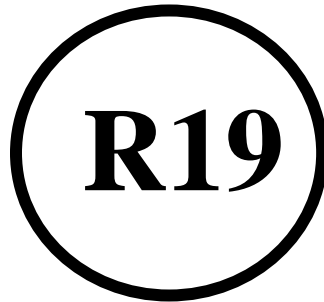


Course Outcomes



Information Technology

For
B.TECH. FOUR YEAR DEGREE COURSE

(Applicable for batches admitted from 2019-2020)



SWARNANDHRA
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

SEETHARAMAPURAM, NARSAPUR-534 280, W.G.DT., A.P.

B. TECH 1st SEMESTER	L	T	P	C
	3	1	-	4
19MA1T01 - CALCULUS & LINEAR ALGEBRA				

COURSE OUTCOMES:

At the end of the course, the student will be able to

1. Develop the use of matrix algebra techniques that is needed by engineers for practical applications (K3)
2. Apply the functions of several variables which is useful in optimization (K3)
3. Acquire important tools of calculus in higher dimensions and will become familiar with double integral(K3)
4. Solve the multiple integrals and are apply for special functions.(K3)

B. TECH 1st SEMESTER	L	T	P	C
	3	-	-	3
19BS1T02: ENGINEERING CHEMISTRY				

COURSE OUTCOMES:

At the end of semester, the students will be able to

1. Summarize the impurities present in raw water, problems associated and how to avoid them (K2)
2. List out the advantages of Polymers in daily life (K2)
3. Illustrate the theory of construction of battery and fuel cells and theories of corrosion and prevention methods. (K2)
4. Compare conventional and non-conventional energy sources and their advantages and disadvantages. (K2)
5. Interpret the usage of advanced materials in day to day life (K2)

B. TECH 1st SEMESTER	L	T	P	C
	3	-	-	3
19CS1T01: PROBLEM SOLVING AND PROGRAMMING USING C				

COURSE OUTCOMES:

At the end of the Course, Student will be able to:

1. Illustrate the Fundamental concepts of Computers and basics of computer programming. (K2)
2. Apply Control Structures and Arrays in solving complex problems. (K3)
3. Develop modular program aspects and Strings fundamentals. (K3)
4. Summarize the ideas of pointers usage. (K2)
5. Solve real world problems using the concept of Structures, Unions and File operations. (K3)

B. TECH 1st SEMESTER	L	T	P	C
	3	-	-	3
19HS1T01: ENGLISH				

COURSE OUTCOMES:

At the end of the Course, students will be able to:

1. Identify the parts of speech, root words and apply relative writing formats to prepare notes (K3)
2. Precise the ideas coherently in day to day life. (K2)
3. Identify the importance of correct usage of grammar (K3)
4. Illustrate the ideas effectively on various topics (K2)
5. Develop the reports and essays by using appropriate sentences (K3)

I SEMESTER	L	T	P	C
	0	0	3	1.5
19ME2L01 - ENGINEERING WORKSHOP				

COURSE OUTCOMES: Students will be able to

1. Model and Develop various basic prototypes in Carpentry trade [K3]
2. Model and Develop various basic prototypes in Fitting trade [K3]
3. Make use of Various Forging Operations [K3]
4. Develop various House Wiring Techniques. [K3]
5. Develop various basic prototypes in the trade of Sheet metal. [K3]

I SEMESTER	L	T	P	C
	-	-	3	1.5
19BS1L02: ENGINEERING CHEMISTRY LAB				

COURSE OUTCOMES:

At the end of the Course, students will be able to:

1. Identify the concentration of given solution by different methods of chemical analysis (K3)
2. Analyze the water purity by checking hardness, DO and Acidity. (K4)
3. Estimate the Cu⁺², Fe⁺³, Ca⁺², Mg⁺² ions and Ascorbic acid present in given solution. (K4)
4. Identify the pour and cloud point of lubricants. (K3)
5. Classify the principles of conductometric and potentiometric titrations. (K2)

B. TECH 1st SEMESTER	L	T	P	C
	-	-	3	1.5
19CS1L01: C PROGRAMMING LAB				

COURSE OUTCOMES:

1. Develop basic programs in C and design flowcharts in Raptor. (K3)
2. Apply Conditional and Iterative statements to solve the real time scenarios in C. (K3)
3. Implement the concept of Arrays and Modularity and Strings. (K3)
4. Apply the Dynamic Memory Allocation functions using pointers. (K3)
5. Develop programs using structures and Files. (K3)

B. TECH 1st SEMESTER	L	T	P	C
	-	-	3	1.5
19HS1L01: ENGLISH PROFICIENCY LAB				

COURSE OUTCOMES:

At the end of the course, students will be able to:

1. Acquire the sounds of words for correct pronunciation. (K2)
2. Identify and learn accent of words for mastering language proficiency. (K3)
3. Distinguish the word pronunciation relating to accent and accuracy of English language. (K4)
4. Apply the words for ensuring the ability for correct pronunciation. (K3)
5. Summarize the influence of mother tongue on target language. (K2)

B. TECH 2nd SEMESTER	L	T	P	C
	3	-	-	3
19MA2T02: DIFFERENTIAL EQUATIONS AND NUMERICAL METHODS				

Course Outcomes:

At the end of the course, the student will be able to

1. Solve the differential equations related to various engineering fields (K3)
2. Identify solution methods of partial differential equations that model physical processes (K3)
3. Evaluate the approximate roots of polynomial and transcendental equations by different algorithms(K3)
4. Solve integrate and ordinary differential equations by various numerical techniques.(K3)

B. TECH 2nd SEMESTER	L	T	P	C
	3	-	-	3
19BS2T01: ENGINEERING PHYSICS				

COURSE OUTCOMES

After completion of course student able to:

1. Acquire the knowledge of basic crystal systems and determination of crystal structures. (K2)
2. Summarize the Magnetic and Dielectric Materials properties. (K2)
3. Illustrate the concept of Magnetic Induction and Super Conducting properties. (K2)
4. Interpret Pure & Doped Semiconductor materials for better utility. (K2)
5. Acquire the knowledge on Optical fibers and Optical properties of materials and their applications (K2)

