

SIPNA COLLEGE OF ENGINEERING AND TECHNOLOGY, AMRAVATI
PEO, PO & PSO (All Branches)

Programm Outcomes:

Engineering Graduates will able to:

PO 1: Engineering knowledge:

Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Problem analysis:

Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

PO 3: 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.

PO 4: 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.

PO 5: Modern tool usage:

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: 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.

PO 7: 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.

PO 8: Ethics:

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and teamwork:

Function effectively as an individual, and as a member or leader in diverse teams, and in multi disciplinary settings.

PO 10: 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.

PO 11: 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 multi disciplinary environments.

PO12: 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 change.

Computer Science & Engineering**Programm Education Objectives:**

PEO1: Acquire the fundamental and advanced knowledge in Computer Science and Engineering subjects along with additional knowledge in the subjects like Mathematics, Basic Sciences and inter-disciplinary courses which enable them to solve real life problems.

PEO2: Succeed in getting the engineering positions in Computer Software and Hardware Industries, Government Organizations at regional, national and international levels.

PEO3: Succeed in the pursuit of higher studies and continue with life-long learning.

PEO4: Aware of social responsibility, ethical standards and environmental issues to serve the society better.

Programm Specific Outcomes:

Students will be able to

PSO.1: Solve problem using Basic Maths, Discrete Structure, Theory of Computation and knowledge of Programming, Data Structures.

PSO.2: Design and developed software solutions by applying the knowledge in Algorithms, DBMS, Computer Network, Artificial Intelligent and Software Engineering.

PSO.3: Analyze and understand Computer Architecture, Basic and Digital Electronics, Operating System and Object Oriented System to provide better solution.

PSO.4: Demonstrate awareness towards Professional Ethics, Environment Aspects, Social Issue and readiness for life long learning

Electronics & Telecommunication Engineering

Programm Education Objectives:

PEO.1:

The Graduates shall acquire the fundamental and advanced knowledge in Electronics & Telecommunication Engineering subjects along with additional knowledge in mathematics, basic sciences, inter-disciplinary engineering, management and economics, enabling them to solve basic and complex engineering problems.

PEO.2:

The Graduates will succeed in getting the entry-level engineering positions in Allied Industries, Design & Fabrication firms and in Government Sectors at regional, national and international levels.

PEO.3:

The Graduates will succeed in the pursuit of higher studies and will continue life-long learning.

PEO.4:

The Graduates will be aware of social responsibility, ethical standards and environmental issues to serve the society better.

Programm Specific Outcomes:

PSO.1: Understand the basic concepts in Electronics & Telecommunication Engineering and apply them to the respective areas.

PSO.2: Solve complex engineering problems using latest hardware and software tools, along with analytical skills.

PSO.3: Understand the concepts of Data Communication Networking, Optical Fiber and Wireless Technology along with ability to classify, analyze and implement latest communication technologies.

PSO.4: Demonstrate applications of Embedded system in Social, Environmental and applied areas of Engineering Sciences.

Information Technology

Programm Education Objectives:

Engineering Graduates will be able to:

PEO.1:

Analyze and solve real-life problems through application of Information Technology and fundamental knowledge of mathematics and science courses

PEO.2:

Succeed in diversified and applied areas with analysis, design and synthesis of data to create novel products and solutions to meet current industrial and societal needs.

PEO.3:

Endure higher studies, research activities, entrepreneurial skills and continue with lifelong learning.

PEO.4:

Adhere to professional and ethical values, soft skills, teamwork and communication.

Programm Specific Outcomes:

PSO.1: Problem solving using the knowledge of programming, Theory of Computation, Data Structures And Discrete Mathematics.

PSO.2: Design and develop software and hardware solution by applying knowledge in Database, Operating Systems, Computer Network & Security, System Architecture, Basic Electronics and Software Engineering.

PSO.3: Analyze given information by applying Web Engineering, Communication Engineering, Internet Of Things and Artificial Intelligence in Concepts.

PSO.4: Demonstrate Awareness towards Professional Ethics, Environment Aspects, Social Issues and Readiness for Lifelong Learning.

Civil Engineering**Programm Education Objectives:**

PEO 1: To prepare graduates with a sound fundamental and advanced knowledge in mathematical and civil engineering subjects, which is necessary to meet the need civil engineering industry.

PEO2: To prepare graduate in civil engineering for successful careers and make them to get entry level Position in civil engineering firms and government organizations.

PEO 3: To provide the students with a comprehensive and balanced knowledge of the several sub Branches of civil engineering to pursuit higher degree in civil engineering and lifelong learning.

PEO 4: To create an understanding among the students and aware them about social responsibility ethical standard and environmental issues.

Program Specific Outcomes:

PSO.1: Professional Knowledge:

To educate students in a manner that they should acquire knowledge in mathematics, science and engineering fundamentals to serve the society

PSO.2: Design capability:

To provide relevant engineering solutions in planning, analyzing, designing and execution of civil engineering projects

PSO.3: Higher Studies:

To prepare students to pursue post graduation and research in civil engineering and allied fields

PSO.4: Professionalism:

To train students so that they can consult, work and contribute to the infrastructural development projects under taken by government and private sector by adapting modern trends in civil engineering.

Mechanical Engineering

Program Education objectives:

PEO.1 Acquire the fundamental knowledge in Basic Sciences, Thermal, Design, and Manufacturing Technologies.

PEO.2 Develop an ability to interpret and analyze data, formulate and design acceptable solutions to industrial problems.

PEO.3 Effectively function in a team environment with ethical attitude and interact with people of diverse background.

PEO.4 Pursue higher studies / research in core / allied domains

PEO.5 Secure entry level position in Public / Private sector organizations.

Programm Specific Outcomes:

PSO.1 Demonstrate an ability to apply the acquired knowledge in core Mechanical Engineering areas

PSO.2 Resolve technical and social issues with imagination, creativity, confidence and responsibility.

PSO.3 Enhance professional career by accepting challenging tasks through lifelong learning, core competency and team spirit.

PSO.4 Demonstrate awareness towards socio-economical, environmental and ethical aspects.

SIPNA COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF BUSINESS ADMINISTRATION (MBA)

Program Educational Objective (PEO)

PEO1. Develop competent professionals by inculcating analytical & decision-making skills.

PEO2. Built the competencies among the students to cope up with the changing environment for their professional growth.

PEO3. Endure the students with research and lifelong learning practices for societal responsibilities.

PEO4. Adhere the professional and ethical values, soft skills & Entrepreneurial skills.

PROGRAM OUTCOMES (PO)

PO1. Managerial knowledge: Apply the knowledge of commerce, science, arts fundamentals, and management specialization to the solution of complex managerial problems.

PO2. Problem analysis: Identify, formulate, research literature, and analyze complex managerial problems reaching substantiated conclusions using the principles of management, natural sciences and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex managerial problems and processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental issues.

PO4. 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.

PO5. Modern tool usage: Create, select, and apply appropriate methods, resources, modern techniques and IT tools to complex managerial procedure & problems with an understanding of the limitations.

PO6. The manager 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 management practice.

PO7. Environment and sustainability: Understand the impact of the professional management solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the management practice.

PO9. Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex management activities with the management 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.

PO11. Project management and finance: Demonstrate knowledge and understanding of the management principles and apply this to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. 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 change.

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO1. Should be able to clearly understand the concepts and applications in the various field of multidisciplinary knowledge comprising of accounting, finance, operations, management information system, marketing and human resources management.

PSO2. Should be able to associate the learning from various courses related to marketing, human resources and finance to demonstrate an ability to apply learned managerial skills to business and social needs.

PSO3. Should have the capability to employ appropriate decision models to appropriate projects for a business management issues in an enterprise and manage the firm growth through strategies such as mergers, acquisitions, international expansion, and new venture development.

PSO4. Should become the employable management professional who can take appropriate decisions for a firm's growth through applying various management strategies and have the capabilities to start their own business enterprise

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First Year Engineering

Course Number: 1A1	
Course Name: Engineering Mathematics-I	
Sr. No.	Course outcomes
1A1.1	Students get fundamental knowledge of successive differentiation.
1A1.2	Students get basic concepts of partial differentiation.
1A1.3	Students learn maxima and minima and also application of partial differentiation i.e. Jacobian, Lagrange's method.
1A1.4	Students are familiar with complex number.
1A1.5	Student gains fundamental knowledge of differential equations of various types.
1A1.6	Students are familiar with applications of differential equation i.e. orthogonal trajectory and in electrical field.

Course Number: 1A2	
Course Name: Engineering Physics	
Sr. No.	Course outcome
1A2.1	Students gain the fundamental knowledge in Physics about the semiconducting materials, semiconducting devices & its applications.
1A2.2	Students should correlate the theoretical principles and fundamentals of modern aspects in Physics with application oriented studies of Engineering like LASER.
1A2.3	Students get the knowledge about electromagnetic phenomena and its applications.
1A2.4	Students learn about optical phenomena.
1A2.5	Students get basic knowledge about fibre optics and its applications.
1A2.6	Students learn fundamental knowledge about ultrasonic and acoustics.

