MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
363, Arcot Road, Kodambakkam, Chennai – 24
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email Id: principal@msec.edu.in
Website : www.msec.edu.in
DEPARTMENT OF INFORMATION TECHNOLOGY

REGULATION – 2017

COURSE OUTCOMES

MA8351 -Discrete Mathematics [C201]

C201.1	Make use of propositions, predicates and flow of logical proofs.
C201.2	Acquire knowledge on induction and counting principles and to solve recurrence relation.
C201.3	Perceive the knowledge of various types and characteristics of graphs.
C201.4	Interpret concepts and properties of groups, rings and fields.
C201.5	Comprehense the ideas of lattices and Boolean algebra.

CS8351-Digital principles and System design[C202]

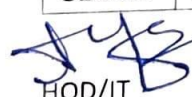| C202.1	To understand different methods used for the simplification of Boolean functions
C202.2	To understand and design a system that uses combinational logic for the given specification; Simulate combinational logic systems using verilog or VHDL.
C202.3	To understand and design synchronous sequential system for the given specification; Simulate sequential logic systems using verilog or VHDL.
C202.4	To design and implement Asynchronous sequential system for the given specification.
C202.5	To design and implement memory accessing systems and systems using PLA, PAL.

CS8391-Data structures[C203]

C203.1	Implement abstract data types for linear data structures-List
C203.2	Implement and apply the different linear data structure to problem solutions
C203.3	Implement and apply non-linear data structures tree ADT to problem solutions
C203.4	Implement and apply non-linear data structures Graph ADT to problem solutions
C203.5	Critically analyse the various sorting algorithm.

CS8392-Object oriented programming[C204]

C204.1	Develop Java programs using OOP principles
C204.2	Develop Java programs with the concepts inheritance and interfaces
C204.3	Build Java applications using exceptions and I/O streams
C204.4	Develop Java applications with threads and generics classes
C204.5	Develop interactive Java programs using AWT, Swings components with event handling

EC8394-Analog and Digital Communication[C205]

C205.1	Illustrate analog communication techniques
C205.2	Explain digital communication techniques
C205.3	Illustrate data and pulse communication techniques
C205.4	Make use of various error control coding techniques to identify/correct errors
C205.5	Outline multi-user radio communication

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CS8381-Data Structures Lab[C206]

C206.1	Write functions to implement linear and non-linear data structure operations
C206.2	Suggest appropriate linear / non-linear data structure operations for solving a given problem
C206.3	Appropriately use the linear / non-linear data structure operations for a given problem
C206.4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval

CS8383-Object Oriented Programming Laboratory[C207]

C207.1	Develop and implement Java programs for simple applications that make use of classes
C207.2	Develop and implement Java programs for simple applications that make use of packages and interfaces
C207.3	Develop and implement Java programs with array list, exception handling and multithreading.
C207.4	Design applications using file processing, generic programming
C207.5	Design applications using AWT components and event handling

CS8382-Digital system laboratory[C208]

C208.1	Apply Boolean simplification techniques to construct combinational logic circuits.
C208.2	Build combinational logic circuits to perform arithmetic operations.
C208.3	Implement combinational circuits using MSI devices.
C208.4	Construct Sequential circuits like registers and counters.
C208.5	Simulate combinational and sequential circuits using HDL.

HS8381-Interpersonal skills/listening and speaking[C209]

C209.1	Ability to listen and respond appropriately
C209.2	Ability to participate in group discussions.
C209.3	Ability to make effective presentation.
C209.4	Ability to listen/view and comprehend different spoken discourses/excerpts different accents and to speak clearly in simple language.
C209.5	Ability to participate confidently and appropriately in formal and informal conversations.

MA8391-Probability and Statistics[C210]

C210.1	Interpret the axiomatic formulation of Probability theory and random variables as an intrinsic need for the analysis of random phenomena.
C210.2	Identify probability models, function of random variables based on one & two dimensional random variables and determine regression.
C210.3	Apply the concept of testing of hypothesis for small and large samples in real life problems.
C210.4	Apply the basic concepts of classifications of design of experiments in the field of agriculture and statistical quality control.
C210.5	Have the notion of sampling distributions and statistical techniques used in Engineering and management problem

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CS8491-Computer Architecture[C211]

C211.1	Understand the basics structure of computers, operations and instructions
C211.2	Design arithmetic and logic unit
C211.3	Understand pipelined execution and design control unit .
C211.4	Understand Parallel Processing architectures
C211.5	Understand the various Memory systems and I/O communications

CS8492-Database Management Systems[C212]

C212.1	Classify the modern and futuristic database applications based on size and complexity
C212.2	Map ER model to Relational model to perform database design effectively
C212.3	Write queries using normalization criteria and optimize queries
C212.4	Compare and contrast various indexing strategies in different database systems
C212.5	Appraise how advanced databases differ from traditional databases

CS8451-Design and Analysis of Algorithms[C213]

C213.1	Analyse the complexity of algorithms for various computing problems
C213.2	Design and analyse solutions to problems based on brute force, divide and conquer solutions to a problem.
C213.3	Design and analyse solutions to problems based on dynamic programming and greedy approach.
C213.4	Design and analyse solution to problems based on iterative improvement method.
C213.5	To modify existing algorithms to improve effeciency .

