



# CHRIST

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi and Affiliated to Pondicherry University)

Pitchaveeranpet, Moolakulam, Pondicherry - 605010.

(A Unit of Sam Paul Educational Trust)

**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**SUBJECTWISE COURSE OUTCOMES (2018– 2023)**

**I-SEMESTER**

<b>T101- MATHEMATICS-I</b>		<b>Yr/Sem:I/I</b>
CO1	Apply knowledge of mathematics to solve functions of several variables.	
CO2	Identify, formulate and solve engineering problems like multiple integrals and their usage.	
CO3	To solve differential equations that model physical processes using effective Mathematical tools	
CO4	Able to find equation of straight line of shortest distance ,equation of plane , angle Between straight lines.	
CO5	Gain the knowledge to solve first order differential equation arising in engineering.	
<b>T102 -PHYSICS</b>		<b>Yr/Sem:I/I</b>
CO1	Apply knowledge of science and engineering to understand physics and its significant Contribution in the advancement of technology and invention of new products that dramatically transform modern day society.	
CO2	Identify different areas of physics which have direct relevance and applications to Different engineering disciplines.	
CO3	Apply fundamental knowledge to understand applications of ultrasonics , optics and some optical devices, lasers and fiber optics, nuclear energy sources and wave mechanics.	
CO4	Understand the basic operating principles of laser ,its applications , opticalfiber , and Its types, transmission characteristics, applications of optical fibers.	
<b>T103- CHEMISTRY</b>		<b>Yr/Sem:I/I</b>
CO1	Apply knowledge of science and engineering to understand the importance of Chemistry in engineering domain.	
CO2	Identify different electrochemical cells and their usage for industrial process.	
CO3	Apply fundamental knowledge of chemistry and build an interface of theoretical Concepts with industrial applications/engineering applications.	
CO4	Guide the students to gain the knowledge about the cooling curves, phase diagrams, Alloys and their practical importance.	

CO5	Strengthen the fundamentals of chemistry and then build an interface of theoretical. Concepts with their industrial/engineering applications.
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<b>T104–BASIC ELECTRICAL AND ELECTRONICS ENGINEERING</b>		<b>Yr/Sem:I/I</b>
CO1	Will learn the fundamentals of rotational and stationary machine operation, single-phase and three-phase power measurement, magnetic and electrical circuits, and these topics.	
CO2	Will learn the fundamentals of measuring devices, communication systems, and Network models.	
CO3	Knowledge about non-conventional energy systems will be available to students.	
CO4	The varieties of metal joining will be known by the students.	
CO5	Students will learn about numerous engines, energies, and joints as well as Construction and building components offered with diverse principles.	
<b>T105–ENGINEERING THERMODYNAMICS</b>		<b>Yr/Sem:I/I</b>
CO1	Apply knowledge of mathematics, science and engineering to understand the basics of thermodynamics.	
CO2	Understand the importance of laws of thermodynamics applied to energy systems.	
CO3	Understanding refrigeration, heatpump and their physical mechanism.	
CO4	Understand the laws of motion for rigid bodies.	
CO5	Understand the effects of forces acting on the bodies in practical situation.	

<b>P101- COMPUTER PROGRAMMING LABORATORY</b>		<b>Yr/Sem:I/I</b>
CO1	Students can work with command line interface OS's, like MS-DOS.	
CO2	Students can solve most of the real time problems with C program.	
CO3	Students can interact with computer using C program, through various input and Output functions.	
CO4	Students can make a use of various keywords, constants, variables, datatypes, operators, type conversion in C program.	
CO5	Students will have knowledge about arrays, functions, structures and pointers in C program.	

<b>P102– ENGINEERING GRAPHICS</b>		<b>Yr/Sem:I/I</b>
CO1	Perform free hand sketching of basic geometrical constructions and multiple views of objects.	
CO2	Project orthographic projections of lines and plane surfaces.	
CO3	Draw projections and solids and development of surfaces.	

CO4	Visualize and to project isometric and perspective sections of simple solids.
CO5	Students will be able to draw orthographic projections and isometric projections.

## II-SEMESTER

<b>T107 – MATHEMATICS-II</b>		<b>Yr/Sem:I/II</b>
CO1	Apply knowledge of mathematics to solve matrix algebra technique for practical Applications and Curl, divergence and integration of vectors in vector calculus.	
CO2	Identify, formulate and solve engineering problems like Laplace transform and to Solve differential and integral equations.	
CO3	Apply formulae and analyze problems of Fourier transform techniques.	