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Course Number: 1A3	
Course Name: Engineering Mechanics	
Sr. No.	Course outcome
1A3.1	Students get fundamental knowledge of forces and moments through different problems.
1A3.2	Students get knowledge of static equilibrium equations and its application to the problems of statics.
1A3.3	Students get aware of work energy equation for motion of particle and system of particles.
1A3.4	Students knows the concept of friction.
1A3.5	Students get basic concept of motion, kinematics of motion.
1A3.6	Through concept of dynamic equilibrium and D'Alemberts principle students get aware of basic concepts of kinetics.

Course Number: 1A4	
Course Name: Engineering Drawing	
Sr. No.	Course outcomes
1A4. 1	Students get familiarized with different drawing instruments and their applications.
1A4. 2	Students gain the knowledge of different types of curves, loci of points and applications of different mechanism used in engineering practice.
1A4. 3	Students gain the knowledge of representation of plane geometrical objects having two dimensions such as square, rectangle, quadrilateral, etc. on a drawing sheet.
1A4.4	Students gain the knowledge of representation of solid geometrical objects having three dimensions such as cube, cylinder, cone, prisms, pyramids, sphere etc. on a drawing sheet.
1A4.5	Students get the knowledge of theory of projections and get familiar about the first angle and third angle methods of projections.
1A4.6	Students get the knowledge of pictorial projections in which the description of the objects is completely understood in one view.

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Course Number: 1B1	
Course Name: Engineering Mathematics-II	
Sr. No.	Course outcomes
1B1.1	Students get fundamental knowledge of matrix through different problems.
1B1.2	Students get knowledge of Fourier series for different functions and intervals.
1B1.3	Students get aware of vectors, differential under integral sign and curve tracing.
1B1.4	Students know the concept of reduction, beta gamma functions and applications of curve tracing (rectification).
1B1.5	Students get aware of double integration its application area and Mean, RMS.
1B1.6	Students get knowledge of triple integration and its application to find volume.

Course Number: 1B2	
Course Name: Engineering Chemistry	
Sr. No.	Course outcome
1B2.1	Students gain the fundamental knowledge in water softening and calculation for the chemicals required for water softening. Students learn about the chemical reaction involved in corrosion, its preventing methods and latest applications of nanochemistry in various fields.
1B2.2	Students learn about the chemical reaction involved in corrosion, its preventing methods and latest applications of nanochemistry in various fields.
1B2.3	Students get knowledge about the manufacturing process of cement, its properties and also familiarized with the nuclear reactions and its utilization.
1B2.4	Students learn about the importance of fuels and lubricants.
1B2.5	Students get familiarized with the various examples of polymers and its uses.
1B2.6	Students get knowledge about the different segments of environment, various atmospheric effects and controlling methods to remove particulates from atmospheric gases.

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Course Number: 1B3	
Course Name: Computer Programming	
Sr. No.	Course outcomes
1B3.1	Understand the basic terminology used in computer programming.
1B3.2	Write, compile and debug program in C language.
1B3.3	Use of different tokens(Operators/ Data types/ Variables) in c program.
1B3.4	Design program involving decision structures, loop and functions.
1B3.5	Understand the dynamics of memory by use of pointers.
1B3.6	Use different Data Structures such as array and create/update basic data files.

Course Number:1B4	
Course Name: Electrical Engineering	
Sr. No.	Course outcome
1B4.1	Able to define the basics of electrical engineering.
1B4.2	Gained the knowledge of basic electrical laws and improved ability of solving Electrical Network.
1B4.3	Gained the knowledge of magnetic circuits
1B4.4	Student gained knowledge about understanding AC circuits, power factor, RMS, Average value of alternating voltage/ current.
1B4.5	Gained the knowledge of operation and working principle of DC motor and its type.
1B4.6	Gained the knowledge of earthing.

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BACHELOR OF ENGINEERING (BE)

DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

THIRD SEMESTER

Course Number: 3ET1	
Course Name: Math III	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET1.1	Students get knowledge of vector calculus & Fourier Transform.
3ET1.2	Students get basic concepts of complex analysis.
3ET1.3	Students learn different types of numerical methods.
3ET1.4	Students are familiar, how to solve different types of differential equations of higher order.
3ET1.5	Student gains fundamental knowledge of difference equations & partial differential equations.
3ET1.6	Students are familiar with Laplace Transform & how to use it to solve differential equation.

Course Number: 3ET2	
Course Name: Object Oriented Programming	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET2.1	Justify the basics of object-oriented programming concepts such as data types, functions, classes, objects, constructors, inheritance, overloading etc.
3ET2.2	Design, implement, test, and debug simple programs in C++.
3ET2.3	Describe how the class mechanism supports encapsulation and information hiding.
3ET2.4	Design and test the implementation of Java programming concepts

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Course Number: 3ET3	
Course Name: Electronic Devices And Circuits	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET3.1	Comprehend the knowledge of diode and its applications in rectifier and regulator circuits.
3ET3.2	Understand basics of BJT, JFET, MOSFET, UJT and their operational parameters.
3ET3.3	Understand feedback concept, topologies and their applications.
3ET3.4	Implement and analyze various electronic circuits.

Course Number: 3ET4	
Course Name: Instrumentation & Sensors	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET4.1	Describe various sensors, transducers and their performance specifications.
3ET4.2	Understand working principle of various transducers.
3ET4.3	Make comparative study of various transducers and understand their applications in industry.
3ET4.4	Understand Data Acquisition Systems.

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Course Number: 3ET5	
Course Name: Electromagnetic Fields	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET5.1	Apply vector calculus to understand the behavior of static electric and magnetic fields.
3ET5.2	Formulate and solve problems in electrostatics and magneto statics in dielectric media.
3ET5.3	Describe and analyze electromagnetic wave propagation in free-space.
3ET5.4	Analyze plane electromagnetic waves at boundaries between homogeneous media.
3ET5.5	Analyze the electromagnetic radiation from localized charges considering retardation effects.

Course Number: 3ET6	
Course Name: Environmental Science (Studies)	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
3ET6.1	Students gain the fundamental knowledge about environmental studies and its importance.
3ET6.2	Students learn about inter-linking of social issues like global warming, sustainable development, ozone layer depletion and environment. .
3ET6.3	Students learn about causes and effects of increase in size of human population on environment, society, employment and crises for all basic needs.
3ET6.4	Students get familiarized with renewable and non-renewable natural resources & begin to appreciate their commitments to save the planet by conserving natural resources

FURTH SEMESTER

Course Number: 4ET1	
Course Name: Signals And Systems	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET1.1	Describe signals mathematically and understand how to perform mathematical operations on signals and systems.
4ET1.2	Analyze the spectral characteristics of continuous-time periodic and aperiodic signals using Fourier analysis.
4ET1.3	Classify systems based on their properties and determine the response of LTI system.
4ET1.4	Analyze system properties based on impulse response and Fourier analysis.
4ET1.5	Understand the process of sampling and its effects.
4ET1.6	Apply the Laplace transform and Z- transform for analysis of continuous-time and discrete-time systems.

Course Number: 4ET2	
Course Name: Network Analysis	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET2.1	Analyze electrical circuits using mesh and node analysis.
4ET2.2	Draw oriented graph of the network to determine their currents and voltages.
4ET2.3	Apply Laplace Transform for circuit analysis.
4ET2.4	Apply suitable network theorems to analyze electrical circuits.
4ET2.5	Relate various two port network and apply two-port network theory for network analysis.

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Course Number: 4ET3	
Course Name: Analog Electronics- I	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET3.1	Analyze different wave shaping circuits.
4ET3.2	Perform evaluation of the switching behavior of semiconductor devices.
4ET3.3	Comprehend the knowledge of basic concepts and performance parameters of Op-Amp.
4ET3.4	Use Op-Amp for implementation of linear and non-linear applications.
4ET3.5	Comprehend the knowledge of PLL, its applications and data converters.

Course Number: 4ET4	
Course Name: Digital Electronics	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET3.1	Use Boolean algebra to solve logic functions, number systems and its conversion.
4ET3.2	Understand digital logic families and their characteristics.
4ET3.3	Identify, analyze and design combinational and sequential circuits.
4ET3.4	Use the knowledge of semiconductor memories, programmable logic devices in digital design.

