetric Cryptographic Algorithms	K2	II
CO3	Make use of the digital certificates in message communication	K3	III
CO4	Examine the security concepts through secure socket layer	K4	IV
CO5	Evaluate security mechanism through Java and .Net	K5	V
CO6	Discuss the functions of Firewalls, IPSecurity and Virtual Private Networks.	K6	V

SOFTWARE ENGINEERING

SEMESTER: V	COURSE CODE : U21IT5:1
CREDITS: 3	HOURS/WEEK : 3

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Define size, quality factors and plan organization structure.	K1	I
CO2	Outline the cost estimation of Software.	K2	II
CO3	Identify the requirement specification notations.	K3	II
CO4	Examine the design notations, techniques and considerations.	K4	III
CO5	Determine programming standards and procedures.	K5	IV
CO6	Adapt different testing strategies and quality factors of process models.	K6	V

SOFTWARE PROJECT MANAGEMENT

SEMESTER: V	COURSE CODE : U21IT5:A
CREDITS: 3	HOURS/WEEK: 3

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Recall steps involved in project planning.	K1	I
CO2	Outline the cost and risk in project.	K2	II
CO3	Plan the project schedule, manage risk and identify hazards in the project.	K3	III
CO4	Analyze how to prioritize and manage and control the contract.	K4	IV
CO5	Determine the team involved in the project.	K5	V
CO6	Build the safety and health of the people involved in project.	K6	V

SOFTWARE TESTING

SEMESTER: V	COURSE CODE: U21IT5:B
CREDITS: 3	HOURS/WEEK: 3

At the end of this course, the students will be able to

CO.No.	Course Outcomes	Level	Unit
CO1	Recall the Software Development Life cycle.	K1	I
CO2	Illustrate the need for testing in software development process.	K2	II
CO3	Identify the needs of system testing.	K3	III
CO4	Analyse test phases and formulate tools for testing.	K4	IV
CO5	Build test plan, manage and report the software developed.	K6	V
CO6	Create test automation tools for programming model.	K6	V

WEB DEVELOPMENT LAB

SEMESTER: V	COURSECODE:U21ITP09
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO. No.	Course Outcomes	Level	Exercise
CO1	Build web pages using basic HTML and tables	K3	1 – 4
CO2	Make use of hyperlinks, images and image maps	K3	5– 7
CO3	Examine the concepts of Lists, frames, CSS and Forms	K4	8– 10
CO4	Recommend various arithmetic operations to create simple calculator.	K5	11 – 15
CO5	Build an application using JavaScript string functions to manipulate the text.	K5	16-18
CO6	Create web application using JavaScript and perform form validation.	K6	19-20

PHP AND MYSQL PROGRAMMING LAB

SEMESTER: V   **COURSE CODE: U21ITP10**
CREDITS: 4   **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO. No.	COURSE OUTCOMES	Level	Exercise
CO1	Identify the concept to read, understand and the execution of PHP Programming	K3	1-2
CO2	Illustrate the use of operators and expressions to solve the problems	K3	3-4
CO3	Function to test given character is lower or upper case, search word and palindrome.	K4	5-7
CO4	Execute programs with appropriate function statements to solve the problems.	K5	8-13
CO5	Create validations,cookies, sessions and Authentication in PHP	K5	14-17
CO6	Develop HTML, hashing functions in programs to solve the problems. and Demonstrate accessing MySQL using PHP.	K6	18-20

INFORMATION SECURITY LAB

SEMESTER: V   **COURSE CODE: U21ITP11**
CREDITS: 4   **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO.No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Make use of network programming in Java	K3	1-3
CO2	Develop client server communication using TCP and UDP	K3	4-10
CO3	Examine the message passing using message window and group window	K4	11-12
CO4	Asses the security level for message passing using substitution techniques	K5	13-14
CO5	Choose the security mechanism using symmetric or asymmetric algorithms	K6	15-16
CO6	Design the security system using One Time Password	K6	17

PROGRAMMING WITH PYTHON

SEMESTER: VI **COURSE CODE: U21IT618**
CREDITS: 4 **HOURS/WEEK: 4**

At the end of this course, the students will be able to

CO.No.	COURSE OUTCOMES	Level	Unit
CO1	Illustrate the basics of computer programming languages	K2	I
CO2	Apply the concepts of user defined functions	K3	II
CO3	Make use of the built in functions	K3	II
CO4	Classify the built in function of string, List, Tuple and Dictionary.	K4	III
CO5	Determine the Importance of file programs and Exceptions handling	K5	IV
CO6	Develop programs using classes and Objects	K6	V