<b>P103-BASIC ELECTRICAL AND ELECTRONICS LABORATORY</b>		<b>Yr/Sem:I/I</b>
CO1	Know about basic electrical tools, applications and precautions	
CO2	Perform different types of wiring used in domestic and industrial applications.	
CO3	Measurements of voltage and phase using CRO, basic operation and applications of Device such as PN junction diode and transistors.	
CO4	Understand the function and applications of basic logic gates and flipflops.	
CO5	Gain knowledge in domestic wiring and application of electronics device in the field of electrical engineering.	

CO4	Determine the Fourier transform, Fourier cosine and sine transform of elementary functions, properties of transforms and its application in engineering.	
CO5	Acquire knowledge of matrix algebra technique, vector calculus, Laplace and Fourier Transform.	

<b>T108–MATERIAL SCIENCE</b>		<b>Yr/Sem:I/II</b>
CO1	Apply core concepts in material science to solve engineering problems.	
CO2	Knowledge able of contemporary issues relevant to material science and engineering	
CO3	Understand about the ferrites and its application to magnetic materials.	
CO4	Select materials for design and construction.	
CO5	Understand the importance and properties of materials.	

<b>T109–ENVIRONMENTAL SCIENCE</b>		<b>Yr/Sem:I/II</b>
CO1	Apply fundamental knowledge to understand about the environment.	

CO2	Identify environmental pollution through science.
CO3	Apply basic knowledge to solve various environmental issues and problems.
CO4	Ability to consider issues of environment and sustainable development in his personal and professional undertakings.
CO5	Provides a comprehensive knowledge in environmental science, environmental issues And the management from an interdisciplinary perspective.

<b>T111- ENGINEERING MECHANICS</b>		<b>Yr/Sem:I/II</b>
CO1	Understand the basic laws of mechanics and resolution of forces using different methods.	
CO2	Learn and apply the knowledge on analysis of forces acting on the trusses and Effect of friction force on bodies.	
CO3	Learn about the centroid and moment of inertia for plane and solid figures.	

<b>T110-BASIC CIVIL AND MECHANICAL ENGINEERING</b>		<b>Yr/Sem:I/II</b>
CO1	Understand the building classification as per National building code.	
CO2	Get the idea about construction procedure for various components of the building.	
CO3	Students understand the principles of surveying, construction procedure for roads, Bridges and dams.	
CO4	Student will be able know about the working of Internal and external combustion systems	
CO5	Student will be able know about Non-Conventional Energy Systems	
CO6	Student will be able to know about manufacturing process.	
CO4	Understand the three laws of motion, principles of dynamics for particles.	
CO5	The student will be able to analyse the laws of motion for rigid bodies.	

<b>T112-COMMUNICATIVE ENGLISH</b>		<b>Yr/Sem:I/II</b>
CO1	Learnt about the definition of communication, importance, concept. Sender, Ideation, the levels in communication, channels, oral and written way of communication, body language and nonverbal communication, Accuracy, Brevity and Clarity, different barriers for Communication, techniques in making effective communication, listening importance and types of listening.	
CO2	Students learnt about the types of letters, report writing, notices and memo and Also developed their skill in writing.	
CO3	Understands the comprehension, identifies the difference between Skimming and scanning, guess the meaning of the words, Identify to make notes.	

CO4	Students learnt the writing skills, how to write a paragraph in a proper manner, Four modes of writing and how to make bibliographical entries.
CO5	Students were able to develop their spoken skills by making them to involve in Many activities related to it.

<b>P 104 –PHYSICS LAB</b>		<b>Yr/Sem:I/II</b>
CO1	Able to understand how to find the thickness of the specimen and also to find the Radius of curvature of glass using the phenomenon of interference of light	
CO2	Able to understand the specific rotator power of an optical active solution using the Principle of polarization.	
CO3	To understand about the thermal conductivity of bad conductor and rubber tube.	
CO4	Ability to understand about the optical properties like dispersive power, Resolving power by applying the knowledge of optics	
CO5	To acquire knowledge about the magnetometer due to current coil and jolly method of Determining the pressure coefficient to fair at constant volume.	
CO6	Ability to understand the basic knowledge of inference, polarization, Magnetic materials, thermal conductivity that correlates the theory and practical.	

<b>P 105 – CHEMISTRYLAB</b>		<b>Yr/Sem:I/II</b>
CO1	Students will become well acquainted to test amount of hardness present in sample of Water for their engineering needs.	
CO2	Students will be efficient in estimating acidity/alkalinity in given samples.	
CO3	Students will have knowledge about estimating amount of dissolved oxygen in water.	
CO4	Students will become well acquainted to estimate copper in brass.	
CO5	Students will have knowledge about determination of viscosity of sucrose using Ostwald's viscometer.	
CO6	To develop an understanding of basic titration setup and methodologies for Determining strength, hardness and alkalinity of various unknown solutions.	

