



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

**Academic Year 2019-20**  
**Semester - III**

**Unique Course Number: ITC301**

**Course Name: Applied Mathematics III**

Unique CO Number	Course Outcome (CO) Statement
ITC301.1	Recognize the permutation, combination and different types of relations to solve the problems
ITC301.2	Select and use the appropriate theorem to find Laplace transform and Inverse Laplace Transform
ITC301.3	understand the basic concepts of Set Theory for execution in Probability.
ITC301.4	Demonstrate relations and Functions in Recursively defined functions.
ITC301.5	apply fundamentals of complex analysis for constructing the analytic functions and finding orthogonal trajectories, bilinear Transformation
ITC301.6	Demonstrate accurate and efficient use of Laplace Transform and Inverse Laplace Transform to solve Improper Integrals and Differential equations with boundary conditions involving Heaviside's Unit Step Function and Dirac – Delta Functions

**Unique Course Number: ITC302**

**Course Name: Logic Design**

Unique CO Number	Course Outcome (CO) Statement
6.ITC302.1	Understand the concepts of various components to design stable analog circuits
6.ITC302.2	Represent numbers and perform arithmetic operations
6.ITC302.3	Minimize the Boolean expression using Boolean algebra and design it using logic gates
6.ITC302.4	Analyze and design combinational circuit.
6.ITC302.5	Design and develop sequential circuits
6.ITC302.6	Translate real world problems into digital logic formulations using VHDL

**Unique Course Number: ITC303**

**Course Name: Data Structures & Analysis**

Unique CO Number	Course Outcome (CO) Statement
ITC303.1	Select appropriate data structures as applied to specified problem definition.
ITC303.2	Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
ITC303.3	Students will be able to implement Linear and Non-Linear data structures.
ITC303.4	Implement appropriate sorting/searching technique for given problem.
ITC303.5	Design advance data structure using Non-Linear data structure.
ITC303.6	Determine and analyse the complexity of given Algorithms.



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**Unique Course Number: ITC304**

**Course Name: Database Management System**

Unique CO Number	Course Outcome (CO) Statement
ITC304.1	Express features of DBMS and Relational Database with its modelling
ITC304.2	Draw Conceptual model using ER and construct queries
ITC304.3	Create and populate RDBMS using queries
ITC304.4	Acquire information from database using complex SQL queries
ITC304.5	Analysis Database scheme using normalization and design Database
ITC304.6	Use indexing mechanism to acquire information from database

**Unique Course Number: ITC305**

**Course Name: Principle of Communications**

Unique CO Number	Course Outcome (CO) Statement
6.ITC305.1	To study different types of communication system for variety of signals
6.ITC305.2	To understand the concept of modulation & demodulation for analog & digital communication system & noise occurred in it.
6.ITC305.3	To explain SNR, modulation technique, line coding & sampling theorem
6.ITC305.4	To sketch waveforms for generation & detection of analog & digital signals & to apply fourier analysis in frequency & time domain to quantify bandwidth requirement of variety of analog & digital communication system.
6.ITC305.5	To comprehend the difference between analog & digital communication system
6.ITC305.6	To describe electromagnetic radiation & propagation of waves

**Unique Course Number: ITL301**

**Course Name: Digital Design Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL301.1	Minimize the Boolean algebra and design it using logic gates.
ITL301.2	Analyze and design combinational circuits.
ITL301.3	Realize given function using combinational circuit.
ITL301.4	Design and develop sequential circuits.
ITL301.5	Implement digital systems using programmable logic devices.
ITL301.6	Translate real world problems into digital logic formulation using VHDL.

**Unique Course Number: ITL302**

**Course Name: Data Structures Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL302.1	Select appropriate data structures as applied to specified problem definition.
ITL302.2	Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
ITL302.3	Students will be able to implement Linear and Non-Linear data structures.



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ITL302.4	Implement appropriate sorting/searching technique for given problem.
ITL302.5	Design advance data structure using Non-Linear data structure.
ITL302.6	Determine and analyse the complexity of given Algorithms.

**Unique Course Number: ITL303**

**Course Name: SQL Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL303.1	Describe the Problem definition -and implement database for same
ITL303.2	Draw conceptual model using ER and construct queries
ITL303.3	Create and populate RDBMS using queries
ITL303.4	Acquire information and construct queries for relational algebra
ITL303.5	Analysis Database scheme using normalization and design Database
ITL303.6	Implement indexing mechanism to acquire information from database

**Unique Course Number: ITL304**

**Course Name: Java Programming Lab**

Unique CO Number	Course Outcome (CO) Statement
ITL304.1	Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
ITL304.2	Identify classes, objects, members of a class and the relationships among them needed for finding the solution to specific problem
ITL304.3	Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
ITL304.4	Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
ITL304.5	Identify and describe common abstract user interface components to design GUI in Java using Applet & AWT along with response to events
ITL304.6	Identify, Design & develop complex Graphical user interfaces using principal Java Swing classes based on MVC architecture