CS8493-Operating Systems[C214]

C214.1	Explain the basic concepts ,functions of operating system and system calls
C214.2	Outline various threading models ,process synchronization, Compare the performance of various CPU scheduling algorithm and deadlocks .
C214.3	Compare and contrast various memory management schemes
C214.4	Explain I/O management file systems
C214.5	Perform administrative tasks on Linux servers ,compare Ios, Android operating Systems.

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GE8291-Environmental Science and Engineering[C215]

C215.1	Gain knowledge on flora and fauna in our environment helps to know about social environment.
C215.2	Gain knowledge on the offensive effects of pollution in the day-to-day life.
C215.3	Acquire knowledge on the natural resources available and their conservation.
C215.4	Have adequate knowledge on the concepts of adverse effects of social issues like acid rain and global warming.
C215..5	Get knowledge about the problems .

CS8481-Database Management Systems Laboratory[C216]

C216.1	Use typical data definitions and manipulation commands
C216.2	Design applications to test Nested and Join Queries
C216.3	Implement simple applications that use Views
C216.4	Implement applications that require a Front-end Tool
C216 .5	Critically analyze the use of tables, view, functions and procedures.

CS8461-Operating Systems Lab[C217]

C217.1	Learn Unix commands and shell programming
C217.2	Implement various CPU Scheduling Algorithms
C217.3	Implement Process Creation and Inter Process Communication.
C217.4	Implement Deadlock Avoidance and Deadlock Detection Algorithms
C217.5	Implement Page Replacement Algorithms and File Organization , File Allocation Strategies

HS8461-Advanced Reading and Writing[C218]

C218.1	Function effectively as an individual in multi-disciplinary settings.
C218.2	Able to comprehend and write effective reports.
C218.3	Write different types of essays by understanding the elements and structure of a good essay.
C218.4	Write winning job application and project report, statement of purpose and apply these in their career
C218.5	Read and evaluate texts critically and display critical thinking in various professional contexts.

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MA8551-Algebra and Number Theory[C301]

C301.1	Apply the basic notations of groups ,rings, field which will be used to solve the related problems.
C301.2	Understand the fundamental concepts of advanced algebra in modern mathematics.
C301.3	Apply the basic knowledge of advanced algebraic techniques in number theory
C301.4	Apply to solve the non-trivial problems related to the concepts and by proving the simple theorem.
C301.5	Apply integrated approach to number theory and abstract algebra.

CS8591- Computer Networks[C302]

C302.1	Understand the basic layers and its functions in computer networks and evaluate the performance of the network
C302.2	Understand the basics of how data flows from one node to another.
C302.3	Analyze and design routing algorithms.
C302.4	Design protocols for various functions in the network.
C302.5	Understand the working of various application layer protocols

EC8691-Microprocessors and Microcontrollers[C303]

C303.1	Understand architecture of 8086 and Design and implement programs on 8086 Microprocessor.
C303.2	Understand signals, system bus architecture of 8086 and multiprocessor Configuration.
C303.3	Design and implement interfacing of I/O circuits with 8086 microprocessor
C303.4	Understand architecture of 8051microcontroller
C303.5	Understand architecture of 8051 , Design and implement programs on 8051 microcontroller.

IT8501- Web Technology[C304]

C304.1	Design simple web pages using markup languages like HTML and XHTML
C304.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C304.3	Program server side web pages that have to process request from client side web pages
C304.4	Represent web data using XML and develop web pages using JSP.
C304.5	Design various web services to the show the interaction.

