

**MATRUSHRI KASHIBEN MOTILAL PATEL SENIOR COLLEGE OF COMMERCE &
SCIENCE, THAKURLI (EAST)**

PROGRAM: F.Y IT

SEM-I

COURSE-DIGITAL ELECTRONICS

COURSE OBJECTIVES

- To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.
- To impart how to design Digital Circuits.

COURSE OUTCOMES

- Convert different type of codes and number systems which are used in digital communication and computer systems.
- Employ the codes and number systems converting circuits and compare different types of logic families which are the basic unit of different types of logic gates in the domain of economy, performance and efficiency.
- Analyze different types of digital electronic circuit using various mapping and logical tools and know the techniques to prepare the most simplified circuit using various mapping and Mathematical methods.
- Design different types of with and without memory element digital electronic circuits for
- Particular operation, within the realm of economic, performance, efficiency, user friendly and environmental constraints.
- Apply the fundamental knowledge of analog and digital electronics to get different types analog to digitalized signal and vice-versa converters in real world with different changing circumstances.

COURSE-OPERATING SYSTEMS

COURSE OBJECTIVES

- To introduce operating system as a resource manager, its evolutions and fundamentals.
- To help student understand concept of process and different process (linear and concurrent) Scheduling policies.
- To help student familiar with memory, file and I/O management policies.

COURSE OUTCOMES

- Understand the role of an operating system, its function and issues.
- Compare between different algorithms used for management and scheduling of processes, Memory and input-output operation.
- Appreciate the role of various productivity enhancing tools
- Understand the basics of operating systems like kernel, shell, types and views of operating systems
- Describe the various CPU scheduling algorithms and remove deadlocks.
- Explain various memory management techniques and concept of thrashing
- Use disk management and disk scheduling algorithms for better utilization of external memory.
- Recognize file system interface, protection and security mechanisms.
- Explain the various features of distributed OS like Unix, Linux, windows etc.

COURSE-IMPERATIVE PROGRAMMING

COURSE OBJECTIVES

- To understand Basics programming concept and its type and structure.
- To learn concept of Operators and Expressions and Data Input and output.
- To understand Conditional Statements and Loops and function
- To learn and understand Preprocessor and Array concept
- To understand Program structure and Program development using C programming.
- To understand concept of Pointers and Structures and Unions.

COURSE OUTCOMES

- Better understanding basic of concept of programming languages.
- To develop and implement programs on data input output function.
- To develop and implement program on using operators and Expressions.
- To Understanding and implementing concept of Pointers, structure and unions.

COURSE- DISCRETE MATHEMATICS

COURSE OBJECTIVES:

- Develop a positive attitude towards learning Mathematics
- Perform mathematical operations and manipulations with confidence, speed and accuracy
- Think and reason precisely, logically and critically in any given situation
- Develop investigative skills in Mathematics
- Identify, concretize, symbolize and use mathematical relationships in everyday life
- Comprehend, analyze, synthesis, evaluate, and make generalizations so as to solve mathematical problems

LEARNING OUTCOMES:

- Formulate and solve abstract mathematical problems
- Recognize real-world problems that are amenable to mathematical analysis, and formulate mathematical models of such problems
- Apply mathematical methodologies to open-ended real-world problems
- Recognize connections between different branches of mathematics
- Recognize and appreciate the connections between theory and applications.

COURSE- COMMUNICATION SKILLS

LEARNING OBJECTIVES:

- To make students aware about the mannerism of communication used in corporate or business.
- To develop the skills that maximize team effectiveness.
- To make students learn effective business writing for job applications.
- To train students for developing and delivering effective presentations.

LEARNING OUTCOMES:

- Better understanding of business communication.
- Understanding the drafting of letters for job applications.
- Raised confidence while presenting.
- Importance of synergy is understood.

PROGRAMME: F.Y.I.T.

SEM: II

COURSE-OBJECT ORIENTED PROGRAMMING

LEARNING OBJECTIVES:

- To understand Basics of Object-Oriented Methodology and Principles of OOP programming.
- To learn concept of classes and Objects, Constructors and Destructors.
- To understand polymorphism and Concept of function overloading, overloaded Operators, overloading.
- To learn and understand Virtual Functions.
- To understand Program development using Inheritance and Exception Handling and concept of Concept of throw & catch.
- To understand concept of Templates and Working with Files.