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Course Number: 4ET5	
Course Name: COMMUNICATION ENGINEERING –I	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET5.1	Understand the necessity of modulation and identify the various components of analog communication systems.
4ET5.2	Understand different modulation and demodulation schemes in analog communication systems.
4ET5.3	Compare and contrast the strengths and weaknesses of various communication systems.
4ET5.4	Describe the properties and characteristics of Transmission lines and antennas

Course Number: 4ET6	
Course Name: Environmental Science (Studies)	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
4ET6.1	Students learn about structure and function of ecosystems (terrestrial and aquatic).
4ET6.2	Students learn about biodiversity and its conservation.
4ET6.3	Students learn about different types of pollution, its causes, effects and prevention & develop awareness to maintain the environmental quality.
4ET6.4	Students learn about details of project work on wide variety of environmental assets & its problems and perform study reports

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FIFTH SEMESTER

Course Number: 5ET01	
Course Name: Analog Electronics – Ii	
Sr. No.	Course outcome
5ET01.1	Acquire and apply knowledge for design of voltage regulator circuits using ICS and discrete components.
5ET01.2	Analyze and design electronic circuits for various linear applications.
5ET01.3	Analyze and design electronic circuits for and non-linear applications.
5ET01.4	Design waveform generator circuits using different ICs viz IC 741,8038,566
5ET01.5	Analyze and design different filter circuits.
5ET01.6	Design temperature monitoring system using Op-Amp and sensors.

Course Number: 5ET02	
Course Name: Power Electronics & Drives	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
5ET02.1	Student gets fundamental knowledge of SCR, TRIAC, DIAC& Various Semiconductor devices.
5ET02.2	Students can able to understand the concepts of principle of phase control & able to draw various controlled rectifier
5ET02.3	Students can understand the concepts of forced commutated circuits & Various types of inverters.
5ET02.4	Students can understand the basics principle of chopper its different types.
5ET02.5	Students can illustrate the operation of Various DC & AC motors.
5ET02.6	Students can know the various applications of power converters in AC & DC Drives.

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Course Number: 5ET03	
Course Name: Microprocessors & Microcontrollers	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
5ET03.1	Understand the Fundamentals of Microprocessors & Microcontrollers.
5ET03.2	Getting an idea about various skills and logics for dealing with microprocessors & microcontrollers.
5ET03.3	Knowhow for the different data transfer schemes.
5ET03.4	Develop Assembly Language Programming concepts of Microprocessor & Microcontroller.
5ET03.5	Architectural difference between Microprocessor and Microcontroller, towards Real Time Applications of Embedded Systems
5ET03.6	Interface different peripheral devices with Microprocessor and Microcontroller for various daily life applications.

Course Number: 5ET04	
Course Name: Communication Engineering-II	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
5ET04.1	Apply the concept of probability theory and random processes
5ET04.2	Understand the propagation of electromagnetic waves in free space
5ET04.3	Analyze the performance of various pulse modulation scheme
5ET04.4	Develop the ability to compare and contrast the strengths and weaknesses of various pulse communication systems
5ET04.5	Understand switching in telephone network.
5ET04.6	To practically understand the assorted telephone switching components and complete working of telephone system(visit to local BSNL exchange)

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Course Number: 5FEKS05	
Course Name: Data Communication & Networking	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
5FEKS05.1	Understand basic principles of Data communication, networks, protocol, standard topology and signals.
5FEKS05.2	Able to solve mathematical problems on signal conversion and understand the concepts of interface, modem, transmission media.
5FEKS05.3	Understand and apply various multiplexing, error detection and correction techniques, and solve the mathematical problems for the said problems.
5FEKS05.4	Understand various data links control mechanisms and determine the social interactions among networks via protocols.
5FEKS05.5	Understand Local area networks ethernet networks and integrated service digital networks, determine the digital communication strategies.
5FEKS05.6	Understand the networking devices concepts analyse the routing algorithms and their mechanism, also understand OSI layer architecture.

SISTH SEMESTER

Course Number: 6ET1	
Course Name: Microcontroller Programming & Applications	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
6ET1.1	Use various members of AVR family.
6ET1.2	Program AVR Microcontroller in assembly language and C language
6ET1.3	Use different inbuilt block of AVR.
6ET1.4	Implement a system for dedicated applications.
6ET1.5	Understand different serial protocols and IDE tools for AVR.

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Course Number: 6ET2	
Course Name: Control Systems Engineering	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
6ET2.1	Determine transfer function models of electrical, mechanical & electromechanical systems
6ET2.2	Determine specified transfer functions from block diagram & signal flow graph
6ET2.3	Determine transient response & steady state response parameter
6ET2.4	Analyze stability/relative stability of the LTI system
6ET2.5	Determine the state model & the response of the system using state variable method
6ET2.6	Analyze the response of the discrete time system.

Course Number: 6ET3	
Course Name: Digital Communication	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
6ET3.1	Understand basic building blocks of digital communication system and formatting of digital signal.
6ET3.2	Understand concepts of information theory and analyze information transmission over communication channel.
6ET3.3	Analyze performance of different digital modulation techniques.
6ET3.4	Understand methods to mitigate inter symbol interference in baseband transmission system.
6ET3.5	Implement different error control coding schemes for the reliable transmission.
6ET3.6	Understand various multiple access schemes and spreading techniques.

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Course Number: 6ET4	
Course Name: Digital Signal Processing	
Sr. No.	Course outcome
	After successfully completing the course, the students will be able to
6ET4.1	Manipulate the discrete time signals and identify the type system.
6ET4.2	Compute the z-transform of a sequence, identify its region of convergence, and compute the inverse z-transform.
6ET4.3	Evaluate the Fourier transform of a signal.
6ET4.4	Design FIR and IIR filters.
6ET4.5	Understand the concepts of Multirate Digital Signal Processing and need of Filter banks.
6ET4.6	Understand the architecture of DSP processor TMS320C54XX.

Course Number: 6FEKS05	
Course Name: DATABASE MANAGEMENT SYSTEMS LAB	
Sr. No	Course Outcome
	After successfully completing the course, the students will be able to
6FEKS05.1	Students are aware with the basic structure of SQL.
6FEKS05.2	Able to design and create the Database using integrity constraints and to execute various SQL commands
6FEKS05.3	They can design,implement and can manipulate Views,PL/SQL queries and can write triggers
6FEKS05.4	Able to design and implement small database application

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Course Number :- 6ET6	
Course outcomes :- Communication Skills	
Sr. No.	Course Outcomes
	After successfully completing the course, the students will be able to
6ET6.1	Students will be able to acquire the knowledge of grammar and unseen passage.
6ET6.2	Students will be able to understand the importance of communication, important aspects of non-verbal communication and types of graphs.
6ET6.3	Students will be able to write the various formats of written communication by organizing their ideas logically on a topic. Also they will understand the importance of interpersonal skills.

SEVENTH SEMESTER

Course Number: 7XT01	
Course Name: Data Communication Network	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
7XT01.1	Students will get familiar with concept of types network, OSI reference model, topologies & switching techniques.
7XT01.2	Students will understand different ARQ techniques & queuing models.
7XT01.3	Students will understand the LAN access techniques & will be able to analyze them.
7XT01.4	Students will gain the knowledge of networking devices & routing techniques.
7XT01.5	Students will understand the network architecture & connecting services.
7XT01.6	Students gain the knowledge of TCP/IP protocols, IP address scheme & related issues.

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Course Number: 7XT02	
Course Name: Microcontroller and Application	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
7XT02.1	To Understand Fundamentals of MICROCONTROLLERS
7XT02.2	To understand instruction Set of Microcontroller 8051 & its execution
7XT02.3	To educate the Programming Skills
7XT02.4	To understand about interfacing of Microcontrollers with various peripherals & Devices
7XT02.5	To enhance the programming skills for interfacing devices
7XT02.6	To demonstrate the High language programming like C Language, for 8051 Microcontrollers

Course Number: 7XT03	
Course Name: Digital Signal Processing	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
7XT03.1	Students understand representation of discrete signal and the linear-nonlinear, causal-non causal, stable-unstable, time variant –time invariant system.
7XT03.2	Student learns Z-transform, properties of Z- transform and inverse Z transform.
7XT03.3	Student learns Discrete Fourier -transform, properties of Discrete Fourier -transform and inverse Discrete Fourier -transform
7XT03.4	Students get familiarized with different structure to implement the filter and design of FIR filter.
7XT03.5	Students get familiarized with different analog to digital conversion method and design of IIR filter.
7XT03.6	Students gains knowledge of multirate signal processing and bank of filter.

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Course Number: 7XT04	
Course Name: Satellite and Optical Fibre Communication	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
7XT04.1	Helps students to understand different Satellite orbits and orbital effects on Satellite communication
7XT04.2	Students will try to understand the Atmospheric losses, the Receiver Noise and CNR in Satellite communication
7XT04.3	Student try to understand the VSAT system and Architecture
7XT04.4	Classify different types of Optical fibers and understand the different parameters such as critical angle, Numerical aperture and Acceptance angle.They learn to solve numerical based on NA, and Ms, Mg.Enable students to understand different types of transmission losses in Fiber optic communication. They learn to solve numerical based on Scattering Coefficient and Material dispersion
7XT04.5	Understand the basic principle of a optical source and study different types of optical sources.
7XT04.6	Understand the basic operation principle of Photodetector and study different types of photodiodes

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EIGHTH SEMESTER

Course Number: 8XT01	
Course Name: UHF and Microwave	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
8XT01.1	Student understands the problems in high frequency generation, amplification and the solutions in the form of new devices two cavity klystron, TWT, Reflex klystron & Magnetron.
8XT01.2	Student gains knowledge of the function of Semiconductor microwave devices & their application.
8XT01.3	Students get familiarized with the passive microwave components and the scattering matrix evaluation.
8XT01.4	Students understand the working principle of microwave measurement devices.