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CS8494-Software Engineering [C305]

C305.1	Explain the software process and agile development
C305.2	Demonstrate software requirements and Analysis
C305.3	Apply the software design procedure
C305.4	Compare and contrast the various software testing and implementation Techniques
C305.5	Estimate the software project cost and effort

OCE551- Air pollution and control Engineering [C306.OE1]

C306.1	Identify the sources of air pollution with its effects and ambient air quality standards & emission
C306.2	Understanding the concept of lapse rates, Atmospheric stability, Plume rise and various other parameters on meteorology.
C306.3	Understanding the role of Gravity separators, Centrifugal separator, Fabric filters and ESP
C306.4	Understanding the role of adsorption, absorption, condensation and incineration techniques
C306.5	Ability to ensure quality control and preventive measures

OBT553- Fundamentals of Nutrition[C306.OE1]

C306.1	Ability to understand the basics of nutrition and diet plan
C306.2	Understand the process of digestion
C306.3	Understand the concept of carbohydrates and analyse the blood sugar regulation
C306.4	Understand the structure, composition, roles and levels of intake about proteins and lipids.
C306.5	Analyse the metabolism, energy balance and body composition

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EC8681 Microprocessors and Microcontrollers Laboratory[C307]

C307.1	Write ALP for Arithmetic operations and logical operations.
C307.2	Interface different I/Os with processor
C307.3	Generate waveforms using Microprocessors
C307.4	Execute Programs in 8051
C307.5	Familiar with 8086 and 8051 simulators

CS8581- Networks Lab [C308]

C308.1	Implement various protocols using TCP and UDP.
C308.2	Compare the performance of different transport layer protocols.
C308.3	Use simulation tools to analyze the performance of various network protocols.
C308.4	Analyze various routing algorithms.
C308.5	Implement error correction codes.

IT8511-Web Technology Laboratory [C309]

C309.1	Design simple web pages using mark-up languages like HTML.
C309.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C309.3	Program server side web pages that have to process request from client side web pages.
C309.4	Represent web data using XML and develop web pages using JSP.

IT8601-Computational Intelligence[C310]

C310.1	Provide a basic exposition to the goals and methods of Computational Intelligence.
C310.2	Study of the design of intelligent computational techniques.
C310.3	Apply the Intelligent techniques for problem solving
C310.4	Improve problem solving skills using the acquired knowledge in the areas of, reasoning
C310.5	Provide Natural language understanding, computer vision, automatic programming and machine learning.

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CS8592-Object Oriented Analysis And Design[C311]

C311.1	Understand the fundamentals of object modelling and unified process.
C311.2	Design software systems with static UML diagrams
C311.3	Design software systems using UML dynamic and implementation diagrams.
C311.4	Transform UML based software design into pattern based design using design patterns
C311.5	Understand the various testing methodologies for OO software.

IT8602- Mobile Communication[C312]

C312.1	Understand the basic concepts of mobile computing
C312.2	Explain the basics of mobile telecommunication systems
C312.3	Illustrate the generations of telecommunication systems in wireless networks
C312.4	Demonstrate the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network
C312.5	Explain the functionality of Transport and Application layers Develop a mobile application using android/blackberry/ios/Windows SDK

CS8091-Big Data Analytics[C313]

C313.1	Work with Big Data Tools and Analysis Techniques
C313.2	Analyze data by utilizing clustering and classification algorithms
C313.3	Learn and apply different mining algorithms and recommendation systems for large volumes of data
C313.4	Perform analytics on data streams
C313.5	Learn NoSQL databases and management.

CS8092-Computer Graphics and Multimedia[C314]

C314.1	Explain the basics of illumination models, color models and output primitives.
C314.2	Design two dimensional graphics and apply two dimensional transformations and clipping techniques to graphics.
C314.3	Design three dimensional graphics and apply three dimensional transformations.
C314.4	Inspect the different types of multimedia file formats
C314.5	Design Basic 3d Scenes using Blender

IT8076-Software Testing [C315.PE1]

C315.1	Outline the software testing criteria for developing test cases.
C315.2	Build the test cases for software development.
C315.3	Understand the various level of testing.
C315.4	Discuss about the test metrics, measurements and management process.
C315.5	Illustrate the needs of software test automation and make use of the latest test tool for Testing.

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CS8662-Mobile Application Development Lab[C316]

C316.1	To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles
C316.2	To understand how to work with various mobile application development frameworks
C316.3	To learn the basic and important design concepts and issues of development of mobile applications.
C317.4	To understand the capabilities and limitations of mobile devices.
C317.5	To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles

CS8582 Object Oriented Analysis And Design Laboratory[C317]

C317.1	Perform OO analysis and design for a given problem specification
C317.2	Identify and map basic software requirements in UML mapping.
C317.3	Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns
C317.4	Test the compliance of the software with SRS

IT8611-Mini Project[C318]

C318.1	Map the technical knowledge for solving real world problems.
C318.2	Apply new technologies & design techniques concerned for devising a solution for a given problem statement
C318.3	Apply project management skills (scheduling work, procuring resources and working within the confines of a deadline).
C318.4	Work as an individual or in a team in development of technical projects.
C318.5	Communicate and report effectively project related activities and findings.