B. TECH 2nd SEMESTER	L	T	P	C
	3	0	0	3
19CS2T02 : OBJECT ORIENTED PROGRAMMING THROUGH C++				

COURSE OUTCOMES:

At the end of the Course, Student will be able to:

1. Outline the Principles of object oriented technology. (K2)
2. Summarize the Evolution and Purpose of Object Oriented Programming. (K2)
3. Acquire the Object Oriented programming concepts and logic implementations. (K2)
4. Analyze the file I/O operations and exceptions. (K4)
5. Identify and implement appropriate Solution for a given Problem. (K3)
6. Summarize the terms Object oriented Programming, Class ,Object ,Constructor, Destructor, friend, static, Data Abstraction, Encapsulation, Inheritance, Polymorphism, File I/O, templates, Exceptions and where they are applicable. (K2)

B. TECH 2nd SEMESTER	L	T	P	C
	3	-	-	3
19ME2T02: ENGINEERING GRAPHICS				

COURSE OUTCOMES: Students will be able to

1. Construct polygons, conics, cycloids, involutes. (K3)
2. Develop the orthographic projections of points, lines in different positions. (K3)
3. Develop the orthographic projections of plane surfaces in different positions.(K2)
4. Develop the orthographic projections of solids like prisms, cylinder, pyramids and cone. (K2)
5. Translate Isometric views to orthographic views and vice-versa and also visualize 2D & 3D objects using Auto CAD. (K2)

B. TECH 2nd SEMESTER	L	T	P	C
	3	-	-	3
19EE2T01: BASIC ELECTRICAL ENGINEERING				

COURSE OUTCOMES: *After successful completion of this course, students should be able to:*

1. Solve simple DC circuit using KVL, KCL and Network Theorems. (K3)
2. Acquire the basic concepts of single-phase and three phase systems analysis for simple AC circuit.
3. Compare the construction, working principles and operating characteristics of DC machines, transformer and AC rotating machines. (K2)
4. Acquire the basic Concepts of Electrical installations. (K2)

SEMESTER-II	L	T	P	C
	0	0	3	1.5
19CS2L02 : IT WORKSHOP				

COURSE OUTCOMES:

Upon successful completion of the course, students will be able to

1. Acquire complete knowledge of computer hardware. (K2)
2. Install basic computer engineering software. (K2)
3. Document a task through MS office. (K2)
4. Apply the usage of Google Tools and Email handling. (K3)
5. Make use of network troubleshooting. (K3)

B. TECH 2nd SEMESTER	L	T	P	C
	-	-	3	1.5
19BS2L01: ENGINEERING PHYSICS LAB				

COURSE OUTCOMES

At the end of the course, student will be able to

1. Apply the basic knowledge to know the frequency of a vibrator, hall coefficient. (K3)
2. Apply the knowledge to verify some of the properties of physical optics. (K3)
3. Develop skills to plot various characteristic curves and to calculate the physical properties of given materials. (K3)
4. Estimate some the properties of semiconducting materials. (K3)

SEMESTER-II	L	T	P	C
	0	0	3	1.5
19CS2L03 : C++ Programming Lab				

COURSE OUTCOMES:

At the end of the Course, Student will be able to:

1. Distinguish structure oriented programming and object oriented programming. (K4)
1. Apply various object oriented features. (K3)
2. Acquire the concepts in operator overloading, function overloading & polymorphism. (K2)
3. Develop, compile and debug programs in C++ language. (K3)
4. Develop programs involving constructors, destructors. (K3)
5. Illustrate the reuse of code using inheritance. (K2)
6. Apply the concept of files, templates and exceptions. (K3)
7. Develop diversified solutions using C++ language. (K3)

B. TECH 2nd SEMESTER	L	T	P	C
	-	-	3	1.5
19HS2L01: ENGLISH COMMUNICATION SKILLS LAB				

COURSE OUTCOMES:

At the end of the course, students will be able to:

1. Identify the difference between impromptu and extempore.(K3)
2. Express hypothetical situations in different ways.(K2)
3. Outline the etiquettes of telephonic conversation and interviews.(K2)
4. Identify the need of the presentation skills to participate in various oral activities.(K3)
5. Apply preparatory techniques for Job interviews.(K3)

B. TECH 3rd SEMESTER	L	T	P	C
	3	0	0	3
19CS3T01 : DISCRETE MATHEMATICS				

COURSE OUTCOMES:

Upon successful completion of this course the student should be able to

1. Identify programming errors efficiently through enhanced logical capabilities (K3)
2. Discover a general solution of recurrence equation (K4)
3. Acquire set theory, graph of the relations which are used in data structures (K2)
4. Analyze the concepts in graph theory (K4)
5. Apply graph theory concepts in core subjects such as data structures and network theory effectively (K3)

B. TECH 3rd SEMESTER	L	T	P	C
	3	-	-	3
19BM3T01 : MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS				

COURSE OUTCOMES:

At the end of the course the student should be able to

1. Summarize the importance of Managerial Economics and its utility in decision making (K2)
2. Identify the meaning and usefulness of the production function and cost function in analyzing the firms production activity (K3&K4)
3. Comprehend the market structure, different types of markets and pricing policies (K4)
4. Identify the different forms of business organization and analyze their merits and demerits (K3)
5. Evaluate the Investment proposal through techniques of capital budgeting and financial performance of the company through financial statements (K5)

B. TECH 3rd SEMESTER	L	T	P	C
	3	1	-	3
19EC3T05 : DIGITAL LOGIC DESIGN				

COURSE OUTCOMES:

After the successful completion of this course, students will be able to

1. Distinguish number systems and digital codes & explain the function of various logic gates. (K4)
2. Outline hardware concepts in a digital system. (K2)
3. Examine logic functions for economical design of logic circuits. (K4)
4. List out various types of combinational and sequential circuits. (K1)
5. Analyze the logic behind the operation of counters.(K4)
- 6.