<b>P 106 –WORKSHOPPRACTICE</b>		<b>Yr/Sem:I/II</b>
CO1	Understand and comply with workshop safety regulations.	
CO2	Student will be able to make various joints in the given object with the available work material.	
CO3	Student will be able to know how much a joint will take for the assessment of time.	
CO4	Students can able to Identify the hand tools and instruments.	

CO5	Students can able to gain knowledge about various operations carried out in sheet metal.
CO6	Students can able to gain skills about various tools used in welding to make simple joints.
<b>P107– NSS/NCC</b>	
<b>Yr/Sem:I/II</b>	
CO1	To create awareness in social and environmental issues.
CO2	To participate in relief and rehabilitation work during natural calamities.
CO3	To develop some proposals for local slum area development and waste disposal.
CO4	To create team works among students and produce efficient results.
CO5	To operate scientific instruments or advanced software.

### III–SEMESTER

<b>MAT31 –MATHEMATICS–III</b>	
<b>Yr/Sem: II/III</b>	
CO1	To provide the concepts of functions of a complex variable, conformal mapping, complex integration, series expansion of complex functions, Harmonic analysis and Fourier series
CO2	To make the students understand and work out problems of constructing analytic functions, conformal mapping, bilinear transformation, contour integration and expanding functions into Fourier series including Harmonic analysis
CO3	To Understand the concepts of function of a complex variable and complex integration and apply these ideas to solve problems occurring in the area of engineering and technology
CO4	To Express any periodic function as Fourier series, Fourier sine and Cosine series.
CO5	To Finding Fourier series for numerical values of any function. Interpret and use the basic concepts of analytic function, Taylor and Laurent series, singularities, residues, conformal mapping, Fourier series and harmonic analysis.
<b>IT-T32 ELECTRONIC DEVICES AND CIRCUITS</b>	
<b>Yr/Sem: II/III</b>	
CO1	To introduce the applications of PN junction diode and Zener diode. To Analyse the behaviour of PN junction diode, Zener diode and other special devices.
CO2	To familiarize the students with an in-depth knowledge of special devices .To Understand the application areas of diodes.
CO3	To introduce the construction and operation of oscillators. To impart knowledge on biasing of BJT and FET. To Gain knowledge in biasing of BJT, FET

CO4	To introduce the op-amp fundamentals and to teach the applications of op-amp .To Understand the working of Power amplifiers and oscillators
CO5	To Understand the practical applications of op-amps.

**IT-T33 DATA STRUCTURES**

**Yr/Sem: II/III**

CO1	To develop an understanding of the relationship between the primary data structures and the associated operations
CO2	To Understand the basic concepts of applications of data structures with case studies
CO3	To make the student to understand the implementation issues of the data structures introduced
CO4	To impart knowledge on the concepts of data structures in programming
CO5	To provide key concepts to analyze and understand the various ways of implementing the data structures

**IT-T34 OBJECT ORIENTED PROGRAMMING**

**Yr/Sem: II/III**

CO1	To make the student to understand the concepts of object-oriented programming and master OOP using C++.
CO2	To Analyze and design a problem using an object-oriented approach.
CO3	To make the student to understand the implementation issues of the data structures introduced
CO4	To impart knowledge on the concepts data structures in programming
CO5	To provide key concepts to analyze and understand the various ways of implementing the data structures

<b>IT-T35 DIGITAL SYSTEM DESIGN</b>		<b>Yr/Sem: II/III</b>
CO1	To learn the required functionality of number systems, codes and Boolean algebra to the analysis and design of digital logic circuits	
CO2	To make the student to understand how to formulate, and solve engineering problems in the area of digital logic circuit design.	
CO3	To use the techniques, skills, and modern engineering tools such as logic works and VHDL, necessary for engineering practice.	
CO4	To design a digital system, components or process to meet desired needs within realistic constraints	
CO5	To provide key concepts to analyze and understand the various ways of implementing HDL for combinational circuits	
<b>IT-T36 COMPUTER ORGANIZATION</b>		<b>Yr/Sem: II/III</b>
CO1	To make the student to understand the basic operation of a computer and to understand the design and organization of a Von-Neumann computer system.	
CO2	To develop an understanding of the importance of hardware-software interface.	
CO3	To Learn various methods of Von Neumann architecture, parallel, pipelined, superscalar, and RISC/CISC architectures.	
CO4	To enable the students to understand the cost -performance issues and design tradeoffs in designing and constructing a computer processor including memory	



