FORTH YEAR	
COURSE : 401	**CLOUD COMPUTING**
1	Exhibit the evolution of Cloud computing and its applications.
2	Analyse the Design,Architecture of cloud and its models
3	Evaluation of Virtualization Technology, Data Centers and their applications in cloud computing
4	Develop up the awareness of security on Data , Data Centre and Cloud services.
5	Assess an cloud services on AWS, GoogleApp Engine etc , Integrating with cloud applications.
COURSE : 402	**INFORMATION SYSTEM SECURITY**
1	Analyse different cryptography techniques transposition and substitution methods.
2	Apply AES, RC6, random number generation. S-box theory
3	Analyze Public key Cryptosystem using RSA and also learn various techniques used for the distribution of key in public key cryptosystem
4	Analyze Message authentication and hash function using MD5 and SHA and also learn the concept of digital signature.
5	Apply the IP security and password message protocols..
COURSE : 403	**DATA MINING AND WAREHOUSING**
1	Apply preprocessing techniques over raw data and provide suitable input for range of data mining algorithms.
2	Apply appropriate association rule mining algorithms & statistical measures on data.
3	Create solutions to real life problems using different data mining techniques like classification, prediction & clustering.
4	Design data warehouse with dimensional modeling.
5	Apply OLAP operations & Discover the knowledge imbibed in the high dimensional system.
COURSE : 404	**COMPUTER AIDED DESIGN FOR VLSI**
1	Analyze digital circuits, incorporating into a VLSI chip.also expected to understand various design methodologies such as custom, semi-custom, standard cell, arrayed logic, sea-of-gates.
2	Explore various contemporary techniques for the design, Simulation.
3	Apply simulation , synthesis and optimization on digital circuit.
4	Design the Layout , routing, placement of a VLSI Chip.
5	Optimize performance of h/w through CAD tools with floor planning, placement

	and routing.
COURSE : 405	**COMPILER CONSTRUCTION**
1	Analyse the working of compiler by understanding its different phases.
2	Apply and implement different types of Parsing algorithms.
3	Evaluate between different types of Intermediate code generations.
4	Analyse different storage organization techniques.
5	Analyse different issues in the design of the code generator and basic block control flow graph.
COURSE : 406	**ADVANCED DATABASE MANAGEMENT SYSTEM**
1	Analyze the processes involved in query optimization which impact on database operation and design
2	Analyze the database functions and packages suitable for enterprise database application development and management
3	Evaluate alternative designs and architectures for databases.
4	Apply the database solutions for data access and its security measures.
5	Create the design of database systems for the solution of an applications.
COURSE : 407	**WEB DEVELOPMENT LAB**
1	Apply the basic knowledge of web development using knowledge of HTML and CSS elements.
2	Create student registration form entry using validation through JavaScript.
3	Identify basic configuration of Web Servers. Design a dynamic web page using JSP, PHP and ASP
4	Analysis and Interpretation for Dynamic Web Page using JSP and JDBC.
5	Apply the concept of Session in Web Page and demonstrate the knowledge of Ajax development.
COURSE : 408	**VLSI PHYSICAL DESIGN LAB**
1	Design digital circuits, incorporating into a VLSI chip.
2	Explore various contemporary techniques for the design, Simulation.
3	Apply simulation , synthesis and optimization of digital circuit.
4	Implementation and Design the Layout , routing, placement of a VLSI Chip.
5	Optimize performance of h/w through CAD tools with floor planning, placement and routing.
COURSE : 409	**COMPILER DESIGN LAB**
1	Identify different kinds of tokens and lexemes.
2	Analyze scanning by using the concept of finite state automation,parse tr

3	Deploy intermediate code for various statements in a programming language concept
4	Deploy heap structure for storage
5	Deploy various language patterns using lex tools they are also able to parse.

COURSE : 410	PROJECT – I
1	Demonstrate a sound technical knowledge of their selected project topic that can be applied to fulfill the needs of society
2	Analyze the problem to formulate it
3	Develop engineering solutions to complex problems by utilizing a systematic approach.
4	Create an engineering project that can demonstrate functioning
5	Communicate effectively for various activities with the help of reports, presentations and verbal communication that can help in life-long learning.