B. TECH 3rd SEMESTER	L	T	P	C
	3	1	0	4
19CS3T02 : DATA STRUCTURES				

COURSE OUTCOMES:

After the completion of this course, students will be able to

1. Design the applications using stacks and implement various types of queues. (K3)
2. Analyse and implement operations on linked lists and demonstrate their applications. (K4)
3. Identify the operations on trees. (K3)
4. Implementation of various types of Graphs and Graph Traversals. (K3)
5. Apply the various searching and sorting techniques.(K3)

B. TECH 3rd SEMESTER	L	T	P	C
	3	0	0	3
19IT3T01 : PYTHON FOR DATA SCIENCE				

COURSE OUTCOMES:

After the completion of the course the students are able to:

1. Outline the programming knowledge on Basics of Python (K2)
2. Apply programming knowledge on Searching and sorting using Python (K3)
3. Analyze programming knowledge on Text and File Handling and to calculate Mean, Median, Mode, Correlation (K4)
4. Examine programming knowledge on NumPy, Pandas Library (K2)
5. Illustrate on Graph Visualizations in Python and Data Analysis using Python (K2)

B. TECH 3rd SEMESTER	L	T	P	C
	-	-	3	1.5
19IT3L01 : DATA STRUCTURES LAB				

COURSE OUTCOMES:

At the end of the lab students are able to

1. Construct stack and queue using arrays and linked lists. (K3)
2. Illustrate applications of stack. (K2)
3. Construct the operations on linked lists. (K3)
4. Develop the binary search trees. (K3)
5. Illustrate the different searching and sorting algorithms. (K2)

B. TECH 3rd SEMESTER	L	T	P	C
	0	0	2	1.0
19EC3L05 : DIGITAL LOGIC DESIGN LAB				

COURSE OUTCOMES:

At the end of the lab students are able to

1. List out the principles of digital circuits. (K1)
2. Analyze the logic behind the operation of counters. (K4)
3. Analyze the internal design of integrated circuits. (K4)

B. TECH 3rd SEMESTER	L	T	P	C
	0	0	3	1.5
19IT3L02 : PYTHON FOR DATA SCIENCE LAB				

COURSE OUTCOMES:

After the completion of the course the students should able to

1. Analyze the Python scripting fundamentals. (K4)
2. Apply the data structures using the python (K3)
3. Examine the object oriented programming principles. (K4)
4. Illustrate read and write using files. (K2)

B. TECH 4th SEMESTER	L	T	P	C
	3	-	-	3
19MA4T05 : PROBABILITY AND STATISTICS				

At the end of this unit, the student will be able to

1. Illustrate the concepts of probability and their applications (K2)
2. Apply discrete and continuous probability distributions (K3)
3. Identify the components of a classical hypotheses test (K3)
4. Examine Significance tests based on small and large sampling tests (K4)
5. Evaluate correlation methods and principle of least squares, regression lines (K5)

B. TECH 4th SEMESTER	L	T	P	C
	3	-	-	3
19IT4T01 : COMPUTER ORGANIZATION AND ARCHITECTURE				

COURSE OUTCOMES

After completion of the course students able to

1. Acquire the knowledge on structure of computers and computer arithmetic. (K2)
2. Analyze Micro operations such as Arithmetic micro operations, Shift micro operations and Logic micro operations. (K4)
3. Outline the appropriate addressing modes and instructions for writing programs.(K2)
4. List out the Peripheral devices for efficient operation of system. (K4)
5. Acquire the knowledge on parallel and vector processing. (K2)

B. TECH 4th SEMESTER	L	T	P	C
	3	-	-	3
19IT4T02 : OOPS THROUGH JAVA				

COURSE OUTCOMES:

After the completion of this course, students will be able to

1. Apply the concepts of OOPs through Java programming. (K3)
2. Analyze the inheritance and packages in Java. (K4)
3. Illustrate the concepts of Exception handling and Multithreading. (K2)
4. Acquire knowledge on I/O concepts in file operations and HttpClient methods. (K2)
5. Implement the concepts and usage of Collection framework. (K3)

B. TECH 4th SEMESTER	L	T	P	C
	3	-	-	3
19IT4T03 : THEORY OF COMPUTATION				

COURSE OUTCOMES:

At the end of the course, the student will be able to

1. Construct automata, regular expression for any pattern. (K3)
2. Apply Context free grammar for any construct. (K3)
3. Summarize Turing machines for any language. (K2)
4. Apply computation solutions using Turing machines. (K3)
5. Discover whether a problem is decidable or not. (K4)

B. TECH 4th SEMESTER	L	T	P	C
	3	0	0	3
19CS4T02 : DATABASE MANAGEMENT SYSTEMS				

COURSE OUTCOMES

Upon successful completion of this course, students should be able to:

1. Illustrate the basic concepts of database management system and design an Entity-Relationship (E-R) model and convert E-R model to relational model. (K2)
2. Construct database using Relational algebra and SQL. (K3)
3. Apply Normalization techniques to normalize the database. (K3)
4. Examine transaction management using different concurrency control protocols and recovery algorithms. (K4)
5. Illustrate different file organization and indexing methods. (K2)

B. TECH 4th SEMESTER	L	T	P	C
	3	0	0	3
19IT4T04 : SOFTWARE ENGINEERING				

COURSE OUTCOMES:

At the end of the course, the student should be able to

1. Identify formulate and solve software engineering problems (K3)
2. Analyze and specify software requirements with various stakeholders of a software development project and different software development process models. (K4)
3. Apply systematic procedure for software design and deployment. (K3)
4. Compare and contrast the various testing methods (K4)
5. Identify the key activities in managing a software project. (K3)

B. TECH 4th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT4L01 : OOPS THROUGH JAVA LAB				

COURSE OUTCOMES

After the completion of this course, students will be able to

1. Develop solutions for a range of problems using object-oriented programming. (K3)
2. Construct Java programs that solve simple business problems. (K3)
3. Illustrate the multithreaded applications with synchronization. (K2)