Course Number: 8XT02	
Course Name: Electronics Circuit Design	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
8XT02.1	Ability to design regulated power supply.
8XT02.2	Ability to design different electronic circuit using several ICs.
8XT02.3	Be able to do realization of universal & compound gates using MOS transistors.
8XT02.4	Ability to explain VHDL and VERILOG.
8XT02.5	Be able to design combinational blocks as well as state machine modeling
8XT02.6	Be able to write the program for different application using VHDL

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Course Number: 8XT03	
Course Name: Wireless Communication	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
8XT03.1	Students gain knowledge of various concepts of cellular and wireless systems, evolutions and Frequency re-use.
8XT03.2	Gain knowledge of design fundamentals of cellular radio system with parameters as interference, capacity and performance.
8XT03.3	Knowledge of the radio propagation mechanisms and fading problems specific to mobile communication along with related Fresnel Zone and Knife-edge diffraction models
8XT03.4	Detail knowledge of Systems architecture and signals processing in GSM systems, including CDPD and GPRS.
8XT03.5	Student gain knowledge of CDMA-95channel specifications and handoff strategies.
8XT03.6	Students gain knowledge of the Wireless LAN and methods with emphasis on Bluetooth parameters Zigbee, WI-MAX.

Course Number: 8XT4	
Course Name: Biomedical Engineering	
Sr. No.	Course outcomes
	After successfully completing the course, the students will be able to
8XT04.1	Student gain the fundamental knowledge of electrodes used for ECG, EEG and EMG recording.
8XT04.2	Student learns about cardiovascular system, physiology and working of the heart.
8XT04.3	Student learns about nervous system: anatomy of nervous system and types of nervous system.
8XT04.4	Student learns EEG and EEG recorder.
8XT04.5	Student learns different sounds in heart, cardiac output and cardiac cycle.
8XT04.6	Student learns about blood pressure measurement, heart rate and pulse rate measurement.

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DEPARTMENT OF INFORMATION TECHNOLOGY

THIRD SEMESTER

Course Number: 3IT01	
Course Name: Engineering Maths-III	
Sr. No	Course Outcomes
3IT01.1	Students get fundamental knowledge of Ordinary Differential equations.
3IT01.2	Students are familiar with Laplace Transform and how to use it to solve Differential equations.
3IT01.3	Students are able to solve difference equations by Z Transform.
3IT01.4	Students are familiar with Fourier Transform and Partial differential equations.
3IT01.5	Student understands the concepts of Complex Analysis, Harmonic function and Analytic function.
3IT01.6	Students get knowledge of Vector calculus.

Course Number :- 3IT02	
Course outcomes :- Programming Methodology	
Sr. No.	Course Outcomes
3IT02.1	Students get fundamental knowledge of OOP paradigm and advantages of OOP's over procedure oriented approach. Studied classes, objects, data types and other basic concept of java programming language.
3IT02.2	Students get familiar with Operators, Control Statement, Repetition Statement and Arrays.
3IT02.3	Students will be able to understand the structure, characteristics of classes, class fundamentals, declaring objects, methods and Constructors.
3IT02.4	Students will gain the knowledge of exceptions, exception handling mechanisms, predefined classes and packages.
3IT02.5	Students will be able to implement an interface, use basic classes, design an applet, and perform event handling mechanisms and enumerations, implemented file handling mechanism in java.
3IT02.6	Student will be able to implement java application by applying the basic knowledge of adaptor classes and inner classes of java.

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Course Number :- 3IT03	
Course Name :- Discrete Structure	
Sr. No.	Course Outcomes
3IT03.1	Student can gain the knowledge on basics of mathematical logics, connectives & equivalence laws, theory of inference.
3IT03.2	Students are able to understand the concept set theory, Venn diagram, function, relations.
3IT03.3	Student can gain the knowledge of algebraic structures, semi groups and monoids.
3IT03.4	Student can explain the concept lattice, Boolean algebra, minimization of Boolean functions.
3IT03.5	Students are able to describe the concept of Graph theory, tree structures.
3IT03.6	Students are able to construct Finite state machine and Turing machine with unrestricted grammar.

Course Number :- 3IT04	
Course Name :- Electronic Devices & Circuits	
Sr. No.	Course Outcomes
3IT04.1	Students will be able to understand the structure, characteristics and operation of various semiconductor devices and optoelectronic devices as well as their applications. They will also get introduced to Technology.
3IT04.2	Students will be able to understand the operation of transistor, characteristics of CB,CE& CC amplifier and concept of biasing, DC load line, operating point & RC oscillator.
3IT04.3	Students will develop the skill to simulate the circuit using P-spice and its different types of analysis.
3IT04.4	Students will understand the concept of Operational amplifier and linear application.
3IT04.5	Students will understand the concept of Operational amplifier and Nonlinear application.
3IT04.6	Students will be able to get the knowledge of Timer & Phase Locked Loop as well as their applications.

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Course Number :- 3IT05	
Course Name :- Assembly Language Programming	
Sr. No.	Course Outcomes
3IT05.1	Understood the basic concepts of microprocessor and assembly language programming.
3IT05.2	Gained knowledge of microprocessor based systems, addressing modes and interfacing techniques.
3IT05.3	Analyzed the techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
3IT05.4	Student learned multi core processor and its advantages.
3IT05.5	Student will be able to understand Subroutine call and Macro call.
3IT05.6	Understood how to handle Interrupt Service routines.

FOURTH SEMESTER

Course Number: 4IT01	
Course Name: Data Structures	
Sr. No.	Course Outcomes
4IT01.1	Students will be Understand and represent primitive data types, built-in data structures and their applications.
4IT01.2	Students will be able to Gain the knowledge of analyzing algorithms, its correctness with time and space efficiency.
4IT01.3	Students will be able Compare alternative implementations of data structures with respect to performance.
4IT01.4	Student will be able to Analyze and understand different algorithms techniques (Huffman, Warshall, Heapsort, etc.,).
4IT01.5	Students will be able to apply and implement learned algorithm design techniques and data structures to solve problem.
4IT01.6	Students will be able to apply concepts learned in various domains like DBMS, compiler design etc.

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Course Number :- 4IT02	
Course Name :- Communication Engineering	
Sr. No.	Course Outcomes
4IT02.1	Students will be able to understand the basic concepts of Amplitude Modulation and Amplitude Demodulation.
4IT02.2	Students will be able to understand the basic concepts of Frequency Modulation and Frequency Demodulation.
4IT02.3	Students will be able to understand the basic concepts of PAM, PWM and PPM
4IT02.4	Students will be able to learn the concepts of Delta Modulation and applications.
4IT02.5	Students will be able to understand the basic concepts of Time Division Multiplexing and De-multiplexing.
4IT02.6	Students will be able to understand the concepts of Fourier transform and its operation on different types of signals.

Course Number :- 4IT03	
Course Name:- Object Oriented Technology	
Sr. No.	Course Outcomes
4IT03.1	Classify the basics of OOP and analyzing basics of Object oriented approach on constructors, static class data, objects, and assess the string related programs.
4IT03.2	Describe the knowledge of Operator overloading and by preparing it, design and implement programs using classes and objects, pointer and operator overloading.
4IT03.3	Identify the knowledge of Inheritance and by generalizing it, design the flowchart models and implement programs for the types of inheritance and use them.
4IT03.4	Able to analyze virtual functions, polymorphic behavior of objects, design the flowchart models and implement programs of friend functions and virtual base classes.
4IT03.5	Outline the Streams & Files in object oriented programming, implement programs of command line argument and analyse and summarize file related operations.
4IT03.6	Differentiate the Standard template library, design and implement class template, function template and template libraries and evaluating the exception handling programs.

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Course Number: 4IT04	
Course Name: Social Science & Engineering Economics	
Sr. No	Course Outcome
4IT04.1	Students learned to structure, analyze, evaluate, and support an argument both orally and in writing in the social sciences.
4IT04.2	Students will understand the need & the role of Indian Constitution in a democratic society.
4IT04.3	Students gained knowledge about the impact of Science and Technology on our culture and civilization
4IT04.4	Students learned the concept on Economics and its importance in the field of Engineering along with the concepts of productivity, economic growth and standard of living.
4IT04.5	Students gained knowledge about the banking , tax structure and the various forms of market.

