



The Kavary Engineering College

(Approved by AICTE, New Delhi & Affiliated to Anna University)
Mecheri, Mettur Tk. Salem Dt - 636 453.

DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAMME: B.TECH. INFORMATION TECHNOLOGY

VISION

- ❖ To achieve global standards in quality of education, research and development in the field of Information Technology.

MISSION

- ❖ To produce technologically competent and ethically responsible engineers.
- ❖ To promote research in collaboration with industries and professional societies to make the nation as knowledge –power.
- ❖ To cultivate professional skills for lifelong learning process to produce successful Engineers.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- ❖ Demonstrate technical competence with analytical and critical thinking to understand and meet the diversified requirements of industry, academia and research.
- ❖ Exhibit technical leadership, team skills and entrepreneurship skills to provide business solutions to real world problems.
- ❖ Work in multi-disciplinary industries with social and environmental responsibility, work ethics and adaptability to address complex engineering and social problems
- ❖ Pursue lifelong learning, use cutting edge technologies and involve in applied research to design optimal solutions.

PROGRAM OUTCOMES (POs)

- ❖ Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- ❖ Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of



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mathematics, natural sciences, and engineering sciences.

- ❖ Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- ❖ Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- ❖ Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- ❖ The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- ❖ Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- ❖ Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- ❖ Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- ❖ Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- ❖ Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- ❖ Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological



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PROGRAM SPECIFIC OUTCOMES (PSOs)

- ❖ Have proficiency in programming skills to design, develop and apply appropriate techniques, to solve complex engineering problems.
- ❖ Have knowledge to build, automate and manage business solutions using cutting edge technologies.
- ❖ Have excitement towards research in applied computer technologies.

COURSE OUTCOMES (COs)

Regulation	2017
Sem	01
Subject Code	HS8151
Subject Name	Communicative English
Course Outcome	<ul style="list-style-type: none">• Read articles of a general kind in magazines and newspapers.• Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.• Comprehend conversations and short talks delivered in English.• Write short essays of a general kind and personal letters and emails in English.

Regulation	2017
Sem	01
Subject Code	MA8151
Subject Name	Engineering Mathematics – I



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Course Outcome	<ul style="list-style-type: none">• Use both the limit definition and rules of differentiation to differentiate functions.• Apply differentiation to solve maxima and minima problems.• Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus.• Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.• Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.• Determine convergence/divergence of improper integrals and evaluate convergent improper integrals.• Apply various techniques in solving differential equations.
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Regulation	2017
Sem	01
Subject Code	PH8151
Subject Name	Engineering Physics
Course Outcome	<ul style="list-style-type: none">• The students will gain knowledge on the basics of properties of matter and its applications.• The students will acquire knowledge on the concepts of waves and optical devices and their applications in fibre optics.• The students will have adequate knowledge on the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers.• The students will get knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes.• The students will understand the basics of crystals, their structures



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	and different crystal growth techniques.
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Regulation	2017
Sem	01
Subject Code	CY8151
Subject Name	Engineering Chemistry
Course Outcome	<ul style="list-style-type: none">The knowledge gained on engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.

Regulation	2017
Sem	01
Subject Code	GE8151
Subject Name	Problem Solving and Python Programming
Course Outcome	<ul style="list-style-type: none">Develop algorithmic solutions to simple computational problems.Read, write, execute by hand simple Python programs.Structure simple Python programs for solving problems.Decompose a Python program into functions.Represent compound data using Python lists, tuples, and dictionaries.Read and write data from/to files in Python Programs.

Regulation	2017
Sem	01
Subject Code	GE8152



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Subject Name	Engineering Graphics
Course Outcome	<ul style="list-style-type: none">• Familiarize with the fundamentals and standards of Engineering graphics.• Perform freehand sketching of basic geometrical constructions and multiple views of objects.• Project orthographic projections of lines and plane surfaces.• Draw projections and solids and development of surfaces.• Visualize and to project isometric and perspective sections of simple solids.

Regulation	2017
Sem	01
Subject Code	GE8161
Subject Name	Problem Solving And Python Programming Laboratory
Course Outcome	<ul style="list-style-type: none">• Write, test, and debug simple Python programs.• Implement Python programs with conditionals and loops.• Develop Python programs step-wise by defining functions and calling them.• Use Python lists, tuples, dictionaries for representing compound data.• Read and write data from/to files in Python.