B. TECH 4th SEMESTER	L	T	P	C
	0	0	2	1
19IT4L02 : OBJECT ORIENTED ANALYSIS AND DESIGN LAB				

COURSE OUTCOMES

After the completion of this course, students will be able to

1. Construct various UML models and diagrams (K3)
2. Develop UML model in object-oriented software. (K3)
3. Analyze and design in solving computer Based problems. (K4)
4. Develop software architecture for a project. (K3)

B. TECH 4th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT4L03 : DATABASE MANAGEMENT SYSTEMS LAB				

COURSE OUTCOMES:

After the completion of the` course the students are able to

1. Illustrate the basic Structured Query Language (SQL) commands. (K2)
2. Build the Database Integrity Constraints. (K3)
3. Discover SQL Queries on set operators, sub queries, nested queries, aggregate functions, other SQL functions and views. (K4)
4. Develop applications using various features of PL/SQL like Functions, Procedures, Packages, cursors and triggers. (K3)
5. Develop Database system to handle the real world problem. (K3)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19IT5T01 : ARTIFICIAL INTELLIGENCE				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Illustrate the fundamentals of AI techniques and search techniques. (K2).
2. Compare the Knowledge representation rules. (K4)
3. Identify various Reasoning Techniques. (K3)
4. Implement the concepts of Game playing and Natural Language Processing. (K3)
5. Acquire the knowledge in Planning system and Expert system. (K2)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19IT5T02 : OPERATING SYSTEMS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. List out the basic concepts of operating systems. (K1)
2. Summarize the process management, scheduling and concurrency control mechanisms. (K2)
3. Analyze the various memory management schemes.(K4)
4. Identify the various issues in the deadlock.(K3)
5. Compare the various Disk Scheduling Algorithms. (K4)

B. TECH 5th SEMESTER	L	T	P	C
	3	1	0	3
19IT5T03 : ADVANCED JAVA AND WEB TECHNOLOGIES				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Distinguish various static web pages and dynamic web pages using html and java script.(K4)
2. Apply the client side validation using Java Script.(K3)
3. Develop a well formed XML document.(K3)
4. Construct the web servers with servlets.(K3)
5. Illustrate a java server side programming and connection with database.(K2)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19IT5E01 : COMPILER DESIGN				

COURSE OUTCOMES:

At the end of the course students are able to

1. Outline language processors and its phases. (K2)
2. Develop the concepts of scanning of tokens. (K3)
3. Illustrate the syntax analysis by using parsing techniques. (K2)
4. Distinguish memory Management techniques in runtime environment. (K4)
5. Discover optimization techniques for intermediate code forms and code generation. (K4)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19CS5E03 : SOFTWARE PROJECT MANAGEMENT				

COURSE OUTCOMES:

Upon the completion of the course students will be able to:-

1. Apply the process to be followed in the software development life-cycle models. (K3)
2. Outline the concepts of project management & planning. (K2)
3. Test for project plans through managing people, communications and change (K4)
4. Examine the activities necessary to successfully complete and close the Software projects. (K4)
5. Illustrate communication, modeling and construction and deployment practices in software development. (K2)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19IT5E02 : AGILE WITH SCRUM				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the basics of Scrum framework. (K2)
2. Summarize the principles of Agile methodology. (K2)
3. Analyze life time period of a sprint. (K4)
4. List out the roles, responsibilities and principles of a ScrumMaster. (K1)
5. Analyze the scrum team structures and scrum planning principles. (K4)

B. TECH 5th SEMESTER	L	T	P	C
	3	0	0	3
19EC5E18 : MICRO PROCESSORS AND INTERFACING				

COURSE OUTCOMES:

Students are able to

1. Analyze the development and design of 8086 Microprocessor.(K4)
2. Illustrate different programming solutions for various industrial requirements.(K2)
3. Develop different interfacing applications using Peripherals with 8086 microprocessor.(K3)
4. Build minimum controllable applications using Microcontrollers.(K3)
5. Distinguish between microcontroller and microprocessor and develop programming with Embedded ‘C’. (K4)

B. TECH 5th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT5L01 : OPERATING SYSTEMS LAB IN LINUX				

COURSE OUTCOMES

At the end of the lab student is able to

1. Acquire basic knowledge in Linux operating System (K3)
2. Illustrate the concepts of CPU Scheduling. (K2)
3. Discover the process management, scheduling and concurrency control mechanisms. (K4)
4. Analyze Page Replacements and deadlocks. (K4)
5. Classify various file systems and its operating systems examples (K2)

B. TECH 5th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT5L02 : ADVANCED JAVA AND WEB TECHNOLOGIES LAB				

COURSE OUT COMES

After the completion of the course the students are able to

1. Distinguish various static web pages and dynamic web pages using html,xml and JavaScript.(K4)
2. Construct and review on database connectivity.(K3)
3. Develop web applications using servlets &jsp using oracle database connectivity.(K3)
4. Illustrate the web application projects.(K2)

B. TECH 5th SEMESTER	L	T	P	C
	0	0	2	1
19HS5L03 : ADVANCED ENGLISH COMMUNICATION SKILLS LAB				

COURSE OUTCOMES

At the end of the course students will be able to

1. Summarize ideas and organize information relevantly and coherently. (K2)
2. Prove in group discussions and face interviews with confidence. (K5)
3. Build resume with covering letter.(K3)
4. Plan oral presentations and public speaking. (K3)
5. Take part in social and professional communication. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6T01 : COMPUTER NETWORKS				

COURSE OUTCOMES

At the end of the course students are able to

1. Classify network reference models such as OSI, TCP/IP. (K2)
2. Apply Data Link Layer protocols for Error detection and correction. (K4)
3. Distinguish various MAC sub layer Protocols such as ALOHA, CSMA, CSMA/CD. (K4)
4. Identify various Network layer and Transport layer protocols. (K3)
5. Illustrate various application layer protocols such as WWW and HTTP etc. (K2)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6T02 : DATA WAREHOUSING AND DATA MINING				

