**Don Bosco Institute of Technology,(DBIT),Mumbai-400070.**

# COURSE OUTCOMES

## Department of IT , CAY- (Odd semester, 2020-21)

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|---|---|---|---|
| **Course Name:** | Engineering Mathematics III | | |
| **Course Code** | ITC301 | | |
| **Faculty Name:** | Satyanarayana Nagula | | |
| **Year** | 2 | **Sem** | III |

| CO Number | Course Outcome |
|---|---|
| ITC301.1 | Students will be able to<br>i) Obtain Laplace Transforms for a given standard function of 't'<br>ii) Obtain Inverse Laplace Transforms for a given simple function of 's'<br>iii) Define harmonic functions and Orthogonal trajectories<br>iv) Obtain Karl Pearson's coefficient of correlation and Spearman's Rank correlation |
| ITC301.2 | Students will be able to<br>i) Obtain the Laplace Transforms, Inverse Laplace Transforms of combinations of standard functions using the properties of Laplace and Inverse Transforms.<br>ii) Identify orthogonal and orthonormal functions and obtain Fourier series, half-range Fourier series and Fourier sine and cosine series of periodic functions. |
| ITC301.3 | Students will be able to<br>i) Find Cauchy – Riemann equations to verify if a function is analytic<br>ii) Define Conformal mapping and obtain the image under given standard transformation<br>iii) Define and obtain bilinear transformation and its fixed points.<br>iv)Apply Heaviside's and Dirac Delta functions to obtain Laplace Transforms<br>v) Apply Laplace and Inverse Laplace transform concepts to evaluate integrals, solve initial and boundary value problems. |
| ITC301.4 | Students will be able to<br>i) Obtain the harmonic conjugate and orthogonal trajectories of a given family of curves<br>ii) Develop orthonormal functions from a set of orthogonal functions<br>iii) Obtain Regression coefficient & Lines of Regression.<br>iv) Obtain Fourier series for even and odd functions. |
| ITC301.5 | Students will be able to<br>i) Obtain images of regions under conformal mappings – translation, rotaion, inversion and BLT<br>ii) Obtain an analytic function, given a linear combination of its real and imaginary parts |
| ITC301.6 | Students will be able to<br>i) Apply the concept of Z- transformation and its inverse of the given sequence<br>ii) Find the fitting of the curves to the given data by applying Least square method.<br>iii) Obtain Fourier series for functions in a general interval, Obtain complex form fourier series of functions. |

| Course Name: | Data Structure and Analysis | | |
|---|---|---|---|
| Course Code | ITC302 | | |
| Faculty Name: | Sushree Satapathy | | |
| Year | 2 | Sem | III |

| CO Number | Course Outcome |
|---|---|
| ITC 302.1 | Classify and Apply the concepts of stacks, queues and linked list in real life problem solving. |
| ITC 302.2 | Classify, apply and analyze the concepts trees in real life problem solving. |
| ITC 302.3 | Illustrate and justify the concepts of graphs in real life problem solving. |
| ITC 302.4 | List and examine the concepts of sorting, searching techniques in real life problem solving. |
| ITC 302.5 | Use and identify the concepts of recursion, hashing in real life problem solving. |
| ITC 302.6 | Examine and justify different methods of stacks, queues, linked list, trees and graphs to various applications. |

| Course Name: | Database Management System | | |
|---|---|---|---|
| Course Code | ITC303 | | |
| Faculty Name: | Shiv Negi | | |
| Year | 2 | Sem | III |

| CO Number | Course Outcome |
|---|---|
| ITC303.1 | Identify the need of Database Management System. |
| ITC303.2 | Design conceptual model for real life applications. |
| ITC303.3 | Create Relational Model for real life applications |
| ITC303.4 | Formulate query using SQL commands |
| ITC303.5 | Apply the concept of normalization to relational database design. |
| ITC303.6 | Demonstrate the concept of transaction, concurrency and recovery. |

| Course Name: | Principle of Communication | | |
|---|---|---|---|
| Course Code | ITC304 | | |
| Faculty Name: | Janhavi Baikerikar | | |
| Year | 2 | Sem | III |

| CO Number | Course Outcome |
|---|---|
| ITC304.1 | Describe analog and digital communication systems |
| ITC304.2 | Differentiate types of noise, analyses the Fourier transform of time and frequency domain |
| ITC304.3 | Design transmitter and receiver of AM, DSB, SSB and FM. |
| ITC304.4 | Describe Sampling theorem and pulse modulation systems |
| ITC304.5 | Explain multiplexing and digital band pass modulation techniques. |

