Mahavir Education Trust's
Shah & Anchor Kutchhi Engineering College,
Chembur, Mumbai 400 088
UG Program in Information Technology

Academic Year 2018-19
Semester - V

Unique Course Number: ITC501	Course : Computer Graphics and Virtual Reality
8.ITC501.1	Explain the embedded system concepts and architecture of embedded systems
8.ITC501.2	Describe the architecture of 8051 microcontroller and write embedded program for 8051 microcontroller.
8.ITC501.3	Design the interfacing for 8051 microcontroller.
8.ITC501.4	Understand the concepts of ARM architecture.
8.ITC501.5	Demonstrate the open source RTOS and solve the design issues for the same.
8.ITC501.6	Select elements for an embedded systems tool.
Unique Course Number: ITL504	**Course: IOT mini project lab**
8.ITL504.1	Study basic concepts and identify the requirements of real-world problems.
8.ITL504.2	Installation and implementation of problems using simulator and IDE.
8.ITL504.3	Study and enhance software and hardware skills
8.ITL504.4	Design, interface and configure the project.
8.ITL504.5	Build the project by hardware requirements, coding, emulating and testing.
8.ITL504.6	Write a report and present the findings of the study conducted in the preferred domain.
Unique Course Number: ITC502	**Course: Internet Programming**
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: ITL501	**Course: Internet Programming Lab**
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: ITC503	**Course:** Advanced Data Management Technology
4.ITC503.1	Explain and understand the concept of a transaction and how ACID properties are maintained when concurrent transaction occur in a database
4.ITC503.2	Measure query costs and design alternate efficient paths for query execution.
4.ITC503.3	Apply sophisticated access protocols to control access to the database.
4.ITC503.4	Implement alternate models like Distributed databases and Design applications using advanced models like mobile, spatial databases.
4.ITC503.5	Organize strategic data in an enterprise and build a data Warehouse.
4.ITC503.6	Analyze data using OLAP operations so as to take strategic decisions.
Unique Course Number: ITL503	**Course: OLAP Lab**
3.ITL503.1	Implement simple query optimizers and design alternate efficient paths for query execution.
3.ITL503.2	Simulate the working of concurrency protocols, recovery mechanisms in a database
3.ITL503.3	Design applications using advanced models like mobile, spatial databases.

3.ITL503.4	Implement a distributed database and understand its query processing and transaction processing mechanisms
3.ITL503.5	Build a data warehouse
3.ITL503.6	Analyze data using OLAP operations so as to take strategic decisions.
Unique Course Number: ITC504	**Course : Cryptography & Network Security**
5.ITC504.1	Identify information security goals, classical encryption techniques and acquire fundamental knowledge on the concepts of finite fields and number theory.
5.ITC504.2	Understand, compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication
5.ITC504.3	Apply the knowledge of cryptographic checksums and evaluate the performance of different message digest algorithms for verifying the integrity of varying message sizes
5.ITC504.4	Apply different digital signature algorithms to achieve authentication and create secure applications
5.ITC504.5	Apply network security basics, analyze different attacks on networks and evaluate the performance of firewalls and security protocols like SSL, IPSec, and PGP.
5.ITC504.6	Apply the knowledge of cryptographic utilities and authentication mechanisms to design secure applications
Unique Course Number: ITL502	**Course : Security Lab**
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 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 andto explore email security.
Unique Course Number: ITDLO5011	**Course: Advanced Data Structures & Analysis of Algorithms**
2.ITDLO5011.1	Students will be able to choose appropriate advanced data structure for given problem.
2.ITDLO5011.2	Students will be able to calculate complexity.
2.ITDLO5011.3	Students will be able to select appropriate design techniques to solve real world problems.
2.ITDLO5011.4	Students will able to apply the dynamic programming technique to solve the problems.
2.ITDLO5011.5	Students will be able to apply the greedy programming technique to solve the problems.
2.ITDLO5011.6	Students will be able to select a proper pattern matching algorithm for given problem.
Unique Course Number: ITDLO5013	**Course : E-Commerce & E-Business**
4.ITDLO5013.1	To Define and differentiate various types of E-commerce.
4.ITDLO5013.2	To Describe Hardware and Software Technologies for E-commerce.
4.ITDLO5013.3	To Explain payment systems for E -commerce.
4.ITDLO5013.4	To Describe the process of Selling and Marketing on web.
4.ITDLO5013.5	To Define and Describe E-business and its Models.
4.ITDLO5013.6	To Discuss various E-business Strategies.
Unique Course Number: ITDLO5015	**Course: Computer Graphics & Virtual Reality**
7.ITDLO5015.1	To list the basic concepts used in computer graphics.
7.ITDLO5015.2	To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.
7.ITDLO5015.3	To describe the importance of viewing and projections.
7.ITDLO5015.4	To define the fundamentals of animation, virtual reality and its related technologies.

7.ITDLO5015.5	To understand a typical graphics pipeline
7.ITDLO5015.6	To design an application with the principles of virtual reality