COURSE OUTCOMES

After the completion of the course the students are able to

- 1: List our the fundamentals of data mining concepts.(K1)
- 2: Analyze the data pre-processing techniques to build data warehouse.(K4)
- 3: Apply the classification methods and Model Over fitting.(K3)
- 4: Summarize the association analysis.(K2)
- 5: Classify various clustering techniques for categorizing data. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6T03 : DESIGN AND ANALYSIS OF ALGORITHMS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Analyze the asymptotic runtime complexity of algorithms for real world problems developed using different algorithmic methods. (K4)
2. Identify the optimal solutions by using advanced design and analysis of algorithm techniques like Divide & conquer and greedy method. (K3)
3. Apply the fundamentals of Dynamic Programming methods along with its applications. (K3)
4. Apply the search space and optimization problem techniques like backtracking and branch and bound method to solve problems optimally where advanced algorithm design techniques fail to find solution. (K3)
5. Distinguish the problems and its complexity as polynomial and NP problems and can formulate some real world problems to abstract mathematical problems. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E03 : MULTIMEDIA APPLICATION DEVELOPMENT				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Apply the fundamental concepts in Text and Image. (K3)
2. Outline the Fundamental concepts in video and digital audio. (K2)
3. Distinguish the differences between Action Script I and Action Script II. (K4)
4. Summarize the application Development and Multimedia data compression. (K2)
5. Analyze the Video Compression Techniques and Multimedia Networks.(K2)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E04 : DISTRIBUTED SYSTEMS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the concept of distributed systems and various distributed models. (K2)
2. Develop the knowledge on inter-process communication mechanisms used in distributed systems and Compare RPC and RMI. (K3)
3. Examine Global states and replication. (K4)
4. Label distributed file systems and name services. (K1)
5. Examine distributed transactions and concurrency control. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19CS6E05 : MOBILE COMPUTING				

COURSE OUTCOMES:

Upon successful completion of this course, students should be able to:

1. Interpret Wireless local area networks (WLAN): MAC design principles, 802.11 WIFI. (K2)
2. List the fundamental challenges in mobile communications and potential Techniques in GSM(K1).
3. Apply Mobile IP in Network layer. (K3)
4. Illustrate different data delivery methods and synchronization protocols. (K2)
5. Develop applications that are mobile-device specific and demonstrate current Practice in mobile computing contexts. (K3)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E05 : SERVICE ORIENTED ARCHITECTURE (SOA)				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline XML fundamentals. (K2)
2. Build applications based on XML. (K3)
3. Analyze the key principles behind SOA. (K4)
4. Identify the web services technology elements for realizing SOA. (K3)
5. Illustrate the various web service standards. (K2)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E06 : PARALLEL COMPUTING				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the need of parallel computing and know the various aspects to improve the parallelism in computations. (K2)
2. Apply the Principles of parallel algorithm design and Basic communication operations. (K3)
3. Examine the Analytical modeling of parallel programs and Programming using the message passing paradigm.(K4)
4. Apply the Analytical modeling of parallel programs and Programming using the message passing paradigm. (K3)
5. Illustrate the Dense matrix algorithm and sorting techniques. (K2)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E07 : INFORMATION RETRIEVAL SYSTEMS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the basic information storage and retrieval concepts. (K2)
2. Apply various data structures to store and represent information.(K3)
3. Analyze effective information retrieval system using automatic indexing and clustering techniques.(K4)
4. Apply user searching techniques for different data base systems. (K3)
5. Compare various information visualization technologies and explain different types of search algorithms. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19EC6E19 : EMBEDDED SYSTEMS				

COURSE OUTCOMES:

After completion of the course, students are able to

1. Interpret the fundamentals of Embedded Systems. (K2)
2. Distinguish various components used in Embedded systems. (K4)
3. Develop the Embedded Firmware. (K3)
4. Summarize the concepts of PIC, AVR controllers and Processors. (K2)
5. Build a case study on Embedded Systems. (K3)

B. TECH 6th SEMESTER	L	T	P	C
	3	0	0	3
19IT6E08 : PATTERN RECOGNITION				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the overview of pattern recognition.(K2)
2. List out the different types of classifiers. (K1)
3. Analyze the Hidden Markov Models and Decision Trees. (K4)
4. Summarize the concepts of Support Vector Machines and Combination of Classifiers. (K2)
5. Compare and contrast between Clustering algorithms and classification algorithms. (K4)

B. TECH 6th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT6L01 : INTERNET OF THINGS LAB				

COURSE OUTCOMES: Students will be able to

1. Analyze temperature and humidity using various sensors (K4)
2. Apply IR sensor/push button to on/off LED (K3)
3. Build a Bluetooth module with Arduino and Use the same (K3)
4. Construct Actuating elements with Arduino and control the same (K3)

B. TECH 6th SEMESTER	L	T	P	C
	0	0	3	1.5
19IT6L02 : DATA WAREHOUSING AND DATA MINING LAB				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Apply Data Pre-Processing techniques. (K4)
2. Develop and implement the Clustering algorithms. (K3)
3. Develop and implement the Classification algorithms. (K3)
4. Apply the techniques of feature selection and visualization to real world data. (K4)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	3
19IT7T01 : CRYPTOGRAPHY AND NETWORK SECURITY				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Acquire the basic knowledge of different types of Security attacks. (K2)
2. Analyze and compare different security mechanisms and services. (K4)
3. Illustrate the Number Theory and Public Key Cryptography. (K2)
4. Implement the usage of Cryptographic Hash Functions. (K3)
5. Compare different Authentication Mechanisms. (K4)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	4
19IT7T02 : MACHINE LEARNING				

COURSE OUTCOMES

After the completion of the course the students are able to

1. List out the wide variety of learning algorithms. (K1)
2. Apply a variety of learning algorithms to data. (K3)
3. Analyze the strengths and weaknesses of many popular machine learning approaches. (K3)
4. Evaluate the learning algorithms and model selection. (K5)
5. Apply the underlying mathematical relationships within and across Machine Learning algorithms and the paradigms of supervised and un-supervised learning. (K3)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	3
19IT7E09 : SOFT COMPUTING				