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| ITC304.6 | Describe electromagnetic radiation and propogation of waves |
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| **Course Name:** | Paradigms and Computer Programming Fundamentals | | |
| **Course Code** | ITC305 | | |
| **Faculty Name:** | Anagha Shastri | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| ITC305.1 | Understand and Compare different programming paradigms. |
| ITC305.2 | Understand the Object Oriented Constructs and use them in program design. |
| ITC305.3 | Understand the concepts of declarative programming paradigms through functional and logic programming. |
| ITC305.4 | Design and Develop programs based on declarative programming paradigm using functional and/or logic programming. |
| ITC305.5 | Understand the role of concurrency in parallel and distributed programming. |
| ITC305.6 | Understand different application domains for use of scripting languages. |

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| **Course Name:** | Data Structure Lab | | |
| **Course Code** | ITL301 | | |
| **Faculty Name:** | Sushree Satapathy | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| 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 |
| ITL301.6 | Illustrate and examine the methods of linked lists, stacks, queues, trees and graphs to various real time problems |
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| **Course Name:** | SQL Lab | | |
| **Course Code** | ITL302 | | |
| **Faculty Name:** | Shiv Negi | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| ITL302.1 | Define problem statement 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. |

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| ITL302.4 | Apply view, triggers and procedures to demonstrate specific event handling. |
| ITL302.5 | Demonstrate database connectivity using JDBC. |
| ITL302.6 | Demonstrate the concept of concurrent transactions. |
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|---|---|---|---|
| **Course Name:** | Computer programming Paradigms Lab | | |
| **Course Code** | ITL303 | | |
| **Faculty Name:** | Anagha Shastri | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| ITL303.1 | Implement Object Oriented concepts in C++. |
| 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. |

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| **Course Name:** | Java Lab (SBL) | | |
| **Course Code** | ITL304 | | |
| **Faculty Name:** | Tayyabali Sayyad | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| ITL304.1 | Explain the fundamental concepts of Java Programing. |
| ITL304.2 | Demonstrate the concepts of classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem. |
| ITL304.3 | Demonstrate how to extend java classes and achieve reusability using Inheritance, Interface and Packages. |
| ITL304.4 | Construct robust and faster programmed solutions to problems using concept of Multithreading, exceptions and file handling |
| ITL304.5 | Design and develop Graphical User Interface using Abstract Window Toolkit and Swings, JavaFX framework |

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| **Course Name:** | Mini Project – 1 A for Front end / backend Application using JAVA | | |
| **Course Code** | ITM301 | | |
| **Faculty Name:** | Tayyabali Sayyad | | |
| **Year** | 2 | **Sem** | III |

| **CO Number** | **Course Outcome** |
|---|---|
| ITL304.1 | Identify problems and apply knowledge and skill to solve societal problems in a group. |

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| ITL304.2 | Develop interpersonal skills to work as member of a group or leader, and demonstrate the capabilities of self-learning in a group, which leads to life long learning. |
| ITL304.3 | Draw the proper inferences from available results through theoretical/ experimental/simulations. |
| ITL304.4 | Use standard norms of engineering practices, and excel in written and oral communication. |
| ITL304.5 | Demonstrate project management principles during project work |

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|---|---|---|---|
| **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. |