LEARNING OUTCOMES:

- Better understanding basic of OOPS and its methodology.
- To develop and implement programs on classes, object, constructor and destructor.
- To develop and implement program on polymorphism.
- To understand virtual function and develop small program.
- To Understanding and to implement concept of Templates and File handling operations

COURSE- NUMERICAL STATISTICAL METHOD**LEARNING OBJECTIVES:**

- Develop a positive attitude towards learning Mathematics
- Perform mathematical operations and manipulations with confidence, speed and accuracy
- Think and reason precisely, logically and critically in any given situation
- Develop investigative skills in Mathematics
- Identify, concretize, symbolize and use mathematical relationships in everyday life
- Comprehend, analyze, synthesis, evaluate, and make generalizations so as to solve mathematical problems.

LEARNING OUTCOMES:

- Formulate and solve abstract mathematical problems
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- Recognize and appreciate the connections between theory and applications.

COURSE- MICROPROCESSOR ARCHITECTURE

LEARNING OBJECTIVES:

- Conceptualize the basics of organizational and architectural issues of a digital computer.
- Analyze processor performance improvement using instruction level parallelism.
- Learn the function of each element of a memory hierarchy.
- Study various data transfer techniques in digital computer.
- Articulate design issues in the development of processor or other components that satisfy design requirements and objectives.
- Learn microprocessor architecture and study assembly language programming.

LEARNING OUTCOMES:

- Describe basic organization of computer and the architecture of 8086 microprocessor.
- Implement assembly language program for given task for 8086 microprocessors.
- Demonstrate control unit operations and conceptualize instruction level parallelism.
- Demonstrate and perform computer arithmetic operations on integer and real numbers.
- Categorize memory organization and explain the function of each element of a memory hierarchy.
- Identify and compare different methods for computer I/O mechanisms.

COURSE- GREEN COMPUTING

LEARNING OBJECTIVES:

- To understand what Green IT is and How it can help improve environmental Sustainability
- To understand the principles and practices of Green IT.
- To understand how Green IT is adopted or deployed in enterprises.
- To understand how data centers, cloud computing, storage systems, software and networks can be made greener.
- To measure the Maturity of Sustainable ICT world.
- To implement the concept of Green IT in Information Assurance in Communication and social media and all other commercial field.

LEARNING OUTCOMES:

- Describe awareness among stakeholders and promote green agenda and green initiatives in their working environments leading to green movement
- Identify IT Infrastructure Management and Green Data Centre Metrics for software development
- Recognize Objectives of Green Network Protocols for Data communication.
- Use Green IT Strategies and metrics for ICT development.
- Illustrate various green IT services and its roles.
- Use new career opportunities available in IT profession, audits and others with special skills such as energy efficiency, ethical IT assets disposal, carbon footprint estimation, reporting and development of green products, applications and services.

COURSE: WEB PROGRAMMING

LEARNING OBJECTIVES:

- To Understand of the basic structure of the Internet
- To Understand the basic structure of a web page
- To Understand the basic structure of a website
- Ability to build a website.
- How to CSS' role in creating user interfaces and websites.
- To understand the basic CSS concepts: selectors, CSS properties, CSS code structure, CSS declarations, CSS unit types etc.
- The DOM (document object model) and how CSS interacts with it.
- The JavaScript's role in websites and web apps.
- How JavaScript works with HTML and CSS.
- How to debug basic JavaScript errors.
- The basic concepts of PHP also PHP with database

LEARNING OUTCOMES:

- Students will learn CSS Tag selectors – how CSS code is used to target HTML tags, text and other elements in an HTML page.
- Students will learn aspects of the CSS Cascade.
- Students will learn how CSS is included in an HTML page.
- Students will learn several selector types: tag, id, class, descendent selectors, pseudo class selectors
- Students will learn CSS Tag selectors – how CSS code is used to target HTML tags, text and other elements in an HTML page.
- Students will learn basic JavaScript syntax.
- Students will learn how to insert JavaScript code into pages, JavaScript event handlers, JavaScript error logging.
- Students will learn DOM manipulation techniques.
- Students will learn how to process HTML forms.
- Students will learn how to create animations with JavaScript.
- Students will learn PHP server sided coding.
- Student will learn how to connect Database with PHP programs.

PROGRAMME: S.Y.I.T.