COURSE OUTCOMES:

At the end of the course the student should be able to

1. List the soft computing techniques and their applications. (K1)
2. Analyze various neural network architectures. (K4)
3. Build perceptrons and counter propagation networks. (K3)
4. Outline the fuzzy systems. (K2)
5. Analyze the genetic algorithms and their applications. (K4)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	3
19EC7E20 : DIGITAL IMAGE PROCESSING				

COURSE OUTCOMES:

After the completion of this course, students are able to

1. List out the basic concepts of image processing and image geometry. (K1)
2. Apply various operations on image both in spatial and frequency domains to solve various real time problems by converting them between domains. (K3)
3. Distinguish different types of images, such as black & white, gray scale and color images, and can convert image from one color model to other. (K4)
4. Analyze different features of the images for the purpose of Compression, authentication and safety. (K4)
5. Summarize Morphological Image Processing, Segmentation and Color Image Processing. (K2)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	3
19IT7E10 : COMPUTER VISION				

COURSE OUTCOMES

After the completion of the course the students are able to

1. List out the fundamental image processing techniques required for computer vision. (K1)
2. Evaluate the shape analysis and Implement boundary tracking techniques. (K5)
3. Apply Hough Transform for line, circle and ellipse detections. (K3)
4. Illustrate 3D vision techniques and Implement motion related techniques. (K2)
5. Develop applications using computer vision techniques. (K3)

B. TECH 7th SEMESTER	L	T	P	C
	3	0	0	3
19IT7E11 : ADVANCED COMPUTER NETWORKS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Identify the basic computer network technology and the different types of routing algorithms.(K3)
2. Compare IPV4 & IPV6 address, address space and types of addressing (K5)
3. Distinguish transport layer protocols TCP, UDP & SCTP and also process to process delivery. (K4)
4. Summarize the DNS, Architecture of World Wide Web, E-mail and different multimedia streaming protocols. (K2)
5. Distinguish functioning and services of Wireless Sensor and Wireless Mesh networks (K4)

B. TECH 7th SEMESTER	L	T	P	C
	0	0	4	2
19IT7L01 : CRYPTOGRAPHY AND NETWORK SECURITY LAB				

COURSE OUTCOMES

1. Identify and classify various Attacks and explain the same. (K3)
2. Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to various attacks.(K4)
3. Illustrate the role of third-party agents in the provision of authentication services. (K2)
4. Apply authentication, email security, web security services and mechanisms. (K3)
5. Distinguish different protocol like SSL, TLS Vis-à-vis their applications. (K3)

B. TECH 7th SEMESTER	L	T	P	C
	0	0	2	1
19IT7L02 : MACHINE LEARNING LAB				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Apply Data summarization and visualization. (K3)
2. Develop and implement the Linear Regression Analysis (K3)
3. Develop and implement the Logistic Regression Analysis. (K3)
4. Apply the Classification using Support Vector Machine. (K3)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19IT8E12 : NEURAL NETWORKS AND DEEP LEARNING				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Identify the Learning Networks in modeling real world systems.(K3)
2. Outline the Unsupervised Learning Network. (K2)
3. Illustrate to use an efficient algorithm for Deep Models. (K2)
4. Summarize the Regularization for Deep Learning. (K2)
5. Apply optimization strategies for large scale applications. (K3)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19IT8E13 : CYBER SECURITY				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the basic knowledge on Cybercrime. (K2)
2. Analyze the concepts of Cyber offenses. (K4)
3. Build the Cybercrime Mobile and Wireless Devices. (K3)
4. Develop the Tools and Methods Used in Cybercrime. (K3)
5. Apply the Cybercrimes and Cyber security scenarios. (K3)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19IT8E14 : BIG DATA ANALYTICS				

COURSE OUTCOMES

After the completion of the course the students are able to

1. Acquire the basic concepts of Big Data Analytics. (K2)
2. Design and explain the Hadoop architecture. (K3)
3. Develop the Map Reduce application and Make use of the Advanced Analytical methods for clustering.
(K3)
4. Apply the Advanced Analytical methods using classification and Text Analysis. (K3)
5. Identify the various tools in Hadoop Ecosystem. (K3)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19CS8E12 : AUGMENTED REALITY AND VIRTUAL REALITY				

COURSE OUTCOMES:

At the end of the course student are able to

1. Apply various principles and concepts of Virtual Reality and its Application. (K3)
2. Apply appropriate method of Geometric Modeling (K3)
2. Analyze various VR Hardware and Software (K4)
3. Summarize the concepts of Augmented Reality. (K2)
4. Outline Augmented Reality Contents and its Applications. (K2)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19CS8E11 : CLOUD COMPUTING				

COURSE OUTCOMES:

1. Outline the concepts, characteristics, delivery models and benefits of cloud computing(K1)
2. Analyze the key security and compliance challenges of cloud computing(K4)
3. Summarize the key technical and organizational challenges(K2)
4. Develop the different characteristics of public, private and hybrid cloud deployment models.(K3)
5. Develop the Data Security Model in Cloud (K3)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19IT8E15 : NATURAL LANGUAGE PROCESSING				

Course Outcomes

After the completion of the course the students are able to

1. Outline the linguistic phenomena and an ability to model them with formal grammars(K2)
2. Analyze experimental methodology for training and evaluating empirical NLP systems.(K2)
3. Build probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.(K3)
4. Design, implement and analyze NLP algorithms(K6)
5. Design the different language modeling Techniques.(K6)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19CS8E13 : BLOCK CHAIN TECHNOLOGIES				

Course Outcome:

1. Apply the fundamentals of Cryptography in Cryptocurrency(K3)
2. Analyze about various operations associated with the life cycle ofBlockchain and Cryptocurrency (K4)
3. Illustrate the methods for verification and validation of Bitcoin transactions (K2)
4. Outline the general ecosystem of severalCryptocurrency (K2)
5. Summarize the principles, practices and policies associated Bitcoin business(K2)