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

| **CO Number** | **Course Outcome** |
|---|---|
| ITC502.1 | Design an interactive web pages using HTML,CSS and Javascript |
| ITC502.2 | Design a responsive website using HTML5 and CSS3 |
| ITC502.3 | Develop Rich Internet Application using AJAX |
| ITC502.4 | Develop dynamic website using server side PHP programming and database connectivity |
| ITC502.5 | Build XML document and implement web service |
| ITC502.6 | Demonstrate web application using Python web framework Django |
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| **Course Name:** | Advanced Data Management Technology |
| **Course Code** | ITC503 |
| **Faculty Name:** | Vijaya Bharathi |

| Year | 3 | Sem | VI |
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| 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 | Implement alternate models like Distributed databases and Design applications using advanced models like mobile, spatial databases. |
| ITC503.5 | Develop dimensional models for constructing DW |
| ITC503.6 | Analyze data using OLAP operations so as to take strategic decisions |

| Course Name: | Cryptography & Network Security | | |
|---|---|---|---|
| Course Code | ITC504 | | |
| Faculty Name: | Uday Nayak | | |
| 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 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. |

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| 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. |

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| **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 |
|---|---|
| ITDL0-1-5013.1 | Students will be able to know basics of E-commerce |
| ITDL0-1-5013.2 | Students will be able to choose the technologies required to design and develop the E-commerce platforms |
| ITDL0-1-5013.3 | Students will be able to understand the various modern available payment systems and their advantages and disadvantages |
| ITDL0-1-5013.4 | Students will be able to design the strategies to market and sell their products online |
| ITDL0-1-5013.5 | Students will be able to understand the E-Business and its types |
| ITDL0-1-5013.6 | Students will be able to compare and design various business strategies. |

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|---|---|---|---|
| **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 |

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|---|---|---|---|
| **Course Name:** | Security Lab | | |
| **Course Code** | ITL502 | | |
| **Faculty Name:** | Uday Nayak | | |
| **Year** | 3 | **Sem** | V |

| 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 ElGamal. |
| ITL502.3 | Analyze and evaluate performance of hashing algorithms. |
| ITL502.4 | Explore the different 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. |

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| **Course Name:** | OLAP Lab | | |
| **Course Code** | ITL503 | | |
| **Faculty Name:** | Vijaya Bharathi | | |
| **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 processing mechanisms |
| ITL503.5 | Build a data warehouse |
| ITL503.6 | Analyze data using OLAP operations so as to take strategic decisions |

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|---|---|---|---|
| **Course Name:** | IOT(Mini Project) Lab | | |
| **Course Code** | ITL504 | | |
| **Faculty Name:** | Tayyabli | | |
| **Year** | 3 | **Sem** | v |

| CO Number | Course Outcome |
|---|---|
| ITL 504.1 | Students will be able to identify the requirements for the real world problems. |
| ITL 504.2 | Students will be able to conduct a survey of several available literatures in the preferred field of study |
| ITL 504.3 | Students will be able to lean and enhance software/ hardware skills. |
| ITL 504.4 | Students will be able to demonstrate and build the project successfully by hardware requirements, coding, emulating and testing |
| ITL 504.5 | Students will be able to report and present the findings of the study conducted in the preferred domain |
| ITL 504.6 | Students will be able to 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: | Ms. Devyani Balasra | | |
| Year | 3 | Sem | V |

| 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: | Enterprise Network Design | | |
|---|---|---|---|
| Course Code | ITC701 | | |
| Faculty Name: | Prasad Padalkar | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ITC701.1 | Students would be able to gather customer requirements and APPLY a Methodology to Network Design |
| ITC701.2 | Students will be able to SELECT appropriate Structure and Modularize the Network |
| ITC701.3 | Students will be able to DESIGN Basic Campus and Data Center Network. |
| ITC701.4 | Students will be able to DESIGN Remote Connectivity |
| ITC701.5 | Students will be able to SELECT suitable Routing Protocols and IP Addressing scheme. |
| ITC701.6 | Students will be able to COMPARE Openflow controllers and switches with other enterprise networks. |

| Course Name: | Infrastructure Security | | |
|---|---|---|---|
| Course Code | ITC702 | | |
| Faculty Name: | Aruna Khubalkar | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ITC702.1 | Understand the concept of vulnerabilities, attacks and protection mechanisms |
| ITC702.2 | Analyze and evaluate software vulnerabilities and attacks on databases and operating systems Evaluating |
| ITC702.3 | Explain the need for security protocols in the context of wireless communication |
| ITC702.4 | Understand and explain various security solutions for Web and Cloud infrastructure |
| ITC702.5 | Understand, and evaluate different attacks on Open Web Applications and Web services |
| ITC702.6 | Design appropriate security policies to protect infrastructure components |