SEM: III

COURSE- DATA STRUCTURE

COURSE OBJECTIVES

- To provide the knowledge of basic data structures and their implementations.
- To understand importance of data structures in context of writing efficient programs.
- To develop skills to apply appropriate data structures in problem solving.

COURSE OUTCOMES

- Learn the basic types for data structure, implementation and application.
- Know the strength and weakness of different data structures.
- Use the appropriate data structure in context of solution of given problem.
- Develop programming skills which require to solve given problem.

COURSE- COMPUTER NETWORKS

LEARNING OBJECTIVES:

- To understand the fundamental concepts of computer networking.
- To learn the basic terminology of the computer networking.
- To introduce the student to advanced networking concepts, preparing the student for entry advanced courses in computer networking.
- To Allow the student to gain expertise in some specific areas of networking such as the
- Design topology of network and some basic commands.

LEARNING OUTCOMES:

After completing this course the student must learned the knowledge and ability to

- Independently understand basic computer network technology.
- Understand the concept of Data Communications System and its components.
- To learned and identify the different types of network topologies and protocols.
- To learned the layers of the OSI model and TCP/IP. Explain the function(s) of each layer.
To learned the different types of network devices and their functions within a network
- Understand and building the skills of sub netting and routing mechanisms.
- Familiarity with the basic protocols of computer networks, and how they can be used to
- Assist in network design and implementation

COURSE- PYTHON PROGRAMMING

LEARNING OBJECTIVES:

- Basics of Python programming
- Decision Making and Functions in Python
- Object Oriented Programming using Python
- Files Handling in Python
- GUI Programming and Databases operations in Python
- Network Programming in Python

LEARNING OUTCOMES:

- ❑ Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python
- ❑ Express different Decision Making statements and Functions
- ❑ Interpret Object oriented programming in Python
- ❑ Understand and summarize different File handling operations
- ❑ Explain how to design GUI Applications in Python and evaluate different database operations
- ❑ Design and develop Client Server network applications using Python

COURSE- DATABASE MANAGEMNT SYSTEM

LEARNING OBJECTIVES:

- To understand concept of Databases and Transactions, Data Models.
- To learn the relational model of data and usage of Relational Algebra.
- To learn Database Design, ER Diagram and Unified Modeling Language
- To learn the concepts of basic SQL and its components.
- To enhance knowledge to advanced SQL topics like embedded SQL, procedures connectivity.
- To enable the design of an efficient database using normalization concepts.
- To understand Transaction management and Concurrency.
- To develop and implements the concept with PL-SQL
- To enable students to be create indexes, sequences etc. for databases.

LEARNING OUTCOMES:

- Construct problem definition statements for real life applications and implement a database for the same.
- Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra.
- Create and populate a RDBMS, using SQL.
- Write queries in SQL to retrieve any type of information from a data base.

- Analyze and apply concepts of normalization to design and retrieval Database
- Implement sequences and indexes for a database.

COURSE: APPLIED MATHEMATICS

LEARNING OBJECTIVES:

- Develop a positive attitude towards learning Mathematics
- Perform mathematical operations and manipulations with confidence, speed and accuracy
- Think and reason precisely, logically and critically in any given situation
- Develop investigative skills in Mathematics
- Identify, concretize, symbolize and use mathematical relationships in everyday life
- comprehend, analyze, synthesis, evaluate, and make generalizations so as to solve mathematical problems

LEARNING OUTCOMES:

- Formulate and solve abstract mathematical problems
- Recognize real-world problems that are amenable to mathematical analysis, and formulate mathematical models of such problems
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- Recognize connections between different branches of mathematics
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PROGRAMME: S.Y.I.T.

SEM: IV

COURSE: CORE JAVA

LEARNING OBJECTIVE:

- To develop programming in the Java programming language
- To understand knowledge of object-oriented paradigm in the Java programming language
- Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
- Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
- Have the ability to write a java program to solve specified problems.
- Be able to use the Java SDK environment to create, debug and run simple Java programs

LEARNING OUTCOMES:

- Knowledge of the structure and model of the Java programming language
- Use the Java programming language for various programming technologies
- Develop software in the Java programming language
- Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements
- Read and understand Java-based software code of medium-to-high complexity.
- Use standard and third party Java's API's when writing applications.
- Understand the basic principles of creating Java applications with graphical user interface (GUI).
- Understand the fundamental concepts of java: structure of the computational process, algorithms and complexity of computation.
- Apply the above to design, implement, appropriately document and test a Java application of medium complexity, consisting of multiple classes.