CO5	To Understand the basic concepts of basic knowledge the design of digital logic circuits and apply to computer organization.
<b>IT-P31 DATA STRUCTURES LAB</b> <span style="float: right;"><b>Yr/Sem: II/III</b></span>	
CO1	To train the students to Solve any given problem by identifying appropriate Data Structure.
CO2	To Learn various methods of Solving various problems using techniques introduced in this course .Analyze the algorithm's / program's efficiency in terms of time and space complexity.
CO3	Should be able to understand to Solve any given problem by identifying appropriate Data Structure .Evaluate program's efficiency in terms of time and space complexity.
<b>IT-P32 ELECTRONIC DEVICES AND CIRCUITS LAB</b> <span style="float: right;"><b>Yr/Sem: II/III</b></span>	
CO1	Conceptually and fully aware of the basic concepts, techniques and applications of electronic circuits.
CO2	To enhance the technical skills through analyzing the waveforms obtained at various stages of the circuit.
CO3	To develop skills to Carry out design of the various electronic circuits suitable for a specific application.
<b>IT-P33 DIGITAL LAB</b> <span style="float: right;"><b>Yr/Sem: II/III</b></span>	
CO1	To apply knowledge of number systems, codes and Boolean algebra to the analysis and design of digital logic circuits.
CO2	To identify, formulate, and solve engineering problems in the area of digital logic circuit design.
CO3	To use the techniques, skills, and modern engineering tools such as logic works and VHDL, necessary for engineering practice and to design a digital system, components or process to meet desired needs within realistic constraints

### IV–SEMESTER

<b>MAT41 –MATHEMATICS–IV</b>		<b>Yr/Sem: II/IV</b>
CO1	Formulate and solve partial differential equation.	
CO2	Derive and obtain the solution of wave equation and boundary value problems.	
CO3	Derive and obtain the solution of heat equation and boundary value problems.	
CO4	Apply least square method to fit various curves for the given data investigate the validity of hypothesis by Z-distribution techniques.	
CO5	Calculation of analysis of variance and explain the use of the Chi-squared test and its calculation.	
<b>IT-T42 COMMUNICATION ENGINEERING-I</b>		<b>Yr/Sem: II/IV</b>
CO1	To learn the basics of electronic communication and different analog modulation systems.	
CO2	To make the student to understand the operation of modulator and demodulator for different analog modulation systems and to explore the use of pulse modulation system	
CO3	Students Will be clear with the concepts of different analog modulation systems	
CO4	To develop an understanding of the need for pulse modulation systems	
CO5	Students will have a clear idea on concept and applications of digital modulation systems	
<b>IT-T43 DESIGN AND ANALYSIS OF ALGORITHMS</b>		<b>Yr/Sem: II/IV</b>
CO1	To introduce the fundamental strategies of different algorithm design techniques.	
CO2	Solving various problems using techniques introduced in this course and to analyze the algorithm's / program's efficiency in terms of time and space complexity.	
CO3	To Learn various methods to Analyze / compare the given algorithm.	
CO4	To Compute the time complexity/space complexity of any recursive/non recursive algorithms	
CO5	To develop skills to Solve any given problem using the fundamental design techniques	

<b>IT-T44 MICROPROCESSORS AND MICROCONTROLLERS</b>		<b>Yr/Sem: II/IV</b>
CO1	Understanding the inner working components of the microprocessor and microcontrollers	
CO2	Understand the basic concepts of Developing assembly language program using 8085 instruction set	
CO3	To train the students to Develop assembly language program using 8086 instruction set	
CO4	Developing assembly language program using 8051 instruction set	
CO5	Learn various methods of Developing various I/O programs for 9085, 8086 and 8051	

<b>IT-T45 JAVA PROGRAMMING</b>		<b>Yr/Sem: II/III</b>
CO1	To Understand the basic concepts of Java	
CO2	To learn the features of Java and advanced concepts in Java.	
CO3	To make the students to understand the Concepts of Exception handling and types of exception	
CO4	To develop skills in Developing Java Program for RMI and JDBC	
CO5	Students will understand the benefits and capabilities of Java	
<b>IT-T46 SYSTEM SOFTWARE</b>		<b>Yr/Sem: II/III</b>
CO1	To Understand the design and implementation of Assemblers, loaders, linkers and compilers.	
CO2	To Understand how source language programs are implemented at the machine level.	
CO3	To Understand compilation as an instance of language translation and to use of formal attributed grammars for specifying the syntax and semantics of programming languages.	
CO4	To make the students to have in depth Working knowledge of the major phases of Loading linking and compiling.	
CO5	To design and implement a significant portion of a compiler for a language chosen by the instructor.	