Course Number: 4IT05	
Course Name: Numerical Methods & Operation Research Techniques	
Sr. No.	Course Outcomes
4IT05.1	Students will understand error analysis and solution of non-linear and polynomial equations.
4IT05.2	Students will be able to find out solution of linear systems of equation, integration.
4IT05.3	Students will be able to find out solution of differential equations and numerical differentiation.
4IT05.4	Students will understand the concept of operations research models and dynamic programming.
4IT05.5	Students will understand the concept of linear programming and sequencing.
4IT05.6	Students will understand PERT and CPM, decision theory, bayes decision procedure.

Course Number: 5IT01	
Course Name: Operating System	
Sr. No.	Course Outcomes
5IT01.1	Student will be able to gain the knowledge of basics of Operating System ,process, threads etc
5IT01.2	Student will be able to understand the concept of process scheduling
5IT01.3	Student will be able to study the concept of deadlock with prevention, detection and recover
5IT01.4	Student will be able to gain the knowledge of memory management, with various memory management schemes
5IT01.5	Student will be able to understand the concept of file system
5IT01.6	Study the concept of I/O scheduling and disk scheduling algorithm

FIFTH SEMESTER

Course Number: 5IT02	
Course Name: Digital Integrated Circuit	
Sr. No	Course Outcomes
5IT02.1	Students will be able to understand the operation of various logic families like TTL, CMOS with their parameters
5IT02.2	Students will be able to simplify the Boolean Functions using K-map & Tabulation Method
5IT02.3	Students will be able to design the Combinational Circuits like Adders, Subtractors, Code Converters etc
5IT02.4	Students will be able to distinguish MSI(ICs), PLAs & PAL components & design circuits using them
5IT02.5	Students will be able to understand the operation of Flip Flops & analyze the Synchronous Sequential circuits.
5IT02.6	Student will be familiar to Shift Registers, RAMs & ASM Charts.

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Course Number: 5IT03	
Course Name: Computer Architecture and Organization	
Sr. No.	Course Outcomes
5IT03.1	Understood the basic structure of computer, performance issues, addressing modes, machine instruction and their execution.
5IT03.2	Analyzed the concept of microprogram control and microinstruction and also operation of stack, queue in computer system.
5IT03.3	Learnt the concept of buses (PCI, SCSI and USB) and the idea of interrupt and the hardware and software needed to support them.
5IT03.4	Understood the concept of memory like cache memory and virtual memory with different techniques for memory mapping.
5IT03.5	Gained the concept of number representation, design of fast adder, booth's multiplication technique and various Division techniques with its organization.
5IT03.6	Learnt the operation of scanner, printer, graphics card, display devices and MODEM.

Course Number: 5IT04	
Course Name: Communication Skills	
Sr. No.	Course Outcomes
5IT04.1	Students acquired the knowledge of grammar and unseen passage.
5IT04.2	Students understood the importance of communication, important aspects of non-verbal communication and types of graphs
5IT04.3	Students are able to write the various formats of written communication by organizing their ideas logically on a topic. Also they understood the importance of interpersonal skills.

Course Number: 5FEKS05	
Course Name: Data Communication Networks	
Sr. No.	Course Outcomes
5FEKS05.1	Students will understand the concept of signals with encoding and modulation and will understand various transmission media and multiplexing.
5FEKS05.2	Students will learn different error detection and correction methods in data commutation.
5FEKS05.3	Students will understand various issues with data link control and working of network with different methodologies.
5FEKS05.4	Learning different switching technologies like packet switching, circuit switching & message switching.

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SIXTH SEMESTER

Course Number :- 6IT01	
Course outcomes :- Principles of Management	
Sr. No.	Course Outcomes
6IT01.1	Students learnt the important concepts of management practiced for industries in human resource arena.
6IT01.2	Students understood organization planning and development and production related concepts.
6IT01.3	Students got to know the concepts of product development and related material management.
6IT01.4	Students are aware of recent advancements for quality management and maintenance system.
6IT01.5	Students learnt the concepts regard to marketing management and financial management.
6IT01.6	Students are aware about the important concepts of project management and MIS.

Course Number: 6IT02	
Course Name: Database Management System	
Sr. No.	Course Outcomes
6IT02.1	Students learned to analyze the concept of relational model and construct E-R Diagrams.
6IT02.2	Students-will gained the knowledge of normalization and functional dependency.
6IT02.3	To make students proficient in using database query language, i.e. SQL.
6IT02.4	Learned the concept of query processing and its optimization.
6IT02.5	Students learned the concept of transaction management with maintaining ACID properties of data.
6IT02.6	Students aware about issues and techniques relating to concurrency and recovering in multi- user database environments.

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Course Number: 6IT03	
Course Name: Theory Of Computation	
Sr. No.	Course Outcomes
6IT03.1	Student will be able to understand basic concept of formal languages, automata and grammar.
6IT03.2	Student will be able to demonstrate the relation between regular expression, automata, languages and grammar.
6IT03.3	Students have knowledge to design a push down automata & context free grammars.
6IT03.4	Student will able to understand Turing machine to solve complex problem of languages and Post machines.
6IT03.5	Students have knowledge to design a Linear Bounded automata & context Sensitive grammars.
6IT03.6	Student will be able to understand the concept of recursive and recursively enumerable languages.

Course Number: 6IT04	
Course Name: Computer Networks	
Sr. No.	Course Outcomes
6IT04.1	To understand the concept to Computer network Hardware, Software, reference Model, standardization, communication satellite, Public Switched Telephone Network.
6IT04.2	To analyze Data Link Layers: Design issues, Error detection and correction.
6IT04.3	To gain concept of MAC Sub layer Static and Dynamic channel allocation, Multiple Access protocols.
6IT04.4	To analyze Network Layer Design Issues, Routing methods, Congestion control algorithms, quality of services
6IT04.5	To gain concept of The Transport Layer Service primitives, UDP, RPC, RTTP, TCP: TCP Services and Features
6IT04.6	To study operation of the Application Layer DNS, Electronic Mail, WWW

Course Number: 6FEKS05	
Course Name: Software Project Management	
Sr. No.	Course Outcomes
6FEKS05.1	The concept of Software Process and Project management concepts, concept of Software Measures, Software Planning and Software Risk Management.
6FEKS05.2	The principle of Software Scheduling, Software Quality Concepts, Software Design and implementations.
6FEKS05.3	The concept of system engineering and Process Design Principle, concept of User-interface Design and Design Evaluation.
6FEKS05.4	Principles of testing methodology, Software Testing Strategies, Quality Assurance.

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SEVENTH SEMESTER

Course Number: 7IT01	
Course Name: Digital Signal Processing	
Sr. No.	Course Outcomes
7IT01.1	Students have understood and perform the operations on signal to represent discrete-time signals analytically.
7IT01.2	They have understood the meaning and applications of the properties of systems and signals.
7IT01.3	Students learned to analyze ZT/IZT,DFT/DTFT/IDFT,FFT/IFFT techniques using various design methods.
7IT01.4	They can design digital filters(LPF,HPF,IIR,FIR) using SCILAB.

Course Number: 7IT02	
Course Name: Object Oriented Analysis & Design	
Sr. No.	Course Outcomes
7IT02.1	Student able to show the importance of modeling concept for object oriented development in system.
7IT02.2	Student able to differentiate advance object-oriented approach from the traditional approach for design and development of System
7IT02.3	Student able to apply Unified Modeling Language (UML) for representation of an object-oriented system using different modeling views.
7IT02.4	Student able to construct various UML models For Various development stages of System using the appropriate UML notation.
7IT02.5	Student able to analyze and apply design issues to rectify the performance and good system design that is recognized by various object relationships like inheritance, association, whole-part and dependency.
7IT02.6	Student able to understand the role and function of each UML model in software development using object-oriented approach.

Course Number: 7IT03	
Course Name: Web Technologies	
Sr. No.	Course Outcomes
7IT03.1	To study the introduction of web essentials, style sheets, client and server side programming, representing web data and web services.
7IT03.2	To study the concepts of various web technologies such as HTML, XHTML, XML, Javascripts, Servlets web services and SOAP
7IT03.3	To study practical examples of all web technologies and their Applications
7IT03.4	To study importance of web technologies in software applications with effective implementations.
7IT03.5	To explore different web extensions and web services standards
7IT03.6	To acquire knowledge and skills for creation of web site considering both client and server side programming.

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Course Number: 7IT04	
Course Name: Real Time & Embedded System	
Sr. No.	Course Outcomes
7IT04.1	Students will able to explain the embedded system concepts and architecture of embedded systems.
7IT04.2	Students will able to understand and learn the concept of embedded system, its application, component and interfacing.
7IT04.3	Students will able to analyze real time applications and use embedded software development tool for programming..
7IT04.4	Students will understand the concept of embedded programming, data structures, semaphores and modeling process.
7IT04.5	Student will understand the concept of real time models, programming languages and operating system.
7IT04.6	Student will able to classify and design real time/embedded system applications.