COURSE- SOFTWARE ENGINEERING

LEARNING OBJECTIVES:

- To understand importance of architecture in building effective, efficient, competitive software product. 2. To understand principal design decisions governing the system.
- To understand role of architecture in software engineering
- To understand designing application from architectural perspective
- To understand different notations used for capturing design decisions.
- To understand different functional and non-functional properties of complex software systems.

LEARNING OUTCOMES:

- Students will cite knowledge of various approaches to document a software system (Remembering)
- Students will be able to describe functional and non-functional requirements (Understanding)
- Students will be able to use proper architecture for software (Applying)
- Students will be able to categorize different components used in the software system (Analyzing)
- Students will be able to choose from different architectural styles (Evaluating)
- Students will be able to improve quality of software by selecting proper architecture (Creating)

COURSE- INTRODUCTION TO EMBEDDED SYSTEM

LEARNING OBJECTIVES:

- The concepts and architecture of embedded systems
- Basic of microcontroller 8051.
- The concepts of microcontroller interface.
- The concepts of ARM architecture
- The concepts of real-time operating system
- Different design platforms used for an embedded systems application

LEARNING OUTCOMES:

- Explain the embedded system concepts and architecture of embedded systems
- Describe the architecture of 8051 microcontroller and write embedded program for 8051 microcontroller.
- Design the interfacing for 8051 microcontroller.
- Understand the concepts of ARM architecture.
- Demonstrate the open source RTOS and solve the design issues for the same.
- Select elements for an embedded systems tool.

COURSE-COMPUTER GRAPHICS AND ANIMATION

LEARNING OBJECTIVES:

- To understand concept of computer graphics its algorithms, components of a graphics system and become familiar with building approach of graphics system components and algorithms related with them.
- To learn the basic principles of 2-Dimensional and 3- dimensional computer graphics concept.
- To Provide an understanding of how to scan convert the basic geometrical primitives, how to transform the shapes to fit them as per the picture definition.
- To provide an understanding of mapping from a world coordinates to device coordinates, clipping, and projections.
- To be able to discuss the application of computer graphics concepts in the development of computer games etc.
- To learn the fundamentals of animation, underlying technologies, principles.

LEARNING OUTCOMES:

- Better understand the concepts used in computer graphics.
- To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.
- To describe the importance of viewing and projections.
- To define the fundamentals of animation, its related technologies.
- To understand a typical graphics pipeline
- To design an application (programs) with the new technologies.

COURSE-COMPUTER ORIENTED STATISTICAL TECHNIQUES

LEARNING OBJECTIVES:

- Interpret the difference quotient as an average rate of change over a specified interval. Interpret the instantaneous rate of change as the rate at which the function is changing at a point. Attach units to the difference quotient and the instantaneous rate of change based on the context.
- Given a position function, solve for the (instantaneous) velocity of the object using the definition of derivative of the object's position with respect to time. Solve for the speed of an object or graph the speed as a function of time when $\text{speed} = |v'(t)| = |ds/dt|$
- Relate the acceleration of an object to the object's position and object's velocity, (i.e., $\text{Acceleration} = d^2s/dt^2 = s''(t) = dv/dt = v'(t)$). Assign units to acceleration based on the context.
- Apply knowledge of the position, velocity, and acceleration functions to solve problems related to motion.

LEARNING OUTCOMES:

- Optimize a function of two or more variables, organizing work into main steps, carefully justifying determination of critical points.
- Correctly justify and notate change of variables in integration of function of two or more variables.
- Apply mathematical methodologies to open-ended real-world problems
- Recognize connections between different branches of mathematics
- Recognize and appreciate the connections between theory and applications.

PROGRAMME: T.Y.I.T.

SEM: V

COURSE- NEXT GENERATION TECHNOLOGIES

COURSE OBJECTIVES

- To provide an overview of an exciting growing field of Big Data analytics.
- To discuss the challenges traditional data mining algorithms face when analyzing Big Data.
- To introduce the tools required to manage and analyze big data like Hadoop, NoSql Map Reduce.
- To teach the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability.