COURSE : 411	PRACTICAL TRAINING
1	Demonstrate work done training duration.
2	Apply work done in the form of presentations and paper publication.
3	Apply verbal communication that can help in life-long.
4	Explore multiskilled engineer along with good technical knowledge.,management and leadership skills.
5	Analyse the importance of sustainability and cost effectiveness in design and development of engineering solution.

COURSE : 412	MOBILE COMPUTING
1	Analyse the principles of mobile computing technologies and Evaluate Mobility management Techniques.
2	Interpret Data dissemination and management and evaluate mobile middleware.
3	Assess Service Discovery and Evaluate standardization Methods.
4	Apply Mobile IP, Mobile TCP, Database systems in mobile environments, and assess World Wide Web.
5	Analyze Ad Hoc networks, evaluate and practise Routing protocols.

COURSE : 413	DIGITAL IMAGE PROCESSING
1	Analyze various steps of Digital Image processing.
2	Apply Image Transformation & Filtering techniques
3	Evaluate various methods of Image Restoration.
4	Evaluate concepts of Image Compression and segmentation
5	Analyze image segmentation and representation algorithms and techniques

COURSE : 414	DISTRIBUTED SYSTEM
1	Exploration and understanding various architectures used to design distributed systems along with different types of operating systems.
2	Analysis of concurrent programming with interprocess communication techniques, such as remote method invocation, remote events.
3	Analysis of various distributed file systems through case studies.
4	Analysis of distributed shared memory models and their failures in distributed computation.
5	Analyze various faults and their consequences and replicated data management through exploration different types of Distributed Systems
COURSE : 415	REAL TIME SYSTEM
1	Analyze the concepts of Real-Time systems and modeling
2	Explore the functionality in real-time systems, their architecture and inner behavior.
3	Evaluate the multi-task scheduling algorithms for periodic tasks performance of scheduling.
4	Apply scheduling algorithms for aperiodic, and sporadic tasks as well as examine the impact of scheduling
5	Design of protocols related to real-time communication
COURSE : 416	UNIX NETWORK PROGRAMMING & SIMULATION LAB
1	Analyze the functionality of various distributions of Unix via. BSD, POSIX.
2	Develop the programs for client and server involving UDP/TCP sockets using socket programming.
3	Evaluate interoperability between IPV4 & IPV6.
4	Implement the functionality of FORK function for system call
5	Evaluate the communication between client and server using Network Simulator.
COURSE : 417	FPGA LAB
1	Design the various continuous, discrete analog and digital signals with the use of sampling and quantization
2	Evaluate the various parameters of the different signals
3	Design the various filters and calculate the parameter for their characteristics.
4	Apply digital design flows for system design and recognise the trade-offs involved Design state machines to control complex systems

5	Simulate the transmission and reception of signal of different digital modulation techniques
COURSE : 418	**DIGITAL IMAGE PROCESSING LAB**
1	Apply image enhancement operation and image Arithmetic Operations on a given image
2	Evaluate image restoration and Histogram Processing on various images
3	Analyze various Noise and filtering algorithms on images
4	Implement image restoration and segmentation techniques on an image
5	Extract features of an image and apply pattern recognition techniques
COURSE : 419	**PROJECT - II**
1	Present the impact of engineering solution to society by working in a team
2	Undertake problem formulation and need for sustainable development
3	Design engineering solutions to complex problems by following ethical principles .
4	Demonstrate functioning and management of engineering project
5	Communicate effectively for various activities with the help of reports, presentations and verbal communication that can help in life-long learning.
COURSE : 420	**SEMINAR**
1	Demonstrate effectively work done by student.
2	Apply work done in the form of presentations and paper publication.
3	Apply verbal communication that can help in life-long.
4	Explore multiskilled engineer along with good technical knowledge.,management and leadership skills.
5	Analyse the importance of sustainibility and cost effectiveness in design and development of engineering solution.