Course Number: 7IT05(1)	
Course Name: : Distributed Database Management Systems	
Sr. No.	Course Outcomes
7IT05.1	Students learned the overview of rational D/B, computational N/W.
7IT05.2	Students-will gained the knowledge of distributed database architecture, design and data security.
7IT05.3	Interpret the problems and objectives of query processing and its characteristic.
7IT05.4	Students learned distributed transaction management and concurrency mechanisms.
7IT05.5	Students learned the reliability concept, measures and failures.
7IT05.6	Aware about current and advance issues related with DDBMS.

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Course Number: 7IT05 (2)	
Course Name: : Multimedia Technology	
Sr. No.	Course Outcomes
7IT05.1	Will be able to learn about multimedia authoring tools and data representation, Graphics representation, color models, audio and video, compression methods, various file formats.
7IT05.2	Will understand multimedia software tools, Graphics and Image data representations, various color models and video models in multimedia technology.
7IT05.3	Will Design and implement multimedia applications using hands on experience on multimedia tools
7IT05.4	Will understand fundamental concepts in multimedia audio and video, their relation in process of compression and transmission of multimedia content using PCM , DPCM.
7IT05.5	Will be able to learn concepts of search methods, coding representations and their examples
7IT05.6	Will learn advanced information as compared with usage of multimedia technology on applications

Course Number: 7IT05(3)	
Course Name: : Artificial Intelligence	
Sr. No.	Course Outcomes
7IT05.1	Students learned to analyze the concept AI Techniques, Pattern Recognition, Level of the model, Problems and Problem Specifications, Defining the Problems, Problem Characteristics, Decomposition of Problems.
7IT05.2	Students-will gained the Knowledge Representation, Satisfaction, Means-ends analysis, Analysis of Search Algorithms, Natural Language Understanding:
7IT05.3	Students learned the concept of Minimax Search Procedure, additional refinements, waiting for quiescence, Secondary Search, Using Book moves limitations.
7IT05.4	Students aware about issues and techniques relating to Knowledge Representation using Predicate Logic, Structural representation of knowledge.
7IT05.5	Students aware about Symbolic Reasoning Under Uncertainty, Statistical Reasoning, Natural Language Processing,
7IT05.6	Students can explain Expert Systems, Fuzzy Logic Systems, Genetic Algorithms

EIGHTH SEMESTER

Course Number: 8IT01	
Course Name: Digital and wireless communication	
Sr. No.	Course Outcomes
8IT01.1	To understand and analyze basic concept of information theory.
8IT01.2	To understand the concept of error controlling and coding in the information communication.
8IT01.3	To understand various multiple access techniques and their application.
8IT01.4	Students learned the concept of cellular communication system and related issues.
8IT01.5	To understand the concepts GSM and CDMA its implementation for cellular communication
8IT01.6	Understanding of wireless network technology and related standards

Course Number: 8IT02	
Course Name: Network Administration and Security	
Sr. No.	Course Outcomes
8IT02.1	Students will able to understand network security, types of attacks, and different security services.
8IT02.2	Students able to understand the cryptography concept and various encryption ciphers such as DES. AES etc.
8IT02.3	Students able to understand Network security application such as Kerberos.
8IT02.4	Students will able to understand the concept of IP Security, Web Security, Transport layer security.
8IT02.5	Students will able to understand Network Management Security and security models.
8IT02.6	Students will able to understand system security issues and their preventive measures such as antivirus, firewall etc.

Course Number: 8IT03	
Course Name: Software Engineering	
Sr. No.	Course Outcomes
8IT03.1	Student will able to understand process modeling concepts.
8IT03.2	Student will able to understand and apply phases in software development.
8IT03.3	Student will be able to understand various software metrics used.
8IT03.4	Student will be able to understand testing concepts.

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Course Number: 8IT04 (1)	
Course Name: Web Commerce	
Sr. No.	Course Outcomes
8IT04.1	Students will study the feature of Internet and web commerce. Identify and explain fundamental web site tools including design tools, programming tools, and data processing tools.
8IT04.2	Students will gain the knowledge of Model B2B, B2C and C2C. Identify the major electronic payment issues and options.
8IT04.3	Discuss security issues and explain procedures used to protect against security threats.
8IT04.4	Identify and discuss management issues underlying Web-Commerce issues including organizational structure, strategic planning, goal setting, corporate social responsibility, international arena, changing market intermediaries, resource allocation and customer service.
8IT04.5	To Learn the different attacks on Open Web Applications and Web services.
8IT04.6	Students will be able to summarize Management Policies, business procedures and public laws, payment systems of Web-commerce.

Course Number: 8IT04 (2)	
Course Name: Cloud Computing	
Sr. No.	Course Outcomes
8IT04.1	Understanding the key dimensions challenge of Cloud Computing.
8IT04.2	Assessment of the economics, financial, and technological implications for selecting cloud computing for own organization.
8IT04.3	Student will learn about the cloud environment, building software systems and components that scale to millions of users in modern internet, cloud concepts capabilities across the various cloud service.
8IT04.4	Assessment of own organizations' needs for capacity building and training in cloud computing-related IT areas.
8IT04.5	Increased availability of high-performance applications to small/ medium-sized businesses
8IT04.6	Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing.

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DEPARTMENT OF MECHANICAL ENGINEERING

THIRD SEMESTER

Course Number:	3ME03
Name of Course:	Fluid Power I
Sr.no	Course Outcomes
3ME03.1	Students will get familiar to fluid motion, mechanical properties of fluid, manometers, pressure variations and forces acting at various points in a fluid.
3ME03.2	Students will study about buoyancy of floating bodies and kinematics and dynamics of fluid flow, they also study about continuity equation and Bernoulli's equation and their application.
3ME03.3	Students gain the knowledge of Dimensional analysis and its homogeneity and their application in real life equations to find out the relation between the involved factors.
3ME03.4	Students understand the difference between the laminar and turbulent flow and they are able to determine the nature of flow by calculating the Reynolds number, they also study about the boundary layer concept.
3ME03.5	Students study about different types of losses and are able to calculate the losses in a pipe flow.
3ME03.6	Students gain the Knowledge of various efficiencies of fluid flow like mechanical, volumetric and overall efficiency.

Course Number:	3ME04
Name of Course:	Engineering Thermodynamics
Sr.no	Course Outcomes
3ME04.1	Students will exhibit the concept of Engineering Thermodynamics & its importance to industry.
3ME04.2	Students will demonstrate the skills for solving numerical problems based on enthalpy/entropy.
3ME04.3	Students will exhibit the knowledge of fundamentals of steam and reason behind its usage in power plants.
3ME04.4	After studying this course, students will be able to understand importance & working of various engineering devices based on heat and work interaction and basic cycles of their operations.
3ME05.5	By understanding the importance of thermal cycles, students will appreciate the role of thermodynamics in day to day activities.
3ME06.6	The course content will help to build sound foundation for advanced subjects in thermal engineering.

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Course Number:	3ME05
Name of Course:	Manufacturing Process I
Sr.no	Course Outcomes
3ME05.1	Students will demonstrate the knowledge of manufacturing processes and its application to produce various products, services as demanded in society, by large
3ME05.2	Students will be capable of understanding operations in melting furnaces, pattern making, mold preparation, casting manufacturing, defect testing
3ME05.3	Students will be learning and applying principles of hot, cold working processes in industry
3ME05.4	Students will exhibit their knowledge in the field of mechanical joining, surface treatment processes useful in different applications
3ME05.5	Students will have proactive development to participate and succeed in industry spheres

FOURTH SEMESTER

Course Number:	4ME01
Name of Course:	Basic Electrical Drives And Control
Sr.no	Course Outcomes
4ME01.1	Students will demonstrate the knowledge to basic concepts of electrical drives and mechatronics.
4ME01.2	Students will demonstrate the concept of A.C. motors.
4ME01.3	Students will be able to understand the characteristics of D.C. motors
4ME01.4	Students will exhibit the knowledge of the sensor & transducers.
4ME01.5	Students will demonstrate the conventional method of speed control of AC & DC motors.
4ME01.6	Students will be aware of various electrical drives for industrial applications.

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Course Number:	4ME02
Name of Course:	Engineering Metallurgy
Sr.no	Course Outcomes
4ME02.1	Students get familiarized with different types of materials, their properties and crystal structure.
4ME02.2	Students gain the knowledge of Iron-Carbon Equilibrium diagram and allotropy of iron at different temperatures.
4ME02.3	Students gain knowledge about alloy steels and their classification as well as applications.
4ME02.4	Students learn about different ferrous metals like cast iron and its types; they also gain knowledge about nonferrous metals like brasses, bronzes and their alloys.
4ME02.5	Students gain a detailed knowledge of all the heat treatment processes like annealing, normalizing, hardening, etc., they also learn about surface hardening and core hardening processes.
4ME02.6	Students gain the knowledge of hot and cold working processes, their advantages, disadvantages and applications, they also learn about various factors related to mechanical working of metals like stress strain curve, slip, twinning, etc.
4ME02.7	Students study about the powder metallurgy process and all the steps involved in this process like powder production, blending, compacting, etc., they also study their advantages, disadvantages and applications according to their properties.

