

DON BOSCO INSTITUTE OF TECHNOLOGY, KURLA, MUMBAI

COURSE OUTCOMES

Department of IT , CAY- (Odd semester, 2018-19)

Course Name:	Applied Mathematics III		
Course Code	ITC301		
Faculty Name:	Dr. Revathy		
Year	2	Sem	III

CO Number	Course Outcome
ITC301.1	Students will be able to Define Laplace Transforms and Inverse Laplace Transforms for standard functions; Define harmonic functions and Orthogonal trajectories; Define conformal mapping and bilinear transformations. Perform operations on sets; Define sets, Cartesian Products, Relations and Functions, use Venn diagrams
ITC301.2	Students will be able to Obtain the Laplace Transforms, Inverse Laplace Transforms of combinations of standard functions using the properties of Laplace and Inverse Transforms; Find Cauchy – Riemann equations to verify if a function is analytic; Obtain the harmonic conjugate and orthogonal trajectory of given family; Define Conformal mapping and obtain the image under given standard transformation.
ITC301.3	Students will be able to use Cauchy – Riemann equations to verify if a function is analytic, Define Conformal mapping and obtain the image under given standard transformation, Define and obtain bilinear transformation and its fixed points, Apply Heaviside's and Dirac Delta functions to obtain Laplace Transforms; Apply Laplace and Inverse Laplace transform concepts to evaluate integrals, Use Convolution theorem to obtain Inverse Laplace Transforms.
ITC301.4	Students will be able to identify Harmonic functions; obtain images of regions using translation, rotation and inversion; Use Pigeon Hole Principle to solve problems; Obtain Partial Order (of a relation); Check if a function is one-one and onto and Obtain the inverse of function; Check if a given elements belongs to relation and Obtain reflexive, symmetric and transitive closure of given relation.
ITC301.5	Obtain an analytic function given a linear combination of its real and imaginary parts; Obtain the Bilinear transformation using Cross Ratios and obtain the fixed points of a BLT; Understand and analyze the complex valued functions.
ITC301.6	Check if given relation equivalence relation and/or partial ordered; Obtain the orthogonal trajectories of given family of the curves; Obtain the composition of functions; finding probability using Bayes' theorem for the given data.

Course Name:	Logic Design		
Course Code	ITC302		
Faculty Name:	Janhavi Baikerikar		
Year	2	Sem	III

CO Number	Course Outcome
ITC 302.1	Understand the concepts of various components to design stable analog circuits.
ITC 302.2	Represent numbers and perform arithmetic operations.

ITC 302.3	Minimize the Boolean expression using Boolean algebra and design it using logic gates
ITC 302.4	Analyze and design combinational circuit.
ITC 302.5	Design and develop sequential circuits
ITC 302.6	Translate real world problems into digital logic formulations using VHDL.

Course Name:	Data Structures & Analysis		
Course Code	ITC303		
Faculty Name:	Sushree Satapathy		
Year	2	Sem	III

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

Course Name:	Database Managment System		
Course Code	ITC304		
Faculty Name:	Shivsevak Negi		
Year	2	Sem	III

CO Number	Course Outcome
ITC304.1	Understand the features of database management systems and Relational database – Understand
ITC304.2	Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra. - Creating
ITC304.3	Create and populate a RDBMS for a real life application, with constraints and keys, using SQL. - Applying
ITC304.4	Retrieve any type of information from a data base by deciding and formulating complex queries in SQL. - Evaluating and Creating
ITC304.5	Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database. - Analyzing
ITC304.6	Build indexing mechanisms for efficient retrieval of information from a database. - Applying

Course Name:	Principle of Communications
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Course Code	ITC305		
Faculty Name:	Prasad Padalkar		
Year	2	Sem	III

CO Number	Course Outcome
ITC305.1	The students will be able to define & describe the information regarding the different types of analog, pulse & digital modulation – demodulation techniques.
ITC305.2	The students will be able to discuss different types of noise, its minimization.
ITC305.3	The students will be able to apply Fourier analysis in frequency & time domain to quantify bandwidth requirement of variety of analog and digital communication systems.
ITC305.4	The students will be able to explain different types of line coding techniques for generation and detection of signals, Electromagnetic Radiation and propagation of waves.
ITC305.5	The students will be able to apply sampling theorem to quantify the fundamental relationship between channel bandwidth, digital symbol rate and bit rate.
ITC305.6	The students will be able to explain the generation & detection AM, DSB, SSB, FM transmitter and Receiver