<b>IT-P41 ALGORITHMS LAB      Yr/Sem: II/III</b>	
CO1	To introduce the implementation of various design techniques using C and C++.
CO2	Learn to implement the complex tasks using various design techniques
CO3	To learn advanced data structures and their implementation in different language platforms
<b>IT-P41 ALGORITHMS LAB      Yr/Sem: II/III</b>	
CO1	To introduce the implementation of various design techniques using C and C++.
CO2	Learn to implement the complex tasks using various design techniques
CO3	To learn advanced data structures and their implementation in different language platforms

<b>IT-P42 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY      Yr/Sem:II/III</b>	
CO1	To Understand the inner working components of the microprocessor and microcontrollers and Developing assembly language program using 8085 instruction set
CO2	Developing various I/O programs for 9085, 8086 and 8051
CO3	To Develop assembly language program using 8086 instruction set and Developing assembly language program using 8051 instruction set

<b>IT-P43 JAVA LAB      Yr/Sem:II/III</b>
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CO1	To understand the basics of java and to write programs in Java covering the object oriented concepts.
CO2	To write programs covering advanced concepts in java like thread handling, applets, RMI and JDBC
CO3	Students will learn how to write programs and develop projects in Java.
<b>PE-P44 PHYSICALEDUCATION</b>	
<b>Yr/Sem:II/III</b>	
CO1	Activities will include games and sports/extension lectures.  In the above activities, the student participations shall be for a minimum period of 45 Period
CO2	Student activities will be monitored by the Director of Physical Education.
CO3	.Pass/Fail will be determined on the basis of participation, attendance, performance and behavior. If a candidate fails, he/she has to repeat the course in the subsequent years

**V-SEMESTER**

<b>IT-T51 COMMUNICATION ENGINEERING-II</b>	
<b>Yr/Sem: III/V</b>	
CO1	To learn the various orbits used for satellite communication systems. And to understand the working principle of various satellite systems and their applications.
CO2	To understand the concept of spread spectrum technologies, Rake receivers and CDMA And to learn the concept and operation of cellular mobile communication and to introduce various cellular standards
CO3	Understand the operation of various types of communication systems

CO4	To learn the need for fiber optics communication and the operation of fiber optic communication system.
CO5	.To understand the application of various types of communication systems
<b>IT-T52 SOFTWARE ENGINEERING</b> <span style="float: right;"><b>Yr/Sem: III/V</b></span>	
CO1	To learn, practice and apply the software engineering industry practices
CO2	To acquire knowledge on the various techniques, tools and models for each of the phases of software development
CO3	Ability to apply basic knowledge and understanding of the analysis, synthesis and design of complex systems
CO4	Develop, maintain and evaluate large-scale software systems
CO5	Produce efficient, reliable, robust and cost-effective software solutions
<b>IT-T53 OPERATING SYSTEMS</b> <span style="float: right;"><b>Yr/Sem: III/V</b></span>	
CO1	Understand fundamental operating system abstractions such as processes, threads, files, semaphores, IPC abstractions, shared memory regions, etc.,
CO2	Understand how the operating system abstractions can be used in the development of application programs, or to build higher level abstractions.
CO3	Understand how the operating system abstractions can be implemented
CO4	Understand the principles of concurrency and synchronization, and apply them to write correct concurrent programs/software,
CO5	Understand basic resource management techniques (scheduling or time management, space management) and principles and how they can be implemented. These also include issues of performance and fairness objectives, avoiding deadlocks, as well as security and protection
<b>IT-T54 DATABASE MANAGEMENT SYSTEMS</b> <span style="float: right;"><b>Yr/Sem: III/V</b></span>	
CO1	To introduce the fundamental concepts of Database Management System to the students.
CO2	To understand the usage of Database Management System in the current industry scenario.
CO3	The students can be able to understand the concepts of Database Management System

CO4	To make the students to choose and design the database for the specific requirement of the project.
CO5	Should be able to understand the Storage and File Structures of Database management system.
<b>IT-T55 THEORY OF COMPUTATION</b> <span style="float: right;"><b>Yr/Sem: III/V</b></span>	
CO1	Explain the basic concepts of deterministic and non-deterministic finite automata, regular language, context-free language, Turing machines, computability and complexity.
CO2	The ability to develop, build, and analyze the formal relationships among machines, languages and grammars
CO3	To Explore the fundamentals of Solve the problems using formal language
CO4	To Develop a view on the importance of computational theory
CO5	Should be able to understand the Storage and File Structures of Database management system
<b>IT-E51 COMPUTER HARDWARE AND TROUBLESHOOTING</b> <span style="float: right;"><b>Yr/Sem: III/V</b></span>	
CO1	To provides insight to the various parts and types of computer.
CO2	It familiarizes the hardware types and the evolution in each of them and it also gives the basics of troubleshooting.
CO3	The students will have theoretical exposure as well as hands on exposure to know about the hardware aspects of computer.
CO4	students will have theoretical exposure as well as hands on exposure to know about the hardware aspects of computer.
CO5	Able to understand the Troubleshooting tools and In-CircuitEmulator, LogicState/ Timing Analyzers–Digital Multimeters.