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|---|---|---|---|
| **Course Name:** | Artificial Intelligence | | |
| **Course Code** | ITC703 | | |
| **Faculty Name:** | Sunantha | | |
| **Year** | 4 | **Sem** | VII |

| CO Number | Course Outcome |
|---|---|
| ITC703.1 | Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents. |
| ITC703.2 | Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them. |
| ITC703.3 | Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing |
| ITC703.4 | Attain the capability to represent various real life problem domains using logic based techniques and use this to perform inference or planning. |
| ITC703.5 | Formulate and solve problems with uncertain information using Bayesian approaches. |
| ITC703.6 | To introduce advanced topics of AI such as planning, Bayes networks, natural language processing and Cognitive Computing. |

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|---|---|---|---|
| **Course Name:** | Soft Computing | | |
| **Course Code** | ITDLO7035 | | |
| **Faculty Name:** | Uday Nayak | | |
| **Year** | 4 | **Sem** | VII |

| CO Number | Course Outcome |
|---|---|
| ITDLO7035-1 | Ability to elaborate the importance of optimizations and its use in computer engineering fields and other domains |
| ITDLO7035-2 | Students would understand inference systems and understand the efficiency of a hybrid system and Fuzzy Logic |
| ITDLO7035-3 | Ability to analyze the difference between various learning algorithms of Neural Networks |
| ITDLO7035-4 | Ability to program and to explore practical applications of Neural Networks |
| ITDLO7035-5 | Apply genetic algorithms to combinatorial optimization problems. |
| ITDLO7035-6 | Ability to hybridize Neural Networks and fuzzy logic to form a Neuro-fuzzy network. |

| Course Name: | Mobile Application Development | | |
|---|---|---|---|
| Course Code | ITDLO7032 | | |
| Faculty Name: | Nilesh | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ITDLO7032.1 | Describe Android platform, Architecture and features. |
| ITDLO7032.2 | Design User Interface and develop activity for Android App. |
| ITDLO7032.3 | Use Intent , Broadcast receivers and Internet services in Android App. |
| ITDLO7032.4 | Design and implement Database Application and Content providers. |
| ITDLO7032.5 | Use multimedia, camera and Location based services in Android App. |
| ITDLO7032.6 | Discuss various security issues in Android platform. |

| Course Name: | Cyber Security and Laws | | |
|---|---|---|---|
| Course Code | ILO7016 | | |
| Faculty Name: | Phiroj Sheikh | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ILO7016.1 | Outline the concept of cybercrime and its effect on the outside world. |
| ILO7016.2 | Infer the cyber offenses and cybercrimes methodologies and it's probable targets. |
| ILO7016.3 | Understands the various tools and methods used in Cybercrimes. |
| ILO7016.4 | Interpret and distinguish different aspects of cyber law in various legal issues. |
| ILO7016.5 | Understands the Indian IT Act and its amendments. |
| ILO7016.6 | Apply information security standards compliance during software design and development. |

| Course Name: | Management Information System | | |
|---|---|---|---|
| Course Code | ILO7013 | | |
| Faculty Name: | Anagha Shastri | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ILO7013.1 | Explain how information systems transform Businesses. |
| ILO7013.2 | Identify the impact of information systems have on an organization. |
| ILO7013.3 | Describe IT infrastructure and its components and its current trends. |
| ILO7013.4 | Understand the principal tools and technologies for accessing information from databases to improve business performance and decision making. |
| ILO7013.5 | Explain how informed consent, legislation, industry self regulation and technology tools help protect data privacy. |

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| ILO7013.6 | Identify the types of systems used for enterprise-wide knowledge management and how they provide value for businesses module. |

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| **Course Name:** | Operations Research | | |
| **Course Code** | ITLO-7015 | | |
| **Faculty Name:** | Dr. Revathy Sundararajan | | |
| **Year** | 4 | **Sem** | VII |

| **CO Number** | **Course Outcome** |
|---|---|
| ILO7015.1 | Students will be able to solve inequalities by changing them to equalities; have an understanding of Binomial, Poisson and Normal distributi |
| ILO7015.2 | Students will be able to define LPP and obtain basic feasible solutions; solve simple transportation problems |
| ILO7015.3 | Students will be able to formulate LPP and solve it graphically; use simplexmethod to solve LPP |
| ILO7015.4 | Students will be able to solve game theory and sequencing problems |
| ILO7015.5 | Students will be able to Solve sequencing problems – using Johnson's algorithm and dynamic programming |
| ILO7015.6 | Students will be able to Use simulation to solve problems |