COURSE OUTCOMES

- Explain the motivation for big data systems and identify the main sources of Big Data in the real world.
- Demonstrate an ability to use frameworks like Hadoop, NOSQL to efficiently store retrieve and process Big Data for Analytics.
- Implement several Data Intensive tasks using the Map Reduce Paradigm
- Ability to identify the characteristics of datasets and compare the trivial data and big data for various applications.
- Ability to select and implement machine learning techniques and computing environment that are suitable for the applications under consideration

COURSE- SOFTWARE PROJECT MANAGEMENT

LEARNING OBJECTIVES:

- To understand the nature of software development and software life cycle process models, agile software development, SCRUM and other agile practices.
- To explain methods of capturing, specifying, visualizing and analyzing software requirements.
- To understand concepts and principles of software design and user-centric approach and principles of effective user interfaces.
- To know basics of testing and understanding concept of software quality assurance and software configuration management process.
- To understand need of project management and project management life cycle.
- To understand project scheduling concept and risk management associated to various type of projects.

LEARNING OUTCOMES:

- Define various software application domains and remember different process model used in software development.
- Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
- Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
- Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.
- Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering in PLC.
- Generate project schedule and can construct, design and develop network diagram for different

COURSE- ARTIFICIAL INTELLIGENCE

LEARNING OBJECTIVES:

- To create appreciation and understanding of both the achievements of AI and the theory underlying those achievements.
- To introduce the concepts of a Rational Intelligent Agent and the different types of Agents that can be designed to solve problems.
- To review the different stages of development of the AI field from human like behavior to Rational Agents.
- To impart basic proficiency in representing difficult real life problems in a state space representation so as to solve them using AI techniques like searching and game playing.
- To create an understanding of the basic issues of knowledge representation and Logic and blind and heuristic search, as well as an understanding of other topics such as minimal, resolution, etc. that play an important role in AI programs.
- To introduce advanced topics of AI such as planning, Bayes networks, natural language processing and Cognitive Computing.

LEARNING OUTCOMES:

- Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents.
- Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them.
- Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing
- Attain the capability to represent various real life problem domains using logic based techniques and use this to perform inference or planning.
- Formulate and solve problems with uncertain information using Bayesian approaches.
- Apply concept Natural Language processing to problems leading to understanding of cognitive computing

COURSE- INTERNET OF THINGS SEM -V

LEARNING OBJECTIVES:

- To understand concepts of Internet of things, Design Principles for Connected Devices and Internet Principles.
- To learn and understand Thinking about Prototyping Prototyping Embedded Devices.
- To learn and implements prototyping the Physical Design Prototyping Online Components
- To implement Techniques for Writing Embedded Code Business Models.
- To learn and develop Moving to Manufacture and Ethics.

LEARNING OUTCOMES:

- To explored the interconnection and integration of the physical world and the cyber space.
- To learned design & develop IOT Devices.
- To provide an understanding of the technologies and the standards relating to the Internet of Things.
- To develop skills on IOT technical planning.
- To understanding the revolution of Internet in Mobile Devices, Cloud & Sensor Networks.

COURSE- ADVANCED WEB PROGRAMMING

LEARNING OBJECTIVES:

- Set up a programming environment for ASP.net programs.
- Configure an asp.net application.
- Creating ASP.Net applications using standard .net controls.
- Develop a data driven web application.
- Connecting to data sources and managing them.

- Maintain session and controls related information for user used in multi-user web applications
- Understand the fundamentals of developing modular application by using object oriented Methodologies
- Use AJAX to create partial-page updates that refresh only the parts of the Web page that have changed student learning.

LEARNING OUTCOMES:

- Successful students will able to design web applications using ASP.NET
- Successful students will be able to use ASP.NET controls in web applications.
- Successful students will be able to debug and deploy ASP.NET web applications
- Successful students will be able to create database driven ASP.NET web applications and web services.

PROGRAMME: T.Y.I.T.

SEM: VI

COURSE: SOFTWARE QUALITY ASSURANCE

LEARNING OBJECTIVES:

- To familiarize the students with basic concepts of Software Testing & Quality.
- To develop understanding and knowledge of different levels of testing & software testing strategies.
- To make the students aware about current software testing verification and validation tools.
- To understands the practical and theoretical aspects of software testing & quality.