Regulation	2017
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Sem	01
Subject Code	BS8161
Subject Name	Physics And Chemistry Laboratory
Course Outcome	<ul style="list-style-type: none">• Apply principles of elasticity, optics and thermal properties for engineering applications.• The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.

Regulation	2017
Sem	02
Subject Code	HS8251
Subject Name	Technical English
Course Outcome	<ul style="list-style-type: none">• Read technical texts and write area- specific texts effortlessly.• Listen and comprehend lectures and talks in their area of specialization successfully.• Speak appropriately and effectively in varied formal and informal contexts.• Write reports and winning job applications.

Regulation	2017
Sem	02



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Subject Code	MA8251
Subject Name	Engineering Mathematics – II
Course Outcome	<ul style="list-style-type: none">• Eigen values and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices.• Gradient, divergence and curl of a vector point function and related identities.• Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.• Analytic functions, conformal mapping and complex integration.• Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.

Regulation	2017
Sem	02
Subject Code	PH8252
Subject Name	Physics For Information Science
Course Outcome	<ul style="list-style-type: none">• Gain knowledge on classical and quantum electron theories, and energy band structures,• Acquire knowledge on basics of semiconductor physics and its applications in various devices,• Get knowledge on magnetic properties of materials and their applications in data storage,• Have the necessary understanding on the functioning of optical materials for optoelectronics,• Understand the basics of quantum structures and their applications in



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	carbon electronics..
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Regulation	2017
Sem	02
Subject Code	BE8255
Subject Name	Basic Electrical, Electronics And Measurement Engineering
Course Outcome	<ul style="list-style-type: none">• Discuss the essentials of electric circuits and analysis.• Discuss the basic operation of electric machines and transformers• Introduction of renewable sources and common domestic loads.• Introduction to measurement and metering for electric circuits.

Regulation	2017
Sem	02
Subject Code	IT8201
Subject Name	Information Technology Essentials



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Course Outcome	<ul style="list-style-type: none">• Design and deploy web-sites Design and deploy simple web-applications• Create simple database applications• Develop information system• Describe the basics of networking and mobile communications
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Regulation	2017
Sem	02
Subject Code	CS8251
Subject Name	Programming In C
Course Outcome	<ul style="list-style-type: none">• Develop simple applications in C using basic constructs• Design and implement applications using arrays and strings• Develop and implement applications in C using functions and pointers.• Develop applications in C using structures.• Design applications using sequential and random access file processing.

Regulation	2017
Sem	02
Subject Code	GE8261
Subject Name	Engineering Practices Laboratory



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Course Outcome	<ul style="list-style-type: none"> • Fabricate carpentry components and pipe connections including plumbing works. • Use welding equipments to join the structures. • Carry out the basic machining operations. • Make the models using sheet metal works. • Illustrate on centrifugal pump, air conditioner, operations of smithy, foundary and fittings. • Carry out basic home electrical works and appliances. • Measure the electrical quantities. • Elaborate on the components, gates, soldering practices.
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Regulation	2017
Sem	02
Subject Code	CS8261
Subject Name	C Programming Laboratory
Course Outcome	<ul style="list-style-type: none"> • Develop C programs for simple applications making use of basic constructs, arrays and strings. • Develop C programs involving functions, recursion, pointers, and structures. • Design applications using sequential and random access file processing.

Regulation	2017
Sem	02
Subject Code	IT8211



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Subject Name	Information Technology Essentials Laboratory
Course Outcome	<ul style="list-style-type: none">• Design interactive websites using basic HTML tags, different styles, links and with all Basic control elements.• Create client side and server side programs using scripts using PHP.• Design dynamic web sites and handle multimedia components• Create applications with PHP connected to database.• Create Personal Information System• Implement the technologies behind computer networks and mobile communication.

Regulation	2017
Sem	03
Sub Code	MA8351
Sub Name	Discrete Mathematics
Course Outcome	<ul style="list-style-type: none">• Have knowledge of the concepts needed to test the logic of a program.• Have an understanding in identifying structures on many levels.• Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.• Be aware of the counting principles.• Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.