Course Name:	Digital Design Lab		
Course Code	ITL301		
Faculty Name:	Janhavi Baikerikar		
Year	2	Sem	III

CO Number	Course Outcome
ITL301.1	Minimize the Boolean algebra and design it using logic gates
ITL301.2	Analyse and design combinational circuit
ITL301.3	Realise 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 formulations using VHDL

Course Name:	Data Structure Lab		
Course Code	ITL302		
Faculty Name:	Sushree Satapathy		
Year	2	Sem	III
CO Number	Course Outcome		
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.		
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 analyze the complexity of given Algorithms.		
Course Name:	SQL Lab		
Course Code	ITL303		
Faculty Name:	Shivsevak Negi		
Year	2	Sem	III
CO Number	Course Outcome		
ITL303.1	Construct problem definition statements for real life applications and implement a database for the same.		
ITL303.2	Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra.		
ITL303.3	Create and populate a RDBMS, using SQL.		
ITL303.4	Write complex queries in SQL to retrieve any type of information from a data base.		
ITL303.5	Analyze and apply concepts of normalization to design an optimal database. Refential integrity, redundancy		
ITL303.6	Implement indexes for a database using techniques like B or B+ trees.		
Course Name:	Java programming Lab		
Course Code	ITL304		
Faculty Name:	Nilesh		
Year	2	Sem	III
CO Number	Course Outcome		

ITL304.1	Implements object oriented programming concepts using basics syntaxes of control \structures,string and functions for developing skills of logics building activity.
ITL304.2	Identify classes, objects members of a class and the relationship among them needed for finding the solution to specific problem.
ITL304.3	Demonstrate how to achieve re-usability using inheritance interface and packages and describe faster applications development can be achieved.
ITL304.4	Demonstrate understanding & use of different exception handling mechanism and concepts of multi-threading for robust faster & efficient applications 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 & developed complex graphics user interface using principal java swing classes based on MVC architecture.

Course Name:	Microcontroller & Embedded Programming		
Course Code	ITC501		
Faculty Name:	Janhavi Baikerikar		
Year	3	Sem	V

CO Number	Course Outcome
ITC501.1	Explain the embedded system concepts and architecture of embedded systems
ITC501.2	Describe the architecture of 8051 microcontroller and write embedded program for 8051 Microcontroller.
ITC501.3	Design the interfacing for 8051 microcontroller.
ITC501.4	Understand the concepts of ARM architecture.
ITC501.5	Demonstrate the open source RTOS and solve the design issues for the same.
ITC501.6	Select elements for an embedded systems tool.

Course Name:	Internet Programming		
Course Code	ITC502		
Faculty Name:	Vaishali K		
Year	3	Sem	VI

CO Number	Course Outcome
ITC502.1	Implement interactive web pages using HTML,CSS and Javascript
ITC502.2	Design a responsive website using HTML5 and CSS3
ITC502.3	Demonstrate Rich Internet Application
ITC502.4	Build dynamic website using server side PHP programming and database connectivity
ITC502.5	Describe and differentiate different web extensions and web services
ITC502.6	Demonstrate web application using Python web framework Django

Course Name:	Advanced Data Management Technology		
Course Code	ITC503		
Faculty Name:	Aruna Khubalkar		
Year	3	Sem	VI

CO Number	Course Outcome
ITC503.1	Explain and understand the concept of a transaction and how ACID properties are maintained when concurrent transaction occur in a database.
ITC503.2	Measure query costs and design alternate efficient paths for query execution.
ITC503.3	Apply sophisticated access protocols to control access to the database.
ITC503.4	Understand alternate DB models like Distributed databases and advanced models like mobile, and spatial databases.
ITC503.5	Develop dimensional models for constructing DW and perform OLAP operations.
ITC503.6	Understand ETL process of Datawarehousing.