LEARNING OUTCOMES:

- Better understanding of Software Testing & Quality.
- Understanding and knowledge of different levels of testing & software testing strategies.
- Understanding software testing verification and validation tools for software quality purpose.
- Understanding practical and theoretical aspects of software testing & quality.

COURSE: ENTERPRISE NETWORKING

LEARNING OBJECTIVE:

- To provide an in-depth view of the advanced technologies used in enterprise-wide computer networks
- To provide the theoretical foundation and practical skills of advanced computer networks for many other relevant topics, such as distributed computing
- To introduce the student to the major concepts involved in wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs)
- To introduce both theoretical, practical, and technical issues in enterprise-wide computer networks
- To provide the background needed for enterprise-wide networking and network management
- Develop students' interpersonal and teamwork skills

LEARNING OUTCOMES:

- Student get analyze state-of-the-art real-world enterprise-wide networks
- Design, build, and implement advanced enterprise-wide computer networks
- Manage, configure, troubleshoot, and maintain typical enterprise-wide computer networks
- Effectively communicate course work in writing and oral presentation

COURSE-SECURITY IN COMPUTING

LEARNING OBJECTIVES:

- To learn concept of Information Security Overview and Importance of Information Protection, Risk Analysis and Secure Design Principles.
- To understand Authentication and Authorization and the working principles and utilities of various cryptographic algorithms including secret key cryptography, and public key algorithms.
- To understand the concepts of classical encryption decryption techniques and types.

- To design issues and working principles of various authentication protocols, PKI standards.
- To learn various secure communication standards including Kerberos, IPsec, and SSL/TLS and email.
- To understand the concepts of cryptographic utilities and authentication mechanisms to design secure applications.

LEARNING OUTCOMES:

- Better understanding and Identify information security goals, classical encryption techniques and acquire fundamental knowledge.
- To Understanding compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication.
- To implement and learn knowledge of cryptographic algorithms for verifying the integrity of varying message sizes.
- To understanding digital signature algorithms to achieve authentication and create secure applications.
- To understanding network security basics, analyze different attacks on networks and evaluate the performance of firewalls and security protocols like SSL, IPsec, and PGP.

COURSE- BUSINESS INTELLIGENCE

LEARNING OBJECTIVES:

- Data extraction: Investigate data to establish new relationships and patterns
- Predictive Analytic and Predictive Modelling: Analyze the correlation between different variables
- Logistic Regression: Analyze the possibility of default and generate customer records.
- Problem analysis: Understand and explore problems in business.
- Data interpretation: Use tools such as Excel and open source to interpret data.
- Problem-solving: Use analytics to solve business problems.

LEARNING OUTCOMES:

- Identify the major frameworks of computerized decision support: decision support systems (DSS), data analytics and business intelligence (BI).
- Explain the foundations, definitions, and capabilities of DSS, data analytics and BI.
- List the definitions, concepts, and architectures of data warehousing.
- Demonstrate the impact of business reporting, information visualization, and dashboards.
- Explain data mining, neural networks, support vector machines, text analytics, text mining, sentiment analysis, web mining, web analytics, social analytics, and social network analysis.
- Outline the definitions, concepts, and enabling technologies of big data analytics.
- Apply big data technologies in business intelligence using geospatial data, location-based analytics, social networking, Web 2.0, reality mining, and cloud computing.
- Identify the major ethical and legal issues of analytics.
- Describe how analytics are powering consumer applications and creating a new opportunity for entrepreneurship for analytics.
- Effectively communicate course work in writing and oral presentation.

COURSE: CYBER LAW

LEARNING OBJECTIVE:

- Develop an understanding of cyber laws and their sections as well as acts
- Demonstrate an understanding of how traditional intelligence methods and procedures are applied to the cyber law
- Demonstrate understanding of the legal and technical aspects of a cybercrime investigation and the application of computer forensic tools
- Show how ethical issues impact decision making in the cyber laws
- Develop an understanding of risk assessment and management methods related to cyber laws and national critical infrastructures
- Demonstrate an understanding of cyber defense and attack methods

LEARNING OUTCOMES:

- Better Student understanding of the Cyber law with respect to Indian IT/Act 2000
- Knowledge of Cyberspace, Jurisdiction and basic concepts of Cyber Law
- Statutory provision related to cyber law
- Knowledge of legal provisions in Information Technology Act, 2000
- Learn case laws on cyber crime