<b>IT-P51 COMMUNICATION ENGINEERING LAB</b>		<b>Yr/Sem: III/V</b>
CO1	To understand the working of main concepts of analogue and digital communication systems. Ans to enhance technical skills through analyzing the waveforms obtained at various stages of the experiment.	
CO2	To verify the experimentally obtained and simulated outputs and knowing the reason for the deviation and to Follow rapid developments in the field of communication systems.	
CO3	To Apply problem-solving skills, Recognize and utilize latest analogue and digital communication technologies and to Interpret and integrate diverse information sources to form a coherent understanding of the subject	
<b>IT-P52 OPERATING SYSTEMS LAB</b>		<b>Yr/Sem: III/V</b>
CO1	To simulate the scheduling algorithms and to implement dining philosophers, reader-writer's using synchronization mechanisms and to learn the concept of memory management and file systems.	
CO2	Learn the concepts of job scheduling in systems and to Learn event synchronization mechanisms.	
CO3	To train the students to Study the concept of memory management	
<b>IT-P53 DATABASE MANAGEMENT SYSTEMS LABORATORY</b>		<b>Yr/Sem: III/V</b>
CO1	To design databases for real-time applications and to provide students with hands-on experience to understand and to be familiar in Oracle database, SQL, Oracle Reports and Oracle Forms.	
CO2	To understand how to administer a database system and to acquire knowledge of JDBC and ODBC connectivity	
CO3	An ability to analyze database needs and functions and to create data models from Entity-Relationship (E-R) diagrams and to implement databases using database technology also to use normalization rules and principles to create normalized databases and an ability to manage databases as a DBA	



<b>HS-P54 GENERAL PROFICIENCY-I</b>		<b>Yr/Sem: III/V</b>
CO1	To enhance the employability prospects of students and to hone the communication and language skills and make the students industry-ready	
CO2	To groom the students holistically and to ensure a hassle-free transition for students from college set-up to corporate set-up	
CO3	Become good communicators , Imbibe the requisite soft skills , Sharpen their writing skills and Analyse contemporary issues from various perspectives	

**VI-SEMESTER**

<b>IT-T61 COMPUTER NETWORKS</b>		<b>Yr/Sem: III/V</b>
CO1	Gets the idea of choosing the required functionality at each layer for a given application and trace the flow of information from one node to another node in the network.	
CO2	Then gives the understanding of division of network functionalities into layers, the component required to build different types of networks and identifying the solution for the functionalities in each layer. .	
CO3	To Understand the operation of the main components of computer networks and	
CO4	To Learn various network protocols and algorithms	
CO5	To Acquire the required skill to design simple computer networks.	
<b>IT-T62 WEB TECHNOLOGY</b>		<b>Yr/Sem: III/V</b>
CO1	To make the students to understand the basics of Network Model.	
CO2	To introduce the Web Development Process and Various Web Technologies	
CO3	Able to learn Networking and Security issues of Internet	
CO4	To Use appropriate web development tools for various web application	
CO5	To develop skills in various Networking and Security issues of Internet to have a protected internet use.	

<b>IT-T63 ARTIFICIAL INTELLIGENCE</b>		Yr/Sem: III/V
CO1	Should be able to understand to search and discover intelligent characteristics of existing AI projects, Intelligent agents map a new problem – as search.	
CO2	To understand different search strategies for a problem and to understand different Knowledge Representation schemes for typical AI problems	
CO3	Able to learn Networking and Security issues of Internet	
CO4	To design and implement a typical AI problem to be solved Using Machine Learning Techniques. Implement a futuristic AI application	
CO5	Capability to develop intelligent systems and Apply heuristic concepts to design efficient algorithms that help to attain the goals in satisfactory manner and to Design applications related to Natural Language Processing and Web applications.	
<b>IT-T64 INFORMATION CODING TECHNIQUES</b>		Yr/Sem: III/V
CO1	To understand the coding principles and different security algorithms and to analyze the compression techniques.	
CO2	Able to Learn the coding techniques and to Learn the cryptographic algorithms.	
CO3	To make the students to Study the code generation process.	
CO4	To understand the Information entropy fundamentals and the relationship between Information–entropy-properties and self information-coding theory.	
CO5	To apply the knowledge inData and Voice Coding , Lossless predictive also inRun-length and Ziv-Lempel coding	
<b>IT-E66 OBJECT ORIENTED ANALYSIS AND DESIGN</b>		Yr/Sem: III/V
CO1	Able to learn Knowledge in the features of Object Oriented Programming Languages	
CO2	To familiarize the students to carry out object oriented analysis and design for developing object oriented software projects	
CO3	Students acquire the skills to apply Industry recommended Unified Modeling Language Practices for OOAD and document them effectively	
CO4	To train the students to learn Object Oriented Methodologies and difference between Software System Life Cycle and Traditional cycle models	