Regulation	2017
Sem	03
Sub Code	CS8351
Sub Name	Digital Principles And System Design



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Course Outcome	<ul style="list-style-type: none">• Simplify Boolean functions using KMap• Design and Analyze Combinational and Sequential Circuits• Implement designs using Programmable Logic Devices• Write HDL code for combinational and Sequential Circuits
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Regulation	2017
Sem	03
Sub Code	CS8391
Sub Name	Data Structures
Course Outcome	<ul style="list-style-type: none">• Implement abstract data types for linear data structures.• Apply the different linear and non-linear data structures to problem solutions.• Critically analyze the various sorting algorithms.

Regulation	2017
Sem	03
Sub Code	CS8392
Sub Name	Object Oriented Programming
Course Outcome	<ul style="list-style-type: none">• Develop Java programs using OOP principles• Develop Java programs with the concepts inheritance and interfaces• Build Java applications using exceptions and I/O streams• Develop Java applications with threads and generics classes• Develop interactive Java programs using swings



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Regulation	2017
Sem	03
Sub Code	EC8394
Sub Name	Analog And Digital Communication
Course Outcome	<ul style="list-style-type: none">• Apply analog and digital communication techniques.• Use data and pulse communication techniques.• Analyze Source and Error control coding.• Utilize multi-user radio communication.

Regulation	2017
Sem	03
Sub Code	CS8381
Sub Name	Data Structures Laboratory
Course Outcome	<ul style="list-style-type: none">• Write functions to implement linear and non-linear data structure operations• Suggest appropriate linear / non-linear data structure operations for solving a given problem• Appropriately use the linear / non-linear data structure operations for a given problem• Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval

Regulation	2017
Sem	03



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Sub Code	CS8383
Sub Name	Object Oriented Programming Laboratory
Course Outcome	<ul style="list-style-type: none">• Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.• Develop and implement Java programs with arraylist, exception handling and multithreading .• Design applications using file processing, generic programming and event handling.

Regulation	2017
Sem	03
Sub Code	CS8382
Sub Name	Digital Systems Laboratory
Course Outcome	<ul style="list-style-type: none">• Implement simplified combinational circuits using basic logic gates• Implement combinational circuits using MSI devices• Implement sequential circuits like registers and counters• Simulate combinational and sequential circuits using HDL

Regulation	2017
Sem	03
Sub Code	HS8381



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Sub Name	Interpersonal Skills/Listening&Speaking
Course Outcome	<ul style="list-style-type: none">• Listen and respond appropriately.• Participate in group discussions• Make effective presentations• Participate confidently and appropriately in conversations both formal and informal

Regulation	2017
Sem	04
Sub Code	MA8391
Sub Name	Probability And Statistics
Course Outcome	<ul style="list-style-type: none">• Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.• Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.• Apply the concept of testing of hypothesis for small and large samples in real life problems

Regulation	2017
Sem	04
Sub Code	CS8491
Sub Name	Computer Architecture



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Course Outcome	<ul style="list-style-type: none"> • Understand the basics structure of computers, operations and instructions. • Design arithmetic and logic unit. • Understand pipelined execution and design control unit. • Understand parallel processing architectures. • Understand the various memory systems and I/O communication.
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Regulation	2017
Sem	04
Sub Code	CS8492
Sub Name	Database Management Systems
Course Outcome	<ul style="list-style-type: none"> • Classify the modern and futuristic database applications based on size and complexity Map ER model to Relational model to perform database design effectively • Write queries using normalization criteria and optimize queries • Compare and contrast various indexing strategies in different database systems • Appraise how advanced databases differ from traditional databases.

Regulation	2017
Sem	04
Sub Code	CS8451
Sub Name	Design And Analysis Of Algorithms



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Course Outcome	<ul style="list-style-type: none">• Design algorithms for various computing problems. Analyze the time and space complexity of algorithms.• Critically analyze the different algorithm design techniques for a given problem• Modify existing algorithms to improve efficiency.
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Regulation	2017
Sem	04
Sub Code	CS8493
Sub Name	Operating Systems
Course Outcome	<ul style="list-style-type: none">• Apply thermodynamic concepts to different air standard cycles and solve problems.• Solve problems in single stage and multistage air compressors• Explain the functioning and features of IC engines, components and auxiliaries.• Calculate performance parameters of IC Engines.• Explain the flow in Gas turbines and solve problems.