Course Number:	4ME03
Name of Course:	Energy Conversion I
Sr.no	Course Outcomes
4ME03.1	Students will exhibit the understanding about various components of thermal power plant.
4ME03.2	Students will demonstrate the skills for solving numerical problems related to boiler, nozzle, turbines, and condenser.
4ME03.3.	Students will exhibit the knowledge boiler accessories and boiler mountings.
4ME03.4	After studying this course, students will be able to understand various coal and ash handling systems used in power plants.
4ME03.5	Students will be able to understand complexity of real problems in the field of thermal power generation process and environmental impact of the same.
4ME03.6	The course content will help to develop habit towards application of basic fundamentals to problems of power plants

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Course Number:	4ME04
Name of Course:	Manufacturing Processes - Ii
Sr.no	Course Outcomes
4ME04.1	Students will study the basic concept of metal cutting and various manufacturing processes.
4ME04.2	Students will know the working of lathe machine for performing various operations.
4ME04.3	Students will study drilling, boring and broaching.
4ME04.4	Students will demonstrate the knowledge of milling & gear production machines.
4ME04.5.	Students will demonstrate the knowledge of grinding operations.
4ME04.6	Students will understand the various unconventional machining processes

Course Number:	4ME05
Name of Course:	Machine Design And Drawing - I
Sr.no	Course Outcomes
4ME05.1	Students will demonstrate the concept of machine drawing, sectional and missing views.
4ME05.2	Students will exhibit the skills of development and intersection of cube, prism, cylinder, pyramid cone etc
4ME05.3	Students will study the fundamentals of machine design and will be able to use design considerations in design process.
4ME05.4	Students will exhibit the knowledge of design procedure of riveted joints, welded joints, knuckle joint etc.
4ME05.5	Students will be able to apply design procedure to helical springs and power screw.
4ME05.6	Students will be benefitted by utilizing the course concepts in project work and show confidence in industry.

2018-19

FIFTH SEMESTER

Course Number:	5ME01
Name of Course:	Production Technology
Sr.no	Course Outcomes
5ME01.1	Students will exhibit the concept of Inspection, Quality control & its importance to industry.
5ME01.2	Students will gain the knowledge of recent techniques, tools & equipments are used to improve the overall performance of the product with better quality, reduction in time and cost.
5ME01.3	Students will reveal the importance of improving production & productivity using work study approach
5ME01.4	Students will exhibit the knowledge of various measurement standards & techniques in the industry.

Course Number:	5ME02
Name of Course:	Heat Transfer
Sr.no	Course Outcomes
5ME02.1	Students will understand the concepts related to modes of heat transfer and different laws of heat transfer.
5ME02.2	Students will be able to understand thermal conductivity and various parameters affecting thermal conductivity of materials.
5ME02.3	Students will have the idea about the radiation and concept of black body and grey body.
5ME02.4	Students will reveal the importance of fins for improving heat exchange between system and surroundings.
5ME02.5	Subject will provide students with number of mathematical relations involve in heat exchange, giving them hands on experience about mathematical analysis of system.
5ME02.6	The course content will help students to analyze energy losses due to heat transfer to surrounding in day to day activities, may motivate them to use energy efficiently.

2018-19

Course Number:	5ME03
Name of Course:	Measurement System
Sr.no	Course Outcomes
5ME03.1	Students get familiarized with the concept of measurement, generalized measurement systems and their working and applications.
5ME03.2	Students learn about different static and dynamic characteristics of measuring instruments.
5ME03.3	Students gain the knowledge about type and order of system and different standard inputs.
5ME03.4	Students learn about various instruments used for measurement of strain, pressure, speed, force, flow, temperature, etc. measurement instruments.

Course Number:	5ME04
Name of Course:	Theory Of Machines - I
Sr.no	Course Outcomes
5ME04.1	Students will get familiarize with common mechanisms used in machines and everyday life
5ME04.2	Students will be able to calculate movability (number of degrees-of-freedom) and enumerate rigid links and types of joints within mechanisms.
5ME04.3	Students will be able to conduct a complete velocity & acceleration analysis of the mechanism
5ME04.4	Students will be able to conduct synthesis of basic mechanisms
5ME04.5	Students will exhibit the practical for study of brake, clutch, dynamometer & gear train

2018-19

Course Number:	5FECE05
Name of Course:	Basics Of Building Construction
Sr.no	Course Outcomes
5FECE05.1	Students will be able to understand the basic concepts of structures and types of foundation
5FECE05.2	Students will be able to understand the different type of masonry, floors and roofs
5FECE05.3	Students will be able to distinguish between the types of doors, windows, arches, lintels, staircases and scaffoldings
5FECE05.4	Students will be able to understand special aspects of construction, damp proof, sound proof and fire proof construction and construction joints

SIXTH SEMESTER

Course Number:	6ME01
Name of Course:	Fluid Power - Ii
Sr.no	Course Outcomes
6ME01.1	Students will demonstrate basic concept of prime movers and turbines.
6ME01.2	Students will develop the knowledge of centrifugal pump.
6ME01.3	Students will reveal the importance of axial flow pump, water lifting devices and CFD.
6ME01.4	Students will understand the concept of positive displacement pumps.
6ME01.5	Students will capable to solve the elementary treatment on compressible fluid flow.
6ME01.6	Students will understand the concept of hydrostatic system and hydrokinetic system.
6ME01.7	Students will use the knowledge of Fluid Power in developing project work.

2018-19

Course Number:	6ME02
Name of Course:	Computer Software Applications
Sr.no	Course Outcomes
6ME02.1	Ability to define the terminology, features, classifications, and characteristics embodied in database systems
6ME02.2	Ability to understand the functional dependencies and design of the database.
6ME02.3	Use of an SQL interface of a multi-user relational DBMS package to create, secure, populate, maintain, and query a database
6ME02.4	Ability to create a database for different applications and the program relating to it.

Course Number:	6ME03
Name of Course:	Control System Engineering
Sr.no	Course Outcomes
6ME03.1	Students get familiarized with the concept of control system and transfer function.
6ME03.2	Students will be able to formulate mathematical equations of mechanical systems and determine the transfer function.
6ME03.3	Students learn about different types of standard inputs, response of first and second order system to standard inputs, time domain specifications and steady state errors.
6ME03.4	Students gain the knowledge about the concept of stability and different methods to determine the stability of a control system.

2018-19

Course Number:	6ME04
Name of Course:	Theory Of Machines-Ii
Sr.no	Course Outcomes
6ME04.1	Students will be able to analyze static force analysis of mechanisms
6ME04.2	Students will be able to understand the concept of equivalent dynamical system
6ME04.3	Students will be able to understand turning moment diagram and applications of flywheel
6ME04.4	Students will understand the gyroscopic effects in ships, aeroplanes and road vehicles.
6ME04.5	Students will know how to determine the natural frequencies of different vibrations
6ME04.6	Students will be able to understand static & dynamic balancing of rotating & reciprocating masses

Course Number:	6FEIT05
Name of Course:	E-Commerce
Sr.no	Course Outcomes
6FEIT05.1	Students will be able to get familiarized with E-Commerce and be able to identify and describe its types, the unique features of E-Commerce technology and discuss their business significance.
6FEIT05.2	Students will be able to identify the key components of E-Commerce business models, describe the major B2C, B2B business models and recognize business models in other emerging areas.
6FEIT05.3	Students will be able to build an E-Commerce website using server software and hardware tools
6FEIT05.4	Students will be able to understand online security and payment system, security threats in the environment, some technology solutions, Management Policies, business procedures and public laws, payment systems.

Course Number:	6ME06
Name of Course:	Communication Skill
Sr.no	Course Outcomes
6ME06.1	Students will be able to acquire the knowledge of grammar and unseen passage.
6ME06.2	Students will be able to understand the importance of communication, important aspects of non-verbal communication and types of graphs
6ME06.3	Students will be able to write the various formats of day to day written communication and will also understand the importance of interpersonal skills.

2018-19

SEVENTH SEMESTER

Course Number:	7ME01
Name of Course:	Machine Design and Drawing II
Sr.no	Course Outcomes
7ME01.1	Understand and implement the basics in design of mechanical components and their applications
7ME01.2	Understand and theoretically design various shafts, I.C. engine parts, governors used in a machine
7ME01.3	Understand different drive systems, bearing designs and gear terminology
7ME01.4	Understand the principles and designing aspects of flywheel, keys and couplings.

Course Number:	7ME02
Name of Course:	Energy Conversion – II
Sr.no	Course Outcomes
7ME02.1	Students will exhibit the working of different types of compressors.
7ME02.2	Students will understand the principle of working of refrigeration and air conditioning systems and its applications.
7ME02.3	Students will be able to demonstrate the use of gas turbines in power plants.
7ME02.4	Students will understand various nuclear reactions and issues related to working and maintenance of nuclear power generation.
7ME02.5	Students will be able to apply the knowledge in order to develop various renewable energy systems.