B. TECH 8th SEMESTER	L	T	P	C
	3	0	0	3
19IT8E16 : WIRELESS AND ADHOC NETWORKS				

Course Outcomes

After the completion of the course the students are able to

1. Outline the overview of Adhoc networks.(K2)
2. Apply data transmission over TCP.(K3)
3. Outline the basics of Wireless Sensors and Applications.(K2)
4. Apply the Data Retrieval in Sensor Networks.(K3)
5. Analyze the security in Adhoc networks.(K4)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19EEXO01 :: ELECTRICAL SAFETY MANAGEMENT				

COURSE OUTCOMES:

After successful completion of this course, students should be able to:

1. Explain the Electrical Safety precautions and Prevention. (K2)
2. Illustrate Safety aspects during Installation of Plant and Equipment. (K2)
3. Estimate the electrical safety in residential, commercial and agricultural installations.(K5)
4. Categorize various Electrical Safety in Hazardous Areas (K4)
5. List the electrical systems safety management and IE rules.(K1)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19EEXO03::ELECTRICAL VEHICLE				

COURSE OUTCOMES:

After successful completion of this course, students should be able to:

1. Explain the basics of electric vehicles fundamentals.(K2)
2. Discuss different energy storage concepts used for electric vehicles.(K6)
3. Explain about fundamental of electrical Machines .(K2)
4. Analyze various drive trains suitable for electric vehicles .(K4)
5. Explain about different types of EV Systems.(K2)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19EEXO04:: ELECTRICAL ENERGY CONSERVATION AND AUDITING				

COURSE OUTCOMES:

After successful completion of this course, students should be able to:

1. Explain energy efficiency, conservation and various technologies [K2]
2. Identify the concepts of energy management and energy audit [K3]
3. Explain energy conservation in HVAC systems.[K2]
4. Analyze the concepts of different energy efficient devices [K4]
5. Estimate life cycle costing analysis and energy efficient Technologies [K5]

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19CEXO01: DISASTER MANAGEMENT				

COURSE OUTCOMES:

Students are able to

1. identify the tools of integrating disaster management principles in disaster mitigation process.
2. discuss about different approaches needed to manage pre and post- disaster activities.
3. prepare the process of risk management and develop a basic understanding method for the role of public in risk management.
4. administer the role of technology in Disaster management.
5. conclude the planning strategies for education and community preparedness programmes.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19CEXO02: ENVIRONMENTAL POLLUTION AND CONTROL				

COURSE OUTCOMES:

Students are able to

1. Identify the air pollutant causes and control devices
2. Differentiate the treatment techniques used for sewage and industrial wastewater treatment methods.
3. Understand the fundamentals of solid waste management, practices adopted in his town/village and its importance in keeping the health of the city.
4. know the causes for noise pollution and ISO14000 standards
5. Treatment and management of hazardous waste

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19CEXO03: SOLID WASTE MANAGEMENT				

COURSE OUTCOMES:

Students are able to

1. Understand classification of solid waste generated
2. know the collection systems of solid waste of a town
3. analyze the importance of transfer and transport of solid waste
4. apply the knowledge in processing of solid waste
5. design treatment of municipal solid waste and landfill

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19CEXO04: BUILDING PLANNING AND DRAWING				

COURSE OUTCOMES

Students are able to

1. Understand the building bye-laws, plan various buildings as per the building by-laws.
2. Plan the individual rooms with reference to functional and furniture requirements.
3. prepare different sign conventions and bonds
4. Learn the skills of drawing building elements like doors and windows.
5. Develop the skills of Drawing Plans, Sections and Elevations of different buildings.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19MEXO01: 3D PRINTING

COURSE OUTCOMES: Students are able to

1. Explain the fundamentals of Additive Manufacturing Technologies for engineering applications. [K2]
2. Select and use correct CAD formats in the manufacture of a 3D printed part [K2]
3. Describe the operating principles, capabilities, and limitations of liquid and solid based additive manufacturing system, including fused deposition modeling and stereo lithography [K2]
4. Describe the operating principles, capabilities and limitations of laser based additive manufacturing system. [K2]
5. Describe the important process parameters for bio-manufacturing and determine the suitable additive technique for bio-manufacturing, aerospace and manufacturing engineering. [K2]

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19MEXO02 - FARM MACHINERY

COURSE OUTCOMES: Students will be able to

1. Explain various types of machinery in farming. [K2]
2. Illustrate different types of farm operation for crop cultivation with scientific understanding. [K2]
3. Explain various types of earth moving equipment. [K2]
4. Summarize various seeding methods and sprayer types. [K2]
5. Explain transplanting methods and fertilizer equipment. [K2]

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19MEXO03 - BIO-MECHANICAL ENGINEERING

COURSE OUTCOMES: Students are able to

1. Infer the introduction of Bio mechanics. [K4]
2. Learn about mechanics of musculoskeletal system. [K2]
3. Relate the concept of kinetics with human motion. [K3]
4. Develop knowledge on mechanical analysis of human motion. [K3]
5. Analyze human movements. [K4]

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19MEXO04- WASTE TO ENERGY CONVERSION

COURSE OUTCOMES: Students will be able to

1. Describe of the concept of Waste to Energy, classifications and principles.[K2]
2. Explain the Technical and management principles for production of energy from waste.[K2]
3. Explain the best available technologies for waste to energy.[K2]
4. Describe the Waste to Energy Options Landfill gas, RDF,AFR and energy from Plastics.[K2]
5. Apply the knowledge in planning and operations of Waste to Energy plants[K3]

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19CSXO01 - INTERNET OF THINGS AND APPLICATIONS**COURSE OUTCOME:**

At the end of the course students are able to

1. Explain Arduino IDE tool and Arduino Programming concept.
2. Illustrate concept hardware configuration with Firmata protocols.
3. Explain the knowledge Arduino pin configuration.
4. Differentiate various sensors configuration and workflows.
5. Define architecture of IoT.
6. Explain the knowledge in cloud based web application.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19CSXO02 - FOUNDATION TO DATA ANALYTICS**COURSE OUTCOMES:**