Regulation	2017
Sem	04
Sub Code	GE8291
Sub Name	Environmental Science And Engineering



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Course Outcome	<ul style="list-style-type: none"> • Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course. Public awareness of environment at infant stage. • Ignorance and incomplete knowledge has lead to misconceptions. • Development and improvement in standard of living has lead to serious environmental disasters.
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Regulation	2017
Sem	04
Sub Code	CS8481
Sub Name	Database Management Systems Laboratory
Course Outcome	<ul style="list-style-type: none"> • Use typical data definitions and manipulation commands. • Design applications to test Nested and Join Queries • Implement simple applications that use Views • Implement applications that require a Front-end Tool • Critically analyze the use of Tables, Views, Functions and Procedures

Regulation	2017
Sem	04
Sub Code	CS8461



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Sub Name	Operating Systems Laboratory
Course Outcome	<ul style="list-style-type: none"> • Compare the performance of various CPU Scheduling Algorithms • Implement Deadlock avoidance and Detection Algorithms • Implement Semaphores • Create processes and implement IPC • Analyze the performance of the various Page Replacement Algorithms • Implement File Organization and File Allocation Strategies

Regulation	2017
Sem	05
Sub Code	CS8591
Sub Name	Computer Networks
Course Outcome	<ul style="list-style-type: none"> • Understand the basic layers and its functions in computer networks.
Regulation	2017
Sem	04
Sub Code	HS8461
Sub Name	Advanced Reading And Writing
Course Outcome	<ul style="list-style-type: none"> • Evaluate the performance of a network. • Understand the basics of how data flows from one node to another. • Analyze and design routing algorithms. • Design protocols for various functions in the network. • Understand the working of various application layer protocols. • Write different types of essays. • Write winning job applications. • Read and evaluate texts critically. • Display critical thinking in various professional contexts

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Sem	05
Sub Code	MA8551
Sub Name	Algebra And Number Theory
Course Outcome	<ul style="list-style-type: none">• Apply the basic notions of groups, rings, fields which will then be used to solve related problems. Explain the fundamental concepts of advanced algebra and their role in modern• Mathematics and applied contexts. Demonstrate accurate and efficient use of advanced algebraic techniques.• Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text.• Apply integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.

Regulation	2017
Sem	05
Sub Code	EC8691
Sub Name	Microprocessors And Microcontrollers
Course Outcome	<ul style="list-style-type: none">• Understand and execute programs based on 8086 microprocessor.• Design Memory Interfacing circuits.• Design and interface I/O circuits.• Design and implement 8051 microcontroller based systems.



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Regulation	2017
Sem	05
Sub Code	IT8501
Sub Name	Web Technology
Course Outcome	<ul style="list-style-type: none">• Design simple web pages using markup languages like HTML and XHTML. Create dynamic web pages using DHTML and java script that is easy to navigate and use.• Program server side web pages that have to process request from client side web pages.• Represent web data using XML and develop web pages using JSP.• Understand various web services and how these web services interact.

Regulation	2017
Sem	05
Sub Code	CS8494
Sub Name	Software Engineering



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Course Outcome	<ul style="list-style-type: none">• Identify the key activities in managing a software project.• Compare different process models.• Concepts of requirements engineering and Analysis Modeling.• Apply systematic procedure for software design and deployment.• Compare and contrast the various testing and maintenance.• Manage project schedule, estimate project cost and effort required.
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Regulation	2017
Sem	05
Sub Code	EC8681
Sub Name	Microprocessors And Microcontrollers Laboratory
Course Outcome	<ul style="list-style-type: none">• Write ALP Programmes for fixed and Floating Point and Arithmetic operations Interface different I/Os with processor• Generate waveforms using Microprocessors• Execute Programs in 8051• Explain the difference between simulator and Emulator



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Regulation	2017
Sem	05
Sub Code	CS8581
Sub Name	Networks Laboratory
Course Outcome	<ul style="list-style-type: none">• Implement Various Protocols Using TCP And UDP.• Compare The Performance Of Different Transport Layer Protocols.• Use Simulation Tools To Analyze The Performance Of Various Network Protocols.• Analyze Various Routing Algorithms.• Implement Error Correction Codes.

Regulation	2017
Sem	05
Sub Code	IT8511
Sub Name	Web Technology Laboratory
Course Outcome	<ul style="list-style-type: none">• Design simple web pages using markup languages like HTML and XHTML. Create dynamic web pages using DHTML and java script that is easy to navigate and use.• Program server side web pages that have to process request from client side web pages.• Represent web data using XML and develop web pages using JSP.• Understand various web services and how these web services interact.