INTERNET OF THINGS

SEMESTER: VI **COURSE CODE:U21IT619**
CREDITS: 3 **HOURS/WEEK: 3**

At the end of this course, the students will be able to

S. No.	1.COURSE OUTCOMES	Level	Unit
1	Demonstrate the designs and levels of IoT	K2	I
2	Identify Domain Specific IoTs	K3	II
3	Utilize IoT and M2M	K3	II
4	Discover IoT design methodology, Devices and Endpoints	K4	III
5	Interpret IoT design using case studies	K5	IV
6	Elaborate Data analytics for IoT and Tools for IoT	K6	V

WEB SERVICE TECHNOLOGIES

SEMESTER:VI **COURSE CODE: U21IT6:2**
CREDITS: 3 **HOURS/WEEK : 4**

At the end of this course, the students will be able to

CO.No	COURSE OUTCOMES	Level	Unit
CO1	Illustrate the importance of web service and fundamentals of XML	K2	I
CO2	Explain the Messages and encoding through Simple Object Access Protocol (SOAP) Web Services Description Language (WSDL) and Universal Description Discovery and Integration (UDDI)	K2	I
CO3	Develop SOAP and WSDL	K3	II
CO4	Examine the Web Services Conversation Language (WSCL) implement the business level conversations or public processes	K4	III
CO5	Evaluate workflow with Business Process Execution Language (BPEL)	K5	IV
CO6	Build the Organization for the Advancement of Structured Information Standard (OASIS) using Business Transaction Protocol	K6	V

OPEN-SOURCE TECHNOLOGIES

SEMESTER:VI **COURSE CODE: U21IT6: A**
CREDITS: 3 **HOURS/WEEK: 3**

At the end of this course, the students will be able to

CO. No.	COURSE OUTCOMES	Level	Unit
CO1	Explain the Overview of Linux and Unix	K2	I
CO2	Develop the Apache Web Server using with open source Software	K3	II
CO3	Distinguish between Perl and MySQL commands.	K3	III
CO4	Classify the Website META Language for project creations	K4	IV
CO5	Interpret the Common Gateway using with Apache Configuration and programming with perl	K5	IV
CO6	Build the Mason configuration with the Mason project	K6	V

	DISTRIBUTED COMPUTING TECHNOLOGIES		
SEMESTER:VI		COURSE CODE: U21IT6: B	
CREDITS: 3		HOURS/WEEK: 3	

At the end of this course, the students will be able to

CO. No	COURSE OUTCOMES	Level	Unit
CO1	Illustrate characterization of Distributed System	K2	I
CO2	Classify Networks and Apply Ethernet and WiFi Blutooth	K3	I
CO3	Develop Distributed objects and remote Invocation and Java RMI	K3	II
CO4	Test for Sun network File System	K4	III
CO5	Interpret and Evaluate the Global name service	K5	IV
CO6	Discuss Transaction using in distributed computing technology	K6	V

	MULTIMEDIA LAB		
SEMESTER: VI		COURSE CODE: U21ITP12	
CREDITS: 4		HOURS/WEEK:4	

At the end of this course, the students will be able to

CO.No.	COURSE OUTCOMES	Level	Exercise
CO1	Design layouts for web pages, Paper Adverts, Broachers Covers and Package designing	K3	1-2
CO2	Use layered Photoshop document from a starting image	K3	3-4
CO3	Test the transforming and retouching images	K4	5
CO4	Create Website, animated graphics, add sound and teractivelyin Adobe Flash	K5	8,9
CO5	Apply Professional audio workstation used to mix, edit and create digital Audio in adobe Audition.	K5	10,11,12
CO6	Demonstrate film maker, editors, to combine video audio and still images	K5	10,11,12

Python Programming Lab

SEMESTER: VI	COURSE CODE: U21ITP13
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO.No .	1.COURSE OUTCOMES	Level	Exercises
CO1	Apply the basic concepts of programming using Python	K3	1-6
CO2	Construct the program using built in functions of List and string	K3	7-13
CO3	Test for mapping using Dictionary	K4	14-16
CO4	Asses the execution speed of the program using recursion	K5	17-19
CO5	Evaluate the basic operations of file creation	K5	20-22
CO6	Build the program using Object oriented concepts	K6	23-25

INTERNET OF THINGS LAB

SEMESTER: VI	COURSE CODE: U21ITP14
CREDITS: 4	HOURS/WEEK: 4

At the end of this course, the students will be able to

CO. No.	1.COURSE OUTCOMES	Level	Exercise
CO1	Build an interface to toggle LED with delay	K3	1
CO2	Make use of LED dimmer and weather Monitoring	K3	2 – 3
CO3	Examine the temperature data to show in LCD display and controlling DC motor	K4	4 – 5
CO4	Interpret the time in seven segment display and display sensor data in a web application	K5	6 – 7
CO5	Build a home appliances control with IR and send sensor data to cloud	K5	8 – 9
CO6	Create an indoor air quality and garbage monitoring system	K6	10