CO5	To understand Object Oriented Analysis and Use case driven Object analysis and also to learn approaches for identifying classes .
<b>IT-E68 USER INTERFACE DESIGN</b> <span style="float: right;">Yr/Sem: III/V</span>	
CO1	To study the basic characteristics of graphics and web interfaces, Human Computer Interaction, multimedia interfaces for the web and the principles of evaluating interfaces.
CO2	The students learn concepts of user interface and used for web applications, human interfaces and for multimedia interfaces.
CO3	Able to learn Managing Exceptions & Personalization
CO4	Able to Eliminating the Error Messages and handle Exceptions
CO5	Sudents will learn Undo ,Redo and Special Undo Functions, Installation,Configuration and Personalization
<b>IT-P61 COMPUTER NETWORKS LAB</b> <span style="float: right;">Yr/Sem: III/V</span>	
CO1	To learn socket programming and also to learn to use simulation tools.
CO2	To analyze the performance of protocols in different layers in computer networks using simulation tools.
CO3	To make the students to Study the Applications using TCP Sockets like (i) Echo client and echo server ii) File transfer iii) date and time server & client iv) Chat
<b>IT-P62 WEB TECHNOLOGY LAB</b> <span style="float: right;">Yr/Sem: III/V</span>	
CO1	To introduce the basics of Network Model and to study the Web Development Process and Various Web Technologies.
CO2	To learn Networking and Security issues of Internet. .
CO3	Able to use appropriate web development tools for various web application and Learn various Networking and Security issues of Internet to have a protected internet use.

<b>IT-P63 MINIPROJECT</b>		Yr/Sem: III/V
CO1	To make the students to solve any given problem by identifying appropriate Domain/Area	
CO2	To train the students to Prepare SRS for projects and Prepare SDS for projects.	
CO3	Students will Able to prepare own Document for projects	
<b>HS-P64 GENERAL PROFICIENCY-II</b>		Yr/Sem: III/V
CO1	To make the studentsTo hone both the oral and written communication skills of the students	
CO2	Able to learn to equip the students with the skills required to gain placement	
CO3	Able to Communicate better and Confidently face the placement process	

#### **VII-SEMESTER**

<b>IT-T71 MOBILE COMPUTING</b>		Yr/Sem: IV/VII
CO1	To make the students to understand the basics of mobile computing ideas and best practices. to teach the emerging wireless network standards.	
CO2	To introduce the various models and data management concepts of mobile computing. And to learn the routing and secure protocols of mobile networking	
CO3	To train the students to gain basic knowledge in mobile computing.	
CO4	Students will learn to have a broader knowledge on 3G.	
CO5	Gain the knowledge on emerging wireless network standards	
<b>IT-T72 WEB SERVICES AND XML</b>		Yr/Sem: IV/VII
CO1	To understand the advantages of using XML technology family and to analyze the problems associated with tightly coupled distributed software architecture.	
CO2	To learn the Web services building block. And to implement e-business solutions	

	using XML based web services
CO3	Students will understand the benefits of XML, web services and SOA.
CO4	They will learn how to develop e-business applications using these technologies.
CO5	To understand the difference between WS-BPEL basics and WS-Coordination overview.
<b>IT-T73 CRYPTOGRAPHY AND NETWORK SECURITY</b> Yr/Sem: IV/VII	
CO1	To learn about wired and wireless network security with various cryptographic techniques, which include private and public keys algorithms along with attacks types.
CO2	Able to Use appropriate methods in security and to Learn various methods of implementing security.
CO3	To train the students to learn Security trends and Security Attacks and services.
CO4	To understand Classical Encryption Techniques and Simple DES also to understand Modes of operation..
CO5	Able to differentiate Discrete Logarithms and Computing discrete logs.
<b>IT-E73 MANAGEMENT CONCEPTS AND STRATEGIES</b> Yr/Sem: IV/VII	
CO1	To introduce the fundamental of Management concept strategies And to study the concepts of Software Management To get acquainted with Software Quality Assurance Standardization.
CO2	Able to learn Manage Software projects in organization and also able to follow Social responsibility, standards, policies and Ethics.
CO3	To train the students to learn Decision making and the Nature and purpose of organizing.
CO4	To understand Human Resource Management and selection and clear view of Performance appraisal and career strategy..
CO5	Understand the concepts of the Human factor, Motivation, Leadership and communication.
<b>IT-E78 CLOUD COMPUTING</b> Yr/Sem: IV/VII	
CO1	To impart the principles and paradigm of Cloud Computing and to understand the Service Model with reference to Cloud Computing
CO2	To comprehend the Cloud Computing architecture and implementation and also to realize the role of Virtualization Technologies
CO3	Students will get knowledge on Cloud Computing management and security.
CO4	Describe the concept, evolution, architecture, pros and cons of Cloud Computing. And to have knowledge of how hypervisors are used in Virtual Machines.