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|---|---|---|---|
| **Course Name:** | Network Design Lab | | |
| **Course Code** | ITL701 | | |
| **Faculty name** | Prasad | | |
| **Year** | 4 | Sem | VII |

| **CO Number** | Course Outcome |
|---|---|
| ITL701.1 | Understand the requirements of an enterprise and outline its major design areas |
| ITL701.2 | Identify & apply high level modules for enterprise architecture and analyze them. |
| ITL701.3 | Identify the networking devices, prepare a bill of materials and configure the devices as per the Core, Acess and Distribution layers |
| ITL701.4 | Design the Server Farm for an enterprise network and discuss up gradations if needed. |
| ITL701.5 | Identify and select the technology for Remote site Connectivity, suitable IP addressing plan and routing protocol for an enterprise network. |
| ITL701.6 | Test and monitor the enterprise network using a tool |

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|---|---|---|---|
| **Course Name:** | Advance Security Lab | | |
| **Course Code** | ITL702 | | |
| **Faculty name** | Aruna Khubalkar | | |
| **Year** | 4 | Sem | VII |

| **CO Number** | **Course Outcome** |
|---|---|
| ITL702.1 | Implement and analyze program and database vulnerabilities - Buffer overflow and SQL Injection. |

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| ITL702.2 | Analyze and evaluate different security tools to secure mobile devices, web browser, wireless network and router |
| ITL702.3 | Explore reconnaissance, attack and forensics tools in Kali Linux |
| ITL702.4 | Test security of system using personal firewall installation |
| ITL702.5 | Understand AAA using RADUIS / TACACS |
| ITL702.6 | Design Authentication system |

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|---|---|---|---|
| **Course Name:** | Intelligent System | | |
| **Course Code** | ITL703 | | |
| **Faculty name** | Sunantha | | |
| **Year** | 4 | **Sem** | VII |

| CO Number | Course Outcome |
|---|---|
| ITL703.1 | Design the building blocks of an Intelligent Agent using PEAS representation . |
| ITL703.2 | Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them. |
| ITL703.3 | Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing |
| ITL703.4 | Attain the capability to represent various real life problem domains using logic based techniques and use this to perform inference or planning. |
| ITL703.5 | Formulate and solve problems with uncertain information using Bayesian approaches. |
| ITL703.6 | Apply concept Natural Language processing to problems leading to understanding of cognitive computing. |

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| **Course Name:** | Android Apps Development Lab | | |
| **Course Code** | ITL704 | | |
| **Faculty name** | Nilesh | | |
| **Year** | 4 | **Sem** | VII |

| CO Number | Course Outcome |
|---|---|
| ITL704.1 | Experiment on Integrated Development Environment for Android Application Development. |
| ITL704.2 | Design and Implement User Interfaces and Layouts of Android App. |
| ITL704.3 | Use Intents for activity and broadcasting data in Android App. |
| ITL704.4 | Design and Implement Database Application and Content Providers. |
| ITL704.5 | Experiment with Camera and Location Based service. |
| ITL704.6 | Develop Android App with Security features. |

| Course Name: | Project -1 | | |
|---|---|---|---|
| Course Code | ITM705 | | |
| Faculty name | Sunantha | | |
| Year | 4 | Sem | VII |

| CO Number | Course Outcome |
|---|---|
| ITM705.1 | Discover potential research areas in the field of IT |
| ITM705.2 | Conduct a survey of several available literature in the preferred field of study |
| ITM705.3 | Compare and contrast the several existing solutions for research challenges |
| ITM705.4 | Demonstrate ability to work in team and manage the conduct of the research study |
| ITM705.5 | Formulate and propose a plan for creating a solution for the research plan identified |
| ITM705.6 | To report and present the findings of the study conducted in the preferred domain . |