Course Name:	Cryptography & Network Security		
Course Code	ITC504		
Faculty Name:	Nilesh		
Year	3	Sem	VI

CO Number	Course Outcome
ITC504.1	Identify information security goals, classical encryption techniques and acquire fundamental knowledge on the concepts of finite fields and number theory.
ITC504.2	Understand, compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication
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
ITC504.4	Apply different digital signature algorithms to achieve authentication and create secure Applications
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.
ITC504.6	Apply the knowledge of cryptographic utilities and authentication mechanisms to design secure applications

Course Name:	Advanced Data Structures & Analysis of Algorithms		
Course Code	ITDLO-1-5011 (Department Level Optional Course-I)		
Faculty Name:	Sushree Satapathy		
Year	3	Sem	VI

CO Number	Course Outcome
ITLO-1-5011.1	. Students will be able to choose appropriate advanced data structure for given problem.
ITLO-1-5011.2	Students will be able to calculate complexity.
ITLO-1-5011.3	Students will be able to select appropriate design techniques to solve real world problems.
ITLO-1-5011.4	Students will able to apply the dynamic programming technique to solve the problems.
ITLO-1-5011.5	Students will be able to apply the greedy programming technique to solve the problems.
ITLO-1-5011.6	Students will be able to select a proper pattern matching algorithm for given problem.

Course Name:	E-Commerce & E-Business		
Course Code	ITDLO-1-5013 (Department Level Optional Course-I)		
Faculty Name:	Tayyabali		
Year	3	Sem	VI

CO Number	Course Outcome
ITDLO-1-5013.1	Define and differentiate various types of E-commerce.
ITDLO-1-5013.2	Describe Hardware and Software Technologies for E-commerce.
ITDLO-1-5013.3	Explain payment systems for E -commerce.
ITDLO-1-5013.4	Describe the process of Selling and Marketing on web
ITDLO-1-5013.5	Define and Describe E-business and its Models.
ITDLO-1-5013.6	Discuss various E-business Strategies.

Course Name:	Internet Programming Lab		
Course Code	ITL501		
Faculty Name:	Vaishali K		
Year	3	Sem	VI

CO Number	Course Outcome
ITL501.1	Design an interactive web pages using HTML,CSS and Javascript
ITL501.2	Design a responsive website using HTML5 and CSS3
ITL501.3	Develop Rich Internet Application using AJAX
ITL501.4	Develop dynamic website using server side PHP programming and database connectivity
ITL501.5	Build XML document and implement web service
ITL501.6	Demonstrate web application using Python web framework Django

Course Name:	Security Lab		
Course Code	ITL502		
Faculty Name:	Nilesh		
Year	3	Sem	VI

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

Course Name:	OLAP Lab		
Course Code	ITL503		
Faculty Name:	Aruna Khubalkar		
Year	3	Sem	VI

CO Number	Course Outcome
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
ITL503.5	Build a data warehouse
ITL503.6	Analyze data using OLAP operations so as to take strategic decisions

Course Name:	IOT(Mini Project) Lab		
Course Code	ITL504		
Faculty Name:	Janhavi Baikerikar		
Year	3	Sem	v

CO Number	Course Outcome
ITL 504.1	Identify the requirements for the real world problems.
ITL 504.2	Conduct a survey of several available literatures in the preferred field of study.
ITL 504.3	Study and enhance software/ hardware skills.
ITL 504.4	Demonstrate and build the project successfully by hardware requirements, coding, emulating and testing.
ITL 504.5	To report and present the findings of the study conducted in the preferred domain
ITL 504.6	Demonstrate an ability to work in teams and manage the conduct of the research study

