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

Academic Year 2020-21
Semester – III

Information Technology				
Academic Year 2020-21 Semester - III				
III	ITC101	Engineering Mathematics - III	1.ITC101.1	Understand the concept of Laplace transform and its application to solve the real integrals in engineering problems.
			1.ITC101.2	Understand the concept of inverse Laplace transform of various functions and its applications in engineering problems.
			1.ITC101.3	Expand the periodic function by using the Fourier series for real-life problems and complex engineering problems.
			1.ITC101.4	Understand complex variable theory, application of harmonic conjugate to get orthogonal trajectories and analytic functions.
			1.ITC101.5	Apply the concept of Correlation and Regression to the engineering problems in data science, machine learning, and AI.
			1.ITC101.6	Understand the concepts of probability and expectation for getting the spread of the data and distribution of probabilities.
III	ITC302	Data Structures & Analysis	ITC302.1	Classify and Apply the concepts of stacks, queues and linked list in real life problem solving.
			ITC302.2	Classify, apply and analyze the concepts trees in real life problem solving.
			ITC302.3	Illustrate and justify the concepts of graphs in real life problem solving.
			ITC302.4	List and examine the concepts of sorting, searching techniques in real life problem solving.
			ITC302.5	Use and identify the concepts of recursion, hashing in real life problem solving.
			ITC302.6	Examine and justify different methods of stacks, queues, linked list, trees and graphs to various applications.
III	ITC303	Database Management System	2.ITC303.1	Identify the need of Database Management System.
			2.ITC303.2	Design conceptual model for real life applications.
			2.ITC303.3	Create Relational Model for real life applications
			2.ITC303.4	Formulate query using SQL commands.kn
			2.ITC303.5	Apply the concept of normalization to relational database design.
			2.ITC303.6	Demonstrate the concept of transaction, concurrency and recovery.
III	ITC304	Principle of	6.ITC304.1	Describe analog and digital communication systems

		Communication	6.ITC304.2	Differentiate types of noise, analyses the Fourier transform of time and frequency domain.
			6.ITC304.3	Design transmitter and receiver of AM, DSB, SSB and FM.
			6.ITC304.4	Describe Sampling theorem and pulse modulation systems.
			6.ITC304.5	Explain multiplexing and digital band pass modulation techniques.
			6.ITC304.6	Describe electromagnetic radiation and propagation of waves.
			2.ITC305.1	Understand and Compare different programming paradigms.
			2.ITC305.2	Understand the Object Oriented Constructs and use them in program design.
			2.ITC305.3	Understand the concepts of declarative programming paradigms through functional and logic programming
			2.ITC305.4	Design and Develop programs based on declarative programming paradigm using functional and/or logic programming
		Paradigms and Computer Programming Fundamentals	2.ITC305.5	Understand the role of concurrency in parallel and distributed programming
III	ITC305		2.ITC305.6	Understand different application domains for use of scripting languages.
			ITL301.1	Understand and use the basic concepts and principles of various linked lists, stacks and queues.
			ITL301.2	Understand the concepts and apply the methods in basic trees.
			ITL301.3	Use and identify the methods in advanced trees.
			ITL301.4	Understand the concepts and apply the methods in graphs.
			ITL301.5	Understand the concepts and apply the techniques of searching, hashing and Sorting.
III	ITL301	Data Structures Lab	ITL301.6	Illustrate and examine the methods of linked lists, stacks, queues, trees and graphs to various real time problems.
			ITL302.1	Define problem statements and Construct the conceptual model for real life application.
			ITL302.2	Create and populate a RDBMS using SQL.
			ITL302.3	Formulate and write SQL queries for efficient information retrieval
			ITL302.4	Apply view, triggers and procedures to demonstrate specific event handling.
			ITL302.5	Demonstrate's database connectivity using JDBC.
III	ITL302	SQL Lab	ITL302.6	Demonstrate the concept of concurrent transactions.
			ITL303.1	Implement Object Oriented concepts in C++.
III	ITL303	Computer Programming Paradigms LAB	ITL303.2	Design and Develop solution based on declarative programming paradigm using functional and logic programming.

			ITL303.3	Understand the multi threaded programs in Java and C++
			ITL303.4	Understand the need and use of exception handling and garbage collection in C++ and JAVA
			ITL303.5	Implement a solution to the same problem using multiple paradigms.
			ITL303.6	Compare the implementations in multiple paradigms at coding and execution level.
			ITL304.1	To understand the concepts of object-oriented paradigm in the Java programming language
			ITL304.2	To understand the importance of Classes & objects along with constructors, Arrays ,Strings and vectors
			ITL304.3	To learn the principles of inheritance, interface and packages and demonstrate the concept of reusability for faster development.
			ITL304.4	To recognize usage of Exception Handling, Multithreading, Input Output streams in various applications
			ITL304.5	To learn designing, implementing, testing, and debugging graphical user interfaces in Java using Swings and AWT components that can react to different user events.
III	ITL304	Java Lab (SBL)	ITL304.6	To develop graphical user interfaces using JavaFX controls.
			ITM301.1	To identify and Apply Knowledge to solve societal problems and research needs
			ITM301.2	To summarize the proper inferences from available results through theoretical/ experimental/simulations
			ITM301.3	To acquire interpersonal Skills, capabilities of self-learning in a group,or as a member or a leader which leads to life long learning.
			ITM301.4	To apply standard norms of engineering practices to Analyse the impact of solutions in a societal and environmental contexts for sustainable development.
		Mini Project – 1 A for Front end /backend Application using JAVA	ITM301.5	To develop written and oral communication skill..
III	ITM301		ITM301.6	To demonstrate project management principles during project work.