CO5	To secure and perform identity management in the Cloud.and to access and use the services in the Cloud.
<b>IT-P71 MOBILE COMPUTING LAB</b>	
Yr/Sem: IV/VII	
CO1	To make the students to have knowledge on the basics of Mobile computing and to introduce the WML and J2ME Technologies.
CO2	Able to learn Bluetooth and distributed mobile computing
CO3	Use appropriate mobile communication tools for various mobile application and learn various issues of Mobile Computing.
<b>IT-P72 WEB SERVICES AND XML LAB</b>	
Yr/Sem: IV/VII	
CO1	students will learn how to design and develop business applications using the popular middleware technologies practiced in the industry
CO2	Able to develop distributed applications in popular platform independent technologies for any business domain.
CO3	Students will gain knowledge in XML with presentation technologies like XSLT, CSS.
<b>IT-P73 PROJECT WORK PHASE-I</b>	
Yr/Sem: IV/VII	
CO1	Enable the students to work in convenient groups of three to four members in a group on a project of latest topic / research area / industrial applications.
CO2	From first phase of project work students will gain knowledge on the following activities: <input type="checkbox"/> Literature Survey on project topic <input type="checkbox"/> Problem Definition <input type="checkbox"/> Project Design
CO3	To understand State Problem definition clearly and toPrepare SRS for project, SDS for projects and to Develop the Presentation skills and the ability to work in a Group.
<b>IT-P74 SEMINAR</b>	
Yr/Sem: IV/VII	
CO1	Students will work independently and get exposure in latest technologies.
CO2	To learn Latest technologies emerged in the field of IT and learn Current need of IT industries.
CO3	To understand technologies easily and and to work independently.
<b>IT-P75 – INDUSTRIAL TRAINING/INTERNSHIP</b>	
Yr/Sem:IV/VIII	
CO1	During the course of study from 3rd to 7th semester each student is expected to undertake a minimum ofsix industrial visits (or) undertake a minimum of four weeks of industry/field training..

### VIII SEMESTER

<b>IT-T81 PROFESSIONAL ETHICS</b>		<b>Yr/Sem:</b>
<b>IV/VIII</b>		
CO1	To understand the basics of Moral Ethics, Engineering Ethics and gain knowledge in the professional Ethics and Case Studies	
CO2	Understand the Values of Moral, Engineering and Professional Ethics	
CO3	To make the students to understand Engineering Ethics, Moral issues, Ethical theories and their uses	
<b>IT-T82 DISTRIBUTED COMPUTING</b>		
<b>Yr/Sem:IV/VIII</b>		
CO1	To understand the importance of communication in distributed environment.	
CO2	To study the actual implementation of various communication mechanisms and to learn the distributed resource management mechanisms.	
CO3	To Learn the distributed computing concepts and the resource management techniques.	
CO4	To Learn the file management in distributed environment	
CO5	Able to understand Distributed File System , File service architecture, Sun network and Andrew Filesystem	
<b>IT-E81 E-COMMERCE</b>		<b>Yr/Sem:IV/VIII</b>
CO1	To familiarize the students with the concepts of e-commerce	
CO2	students can learn how companies use e-commerce to gain competitive advantage.	
CO3	students can learn different models of e-commerce. and can understand how e-payment is affected.	
CO4	To understand Securing the Business on Internet , Security Policy and Procedures and Practices	
CO5	To make the students to know e-Payment , On-Line Payment Systems ,Pre-Paid e-Payment System	

<b>IT-P81 PROJECT WORK PHASE-II</b>		<b>Yr/Sem:IV/VIII</b>
CO1	To make the students to learn Master a programming language or software tool used for implementation	
CO2	To Test the project and compare it with benchmark standards	
CO3	To train to Develop the presentation skills Develop the ability to work in a Group	
<b>IT-P82 COMPREHENSIVE VIVA VOCE</b>		<b>Yr/Sem:IV/VIII</b>
CO1	To grasp all the subjects they have learnt related to IT so far and to face the placement tests conducted for the campus recruitment	