Academic Year 2019-20
Semester - V

Unique Course Number: ITC501 **Course Name: Microcontroller and Embedded Programming**

Unique CO Number	Course Outcome (CO) Statement
ITC501.1	Recall basic concept of Embedded System and its core elements
ITC501.2	Describe architecture of 8051 Micro-controller, ARM7 and Open source RTOS
ITC501.3	Write Programs based on 8051 and ARM7
ITC501.4	Classification of Embedded System elements and Design the interfacing for 8051
ITC501.5	Demonstrate the various RTOS and Embedded Boards
ITC501.6	Examine various Components of Embedded System

Unique Course Number: ITC502 **Course Name: Internet Programming**

Unique CO Number	Course Outcome (CO) Statement
4.ITC502.1	Implement interactive web page(s) using HTML,CSS and JavaScript.
4.ITC502.2	Design a responsive web site using HTML5 and CSS3.
4.ITC502.3	Demonstrate Rich Internet Application.
4.ITC502.4	Build Dynamic web site using server side PHP Programming and Database connectivity.
4.ITC502.5	Describe and differentiate different Web Extensions and Web Services.
4.ITC502.6	Demonstrate web application using Python web Framework-Django

Unique Course Number: ITC503 **Course Name: Advanced Data Management Technology**

Unique CO Number	Course Outcome (CO) Statement
ITC503.1	Understand the concept of query processing, transaction and database management techniques
ITC503.2	Compute query processing cost and determine a transaction schedule acquiring the ACID and access control properties
ITC503.3	Compare various query evaluation plans based on cost, classify transaction schedule
ITC503.4	Discuss different data models and execute the distributed database in detail.
ITC503.5	Detail the strategic data to organize in an enterprise and build a Data Warehouse using ETL.
ITC503.6	Articulate Data Warehouse data to analyze for strategic decision making.

Unique Course Number: ITC504　　　　　**Course Name: Cryptography & Network Security**

Unique CO Number	Course Outcome (CO) Statement
5.ITC504.1	To identify security goals and classifying encryption techniques and acquire fundamental knowledge on the concept of finite field to calculate number theory.
5.ITC504.2	To Understand, compare and apply encryption,decryption techniques to solve problems related to confidentiality.
5.ITC504.3	To use the knowledge of the cryptographic checksum and evaluate the performance of different hashes and message digest algorithms for detecting the integrity and authentication.
5.ITC504.4	To explore different digital signature algorithm to create secure application by utilizing network security tools.
5.ITC504.5	To Apply network security basics, analyze different attacks on network and evaluate the performance of firewall and security protocol
5.ITC504.6	To explore the knowledge of cryptographic utilities and authentication mechanism to design secure application.

Unique Course Number: ITDLO5011　　　　**Course Name: Advanced Data Structures & Analysis of Algorithms**

Unique CO Number	Course Outcome (CO) Statement
ITDLO5011 1	Discuss analysis of algorithm(Understand)
ITDLO5011 2	Apply the time and space complexity of various algorithms
ITDLO5011 3	Select a proper pattern matching technique to solve the given problems
ITDLO5011 4	Construct advanced data structures(Apply)
ITDLO5011 5	Examine various Divide and Conquer techniques.(Analyze)
ITDLO5011 6	Solve Greedy algorithms, Dynamic algorithms.(Apply)

Unique Course Number: ITDLO5013　　　　　**Course Name: E-Commerce & E-Business**

Unique CO Number	Course Outcome (CO) Statement
4.ITDLO5013.1	Define E-commerce and understanding types of Ecommerce analyse advantage and disadvantage of Ecommerce with traditional commerce
4.ITDLO5013.2	To understand and remember hardware and software technologies required for Ecommerce.
4.ITDLO5013.3	To understand various payment system for Ecommerce.
4.ITDLO5013.4	To understand various revenue models, web presence, market segmentation, applying various strategies to market business website and strategy analysis suitable for your website.
4.ITDLO5013.5	To study online auction, web portals, online communities' basics of E-business.
4.ITDLO5013.6	Exploring the structure and stages of E-business, selecting suitable E-business model, to understand and apply various e-business strategies like SCM, CRM, ERP and Procurement.

Unique Course Number: ITL501   **Course Name: Internet Programming Lab**

Unique CO Number	Course Outcome (CO) Statement
4.ITL.501.1	Design a basic web site using HTML5 and CSS3 to demonstrate responsive web design.
4.ITL.501.2	Implement dynamic web pages with validation using JavaScript objects by applying different event handling mechanism.
4.ITL.501.3	Use AJAX Programming Technique to develop RIA
4.ITL.501.4	Develop simple web application using server side PHP programing and Database Connectivity using MySQL.
4.ITL.501.5	Build well-formed XML Document and implement Web Service using Java.
4.ITL.501.6	Demonstrate simple web application using Python Django Framework.

Unique Course Number: ITL502   **Course Name: Security Lab**

Unique CO Number	Course Outcome (CO) Statement
5.ITL502.1	Apply the knowledge of symmetric cryptography to implement simple ciphers.
5.ITL502.2	Implement public key algorithms.
5.ITL502.3	Analyze and evaluate the performance of hashing algorithms.
5.ITL502.4	Explore the different network reconnaissance tools to gather information about networks.
5.ITL502.5	Use tools like sniffers, port scanners and other related tools for analyzing packets in a network.
5.ITL502.6	Apply and set up firewalls and intrusion detection systems using open source technologies and to explore email security.

Unique Course Number: ITL503   **Course Name: OLAP Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL503.1	Implement simple query optimizers and design alternate efficient paths for query execution.
ITL503.2	Simulate the working of concurrency protocols, recovery mechanisms in a database
ITL503.3	Design applications using advanced models like mobile, spatial databases.
ITL503.4	Implement a distributed database and understand its query processing and transaction processing mechanisms
ITL503.5	Build a data warehouse
ITL503.6	Analyze data using OLAP operations so as to take strategic decisions.

Unique Course Number: ITL504   **Course Name: IOT (Mini Project) Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL504.1	Study and Identify requirements for real world problems

ITL504.2	Review of several available literatures in preferred field of study
ITL504.3	Acquire and Explore software and hardware skills
ITL504.4	Demonstrate and build the project successfully by hardware requirements, coding, emulating and testing
ITL504.5	Provide Report and present the finding of study conducted in preferred domain
ITL504.6	Demonstrate an ability to work in team and manage the conduct of the research study