Course Name:	Business Communication and Ethics		
Course Code	ITL505		
Faculty Name:	Jeffi		
Year	3	Sem	VI
CO Number	Course Outcome		
ITL505.1	Students will be able to relate to techniques of formal and technical writing and to principles of corporate ethics which includes knowledge of Intellectual Property Rights and ethical codes of conduct in business and corporate activities		
ITL505.2	Students will be able to explain the objectives, format and style of technical report, and technical proposal and the importance of interpersonal skills and paraphrase a technical paper		
ITL505.3	Students will be able to describe strategies for effective meetings and group discussions and techniques for effective preparation for different types of interview which includes resume writing and statement of purpose		
ITL505.4	Students will be able to apply conceptual awareness of interpersonal skills, strategies for effective meetings which includes documentation, and group discussions to complete a mock project		
ITL505.5	Students will be able to make use of the given format while drafting a technical report and a technical proposal and the techniques of effective preparation for interviews while appearing for a mock interview		
ITL505.6	Students will be able to evaluate technical reports and technical proposals using the given rubric		
Course Name:	Software Project Management		
Course Code	BEITC701 & BEITL701		
Faculty Name:	Mahalaxmi S		
Year	4	Sem	VII
CO Number	Course Outcome		
BEITC701.1	Demonstrate an understanding of SDLC, PLC and relationships between the phases of the Project life cycle and SDLC, ITPM and the PMBOK process groups and knowledge areas.		
BEITC701.2	Examine and break information into parts to draw inferences and find evidence to support generalizations using modern tools.		
BEITC701.3	Apply the knowledge of the PMBOK areas to formulate the steps of preparing the deliverables of ITPM phases using modern tools.		
BEITC701.4	Recommend and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.		
BEITC701.5	Formulate the deliverables of ITPM phases using modern tools.		
BEITC701.6	Practice ethics, team work and team spirit through the project work		

Course Name:	Cloud Computing		
Course Code	BEITC702 & BEITL702		
Faculty Name:	Sunantha Krishnan		
Year	4	Sem	VII
CO Number	Course Outcome		
BEITC702.1	Students will be able to differentiate different computing Techniques		
BEITC702.2	Students will be able to compare various cloud computing provides/ softwares		
BEITC702.3	Students will be able to handle open source cloud implementation & administration		
BEITC702.4	Students will be able to understand risk involved in cloud computing		

Course Name:	Intelligent System		
Course Code	BEITC703 & BEITL703		
Faculty Name:	Uday Nayak		
Year	4	Sem	VII
CO Number	Course Outcome		
BEITC703.1	Students will be able to describe the building blocks of AI .		
BEITC703 .2	Student will be able to recognize an appropriate problem PO1, PO2, PO3,solving strategy		
BEITC703 .3	Student will be able to analyze and formulate problem solving technique and Algorithm.		
BEITC703 .4	Student will be able to build simple IS by using either Java or Prolog		
BEITC703 .5	Student will be able to design / build a knowledge representation scheme.		
BEITC703 .5	Student will be able to use Prolog and Java to develop any logic machine / system in any domain of AI		

Course Name:	Wireless Technology		
Course Code	BEITC704 & BEITL704		
Faculty Name:	Tayyabali		
Year	1	Sem	VII
CO Number	Course Outcome		
BEITC704.1	Student will be able to understand characteristics of communication channel, radio access techniques and multi user detection		
BEITC704.2	Student will be able to understand and compare various technologies used to implement wireless network		
BEITC704.3	Student will understand and implement solutions to the security issues in wireless network		
BEITC704.4	Students will be able to understand the new trends in the mobile / wireless networking		
BEITC704.5	Student will be able to simulate the wireless network algorithms		
BEITC704.6	Student will be able to design a wireless network		

Course Name:	E-Commerce & E-Business		
Course Code	BEITC7053 & BEITL705		
Faculty Name:	Vaishali K		
Year	4	Sem	VII

CO Number	Course Outcome
BEITC7053.1	Students will be able to understand the technical aspect of E- Commerce and E- Business
BEITC7053.2	Students will be able to analyze the Hardware and software technologies required for E-Commerce
BEITC7053.3	Students will be able to gain the knowledge on payment system of E-Commerce
BEITC7053.4	Students will be able to understand the concept of E-Marketing and E- Business strategies
BEITC7053.5	Students will be able to develop E- business model with various functionalities.
BEITC7053.6	Students will be able to apply design principles for creating a web portal constituting modules of E-Commerce

Course Name:	Project Stage-I		
Course Code	BEITC707		
Faculty name	Sunantha Krishnan		
Year	4	Sem	VII

CO Number	Course Outcome
BEITC707.1	Students will be able to select identify the problem in any domain and formulate the solution for it.
BEITC707.2	Students will be able to do literature survey/visit industry/analyze current trends to solve the selected problem
BEITC707.3	Students will be able to select the methodology to work towards acheving the solution.
BEITC707.4	Students will be able to create a plan and budget for the acheving the desired outcome.
BEITC707.5	Students will be able to write a a good quality synopsis of the work selected.