1. To understand the basics of Excel as business analytics.
2. To use of basic functions and statistical functions in Excel
3. To obtain knowledge about using of pivot tables and charts
4. To understand the advanced business analytics related charts
5. To know about statistical concepts for data analysis and basics of Power BI.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19CSXO03 - DATA ENGINEERING**COURSE OUTCOMES:**

1. At the end of the course Students will be able to:
2. Apply the skills of data inspecting and cleansing.
3. Determine the relationship between data dependencies using statistics
4. Can handle data using primary tools used for data science in Python
5. Represent the useful information using mathematical skills
6. Can apply the knowledge for data describing and visualization using tools.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19CSXO04 - MACHINE LEARNING**COURSE OUTCOMES:**

At the end of the course students are able to

1. Define basic concepts of machine learning.
2. Evaluate and compare the performance or, other qualities of regression and logistic regression.
3. Describe concepts of artificial intelligence.
4. Design a supervised or unsupervised learning system.
5. Define the knowledge about SVM.
6. Demonstrate Instance based learning algorithms

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19ECXO01: NANO TECHNOLOGY AND APPLICATIONS				

COURSE OUTCOMES:**Students are able to**

1. Define Nano materials and Nano Technology with properties
2. Explain Synthesis as Fabrication methods of Nano Technology
3. Demonstrate Characterization techniques of Nano Materials
4. Analyze carbon Nano technology and application of Nano technology.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19ECXO02 - GLOBAL POSITIONING AND NAVIGATION SATELLITE SYSTEMS				

COURSE OUTCOMES:

Upon completion of this course, the student would be able to

1. Describe the concepts of GNSS based positioning methods, the core components of a satellite navigation system and their purposes.
2. Estimate and represent the GPS coordinate frames and GPS orbits.
3. Analyze the impact of various error sources on the precision of positioning.
4. Dramatize the examples of their role of goods and services based on the GSP in sustainable development.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19ECXO03 - REMOTE SENSING				

COURSE OUTCOMES:**After Completion of this course, students are able to**

1. Understand the subject of satellite communication and remote sensing with the core knowledge of space and satellite, communication and the international space laws.
2. Comprehend different remote sensing signaling techniques, capable of interpreting signature of satellite communication from bodies like soil, vegetation and ocean.
3. Analyze various components used in satellite communication and remote sensing applications.
4. Acquire and keep abreast of designing satellite remote sensing system and also analyze the sensor data for drawing inference and conclusions.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19ECXO04 - MOBILE COMMUNICATION AND APPLICATIONS				

COURSE OUTCOMES:**Students are able to**

1. Design Hexagonal shaped cells and how these are implemented in real world.
2. Explain different types of antenna systems in mobile communication.
3. Analyze Handoffs and different types of handoffs and Dropped call rates and their evaluation.
4. Describe the Parameters of Mobile multipath channels, Types of small scale fading.

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19ITXO01 : SOFTWARE ENGINEERING PRINCIPLES

COURSE OUTCOMES

After the completion of the course the students are able to

1. Identify, formulate, and solve software engineering problems.(K3)
2. Analyze software requirements with various stakeholders of a software development project.(K4)
3. Develop the techniques for project planning and estimation.(K3)
4. Construct and maintenance of a medium scale software development project.(K3)
5. Evaluate the impact of potential solutions to software engineering problems in a global society, using the knowledge of models, tools, and techniques.(K5)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19ITXO02 : CLOUD COMPUTING PRINCIPLES

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline basics of cloud computing technology.(K2)
2. Illustrate the concept of virtualization and the development of Cloud Computing (K2).
3. Analyze various cloud services and service providers.(K4)
4. Contrast the uses cloud scalability, security and disaster management (K4).
5. List out the different cloud platforms and its application(K4).

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19ITXO03 : E-COMMERCE

COURSE OUTCOMES

After the completion of the course the students are able to

1. Identify the fundamentals E-commerce framework. (K3)
2. Outline the basics of Consumer Oriented Electronic models. (K2)
3. Distinguish different electronic payment systems and their issues. (K4)
4. Illustrate Inter-organizational and intra-organizational electronic commerce. (K2)
5. Summarize the consumer search, resource discovery and key multimedia concepts. (K2)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3

19ITXO04 : WEB TECHNOLOGY PRINCIPLES

COURSE OUTCOMES

After the completion of the course the students are able to

1. Outline the basic Knowledge about World Wide Web(K2).
2. Develop Simple HTML Web Pages(K3)
3. Illustrate Style Sheets for HTML Pages.(K2)
4. Acquire Knowledge about Client – side validation through Java Script.(K4)
5. Summarize basic Knowledge about XML Documents.(K2)

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19MAXO01 : OPERATIONS RESEARCH				

COURSE OBJECTIVES:

- 1.Ability to understand and analyze managerial problems in industry so that they are able to use resources (capitals, materials, machines etc) more effectively.
- 2.Knowledge of formulating mathematical models for quantitative analysis of managerial problems in industry

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19MAXO02 : OPTIMIZATION MODELS				

COURSE OBJECTIVES:

- 1.Ability to understand and analyze managerial problems in industry so that they are able to use resources (capitals,materials,machines etc.,) more effectively.
- 2.Knowledge of formulating mathematical models for quantitative analysis of managerial problems in industry

OPEN ELECTIVE	L	T	P	C
	3	-	-	3
19BSXO02 : OPTOELECTRONICS				

COURSE OUTCOME:

Students who successfully complete this course will have an

1. Understand the fundamental concepts of Optoelectronics;
2. Understand the concept of optoelectronic modulators
3. Design single-mode junction lasers at different wavelengths to meets specs;
4. Incorporate hetero structures and quantum wells to improve device performance;
5. Design junction & avalanche photodiodes to meet specs