HS8581 Professional Communication[C319]

C319.1	To enhance the students to make effective presentations.
C319.2	To help the students participate confidently in Group Discussions.
C319.3	To motivate and prepare the students to attend job interviews and be successful in their pursuit.
C319.4	To train and develop the adequate Soft Skills required for the workplace.
C319.5	Ability to interpret different genres of texts, infer implied meanings and evaluate it for ideas as well as for methods of presentation relevant in different situations.

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MG8591- Principles of Management [C401]

C401.1	Define management and its evolution.
C401.2	Summarize the functions of planning.
C401.3	Summarize the functions of organising.
C401.4	Classify the various directing technique.
C401.5	Identify the various control technique.

CS8792- Cryptography and Network Security [C402]

C402.1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities.
C402.2	Apply the different cryptographic operations of symmetric cryptographic algorithms
C402.3	Apply the different cryptographic operations of public key cryptography
C402.4	Apply the various Authentication schemes to simulate different applications.
C402.5	Understand various Security practices and System security standards

CS8791-Cloud Computing[C403]
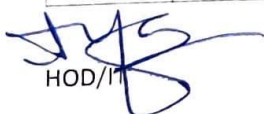
C403.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
C403.2	Learn the key and enabling technologies that help in the development of cloud
C403.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.
C403.4	Explain the core issues of cloud computing such as resource management and security. .
C403.5	Be able to install and use current cloud technologies..

OIE751-Robotics[C404.OE2]

C404.1	Summarize the basic concepts of industrial robotics and key components of robotics technologies.
C404.2	Summarize the robot drive systems, grippers and various end effectors
C404.3	Describe the various sensors and image processing & data reduction method for the control of robots
C404.4	Analyse the various kinematics of robots and prepare the robot program.
C404.5	Explain the implementations of robots in industries and analysing robot economics.

CS8081-Internet of Things[C405.PE2]

C405.1	Understand Smart Objects and IoT Architectures
C405.2	Learn about various IOT-related protocols
C405.3	Build simple IoT Systems using Arduino and Raspberry Pi.
C405.4	Understand data analytics and cloud in the context of IoT
C405.5	Develop IoT infrastructure for popular applications

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GE8071-Disaster Management[C406.PE3]

C406.1	Understand and Differentiate the types of disasters, causes and their impact on environment and society.
C406.2	Analyse various methods of risk reduction measures as well as mitigation and assess the Vulnerability
C406.3	Understand and examine the hazard and vulnerability profile of India.
C406.4	Value the Disaster damage assessment and recognize how to manage the Disaster.
C406.5	Construct ideas for the various disaster Scenarios in the Society

IT8711- Foss and Cloud Computing Laboratory[C407]

C407.1	Configure various virtualization tools such as Virtual Box, VMware workstation
C407.2	Design and deploy a web application in a PaaS environment.
C407.3	Learn how to simulate a cloud environment to implement new schedulers.

IT8761-Security Laboratory[C408]

C408.1	Develop code for classical Encryption Techniques to solve the problems..
C408.2	Build cryptosystems by applying symmetric and public key encryption algorithms
C408.3	Construct code for authentication algorithm
C408.4	Develop a signature scheme using Digital signature standard
C408.5	Demonstrate the network security system using open source tools

GE8076- Professional Ethics In Engineering[C409.PE4]

C409.1	Describe the human values with regard to the individual life style for the society
C409.2	Explain the role of ethics to the engineering field
C409.3	Describe how engineering is applied in association with ethics based on engineering experimentation
C409.4	Explain the engineering ethics based safety, responsibilities and rights
C409.5	Discuss the global issues of professional ethics in engineering

IT8078-Web Design and Management[C410.PE5]

C410.1	Design Website using HTML CSS and JS
C410.2	Design Responsive Sites
C410.3	Manage, Maintain and Support Web Apps
C410.4	Learn the web project management and maintenance process
C410.5	To Design a Website with HTML, JS, CSS / CMS – Word press...

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CS8078-Green Computing[C410.PE5]

C410.1	To understand the concepts of technologies that conform to low-power computation.
C410.2	To understand green (power-efficient) technologies for components of one single computer, such as CPU, memory and disk, and appreciate cutting edge designs for these components
C410.3	To have a basic understanding of a variety of technologies applied in building a green system and to identify the various key sustainability and green IT trends.
C410.4	To discuss the various laws, standards and protocols for regulating green IT
C410.5	Be able to use a range of tools to help monitor and design green systems

IT8811-Project Work[C411]

C411.1	Identify the problem by applying acquired knowledge.
C411.2	Analyse and categorize executable project modules after considering risks.
C411.3	Choose efficient tools for designing project modules
C411.4	Combine all the modules through effective team work after efficient testing.
C411.5	Elaborate the completed task and compile the project report.

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