2018-19

Course Number:	7ME03
Name of Course:	Industrial Management And Costing
Sr.no	Course Outcomes
7ME03.1	Students will be able to understand the working of business environment. & familiar with the management thoughts, its evolution and functions.
7ME03.2	Students will demonstrate the marketing skills and knowledge related to international marketing.
7ME03.3	Students will be able to handle human resources and plan according to requirements.
7ME03.4	Students will be able to exhibit standard and scientific techniques in materials management.
7ME03.5	Students will demonstrate to calculate weight, machining time & estimated costs.
7ME03.6	Students will be able to understand the financial statement of the organization.
7ME03.7	Students will demonstrate to calculate cost sheet of industries and depreciation of an asset.

Course Number:	7ME04
Name of Course:	AUTOMATION ENGINEERING
Sr.no	Course Outcomes
7ME04.1	Students will be able to understand the basics of automation and will be able to handle real time problems of automated flow lines like line balancing.
7ME04.2	Students will gain the skills to write NC/CNC programs for given profile.
7ME04.3	Students will understand the basic concepts, terminologies related to robots, their different configurations and industrial applications.
7ME04.4	Students will get an insight in to the philosophy of G.T. and concept of FMS.
7ME04.5	Student will develop a thinking/ understanding about the factory of future along with the automated inspection techniques.

2018-19

Course Number:	7ME05
Name of Course:	Non Conventional Energy Sources
Sr.no	Course Outcomes
7ME05.1	Students will understand concept of renewable and non-renewable sources.
7ME05 .2	Students will understand the basic concept of radiation transmission through covers and solar energy collections.
7ME05 .3	Students will demonstrate the basic concept of Solar energy utilization and storage.
7ME05 .4	Students will be able to demonstrate the concept of energy from ocean and wind.
7ME05 .5	Students will understand the concept of bio-mass energy resources.
7ME05 .6	Students will understand the concept of direct energy conversion and fuel cell.
7ME05 .7	Students will exhibit the knowledge of NES in development of project work.

EIGHTH SEMESTER

Course Number:	8ME01
Name of Course:	Automobile Engineering
Sr.no	Course Outcomes
8ME01.1	Students will be able to understand the basic structure of automobile, different types of automobile, different components and their locations.
8ME01.2	Students will acquire knowledge about the ignition system and electrical systems in automobile.
8ME01.3	Students will recognize the basic concepts, terminologies related to fuel feed systems and cooling system in automobile.
8ME01.4	Students will get an insight in to the transmission system of automobile.
8ME01.5	Student will develop a thinking/ understanding about the suspension and braking system used in automobiles.
8ME01.6	Students will become aware about the safety and pollution control norms adopted by automotive industries.

Course Number: 8ME02	
Name of Course: Refrigeration And Air Conditioning	
Sr.no	Course Outcomes
8ME02.1	Students will be able to understand and analyze the Vapour Compression Refrigeration cycle and get familiar with various types of refrigerants.
8ME02.2	Students can know about the working of various multi compression and multi evaporation systems.
8ME02.3	Students will get familiarized with the various types of devices used in VCR system.
8ME02.4	Students will be introduced to various psychometric processes, properties and different air conditioning systems.
8ME02.5	Students will be able to design the various air conditioning systems as per the required comfort conditions.

Course Number:	8ME03
Name of Course:	Internal Combustion Engine
Sr.no	Course Outcomes
8ME03.1	Students will be able to- Differentiate SI and CI engines based on fuel, air-standard cycle, fuel feed system, efficiency, etc.
8ME03.2	Students will be able to-Understand the types of fuels and their alternatives for I.C. Engines.
8ME03.3	Students will be able to-Differentiate phase diagrams for combustion in SI and CI engines with stages of combustion.
8ME03.4	Students will be able to-Understand the purpose of Combustion Chambers.
8ME03.5	Students will be able to-Calculate the power output and various losses incurred in the engines.

2018-19

Course Number:	8ME04
Name of Course:	Operation Research Technique
Sr.no	Course Outcomes
8ME04.1	Students will exhibits the knowledge of OR and OR models.
8ME04.2	Students will be able to solve transportation problems, assignment problems and related issues.
8ME04.3	Students will understand the concept network models, CPM and PERT analysis.
8ME04.4	Students will understand the concept of waiting line model, and sequencing and its related issues.
8ME04.5	Students will understand the concept of replacement models and solve the problem on simulation techniques.
8ME04.1	Students will understand the concept of dynamic programming and applications.

2018-19

DEPARTMENT OF CIVIL ENGINEERING

THIRD SEMESTER

Course Number:	3CE01
Name of Course:	Mathematics III
Sr.No.	Course Outcomes
3CE01.1	Students get fundamental knowledge of higher order differential equations.
3CE01.2	Students can apply Laplace transform to solve Linear differential equations, simultaneous differential equations and its applications to engineering problems.
3CE01.3	Students get aware of partial differential equations.
3CE01.4	Students can apply numerical methods to obtain approximate solutions to mathematical problems.
3CE01.5	Students understand concept of complex analysis,
3CE01.6	Students analyze and interpret statistical data using appropriate probability distributions.

Course Number:	3CE02
Name of Course:	Strength of Materials
Sr.No.	Course Outcomes
3CE02.1	Students will be able to understand concepts of stress and strain and their use in analysis and design
3CE02.2	Students will be able to draw the shear force diagram and bending moments diagram for various types of loading
3CE02.3	Students will be able to analyze the behavior of beam under bending and shear
3CE02.4	Students will be able to analyze stresses in thin cylinders.
3CE02.5	Students will be able to determine strength of different materials
3CE02.6	Students will be able to determine slope and deflection of statically determinant beams

2018-19

Course Number:	3CE03
Name of Course:	Transportation Engineering-I
Sr.No.	Course Outcomes
3CE03.1	Students will able to arrange surveys and materials testing road planning.
3CE03.2	Students will able to analyze and apply the various design parameters for geometric design of various roads with proper alignment based on planning principles
3CE03.3	Students will able to analyze and construct different types of pavements.
3CE03.4	Students will be able to identify traffic characteristics, interpretation of traffic data and its uses and traffic safety
3CE03.5	Students will be able to classify various types of bridges and identify its components
3CE03.6	Students will be able to calculate the different bridge hydrology parameters.

Course Number:	3CE04
Name of Course:	Building Construction & Materials
Sr.No.	Course Outcomes
3CE04.1	Students will be able to understand types of buildings, the basic concepts of structures and types of foundation.
3CE04.2	Students will be able to understand the different type of masonry, floors and roofs
3CE04.3	Students will be able to draw and execute foundation plan also students understand the aspects of construction
3CE04.4	Students will be able to distinguish between the types of doors, windows, arches, lintels, chajjas
3CE04.5	Students will be able to understand functions, types and suitability of staircases
3CE04.6	Students will be able to understand special aspects of construction such as damp proofing, fire proofing and sound proofing

2018-19

Course Number:	3CE05
Name of Course:	Engineering Geology
Sr.No.	Course Outcomes
3CE05.1	Students will be able to indentify the type of rocks and their properties
3CE05.2	Students will be able to indentify the structural elements of rock bed such as fold, fault, joint and unconformity
3CE05.3	Students will be able to draw geological profile and they are bale to measure the thickness of rock beds.
3CE05.4	Students will be understsnad how to use knowledge of geology on field.
3CE05.5	Students will be able to identify types of minerals and their properties.
3CE05.6	Students will gain knowledge about earthquake.

Course Number:	3CE06
Name of Course:	Environmental Studies
Sr.No.	Course Outcomes
3CE06.1	Students gain the fundamental knowledge about environmental studies and its importance.
3CE06.2	Students learn about inter-linking of social issues like global warming, sustainable, ozone layer depletion and environment.
3CE06.3	Students learn about causes and effects of increase in size of human population on environment, society, employment and crises for all basic needs
3CE06.4	Students get familiarized with renewable and non-renewable natural resources and begin to appreciate their commitments to save the planet by conserving natural resources
3CE06.5	Students apply organic farming practices to solve the social & environmental problems.
3CE06.6	Students learn about desertification & formulate various methods to solve the problem of desertification.

FOURTH SEMESTER

Course Number:	4CE01
Name of Course:	Geotechnical Engineering-I
Sr.No	Course Outcomes
4CE01.1	Students will be able to understand the properties of soil such as water content, porosity, density and the able to classify the different types of soil.
4CE01.2	Students will be able to the analyze the engineering properties of soil such as compaction and their field application and quality control
4CE01.3	Students will be able to identify the path of seepage through soil also the able to calculate the discharge of the soil(permeability)
4CE01.4	Students will be able to understand the concept of consolidation and to find out compression index, swelling index, coefficient of compressibility and pre consolidation pressure.
4CE01.5	Students will be able to understand different stresses acting on soil sample under different loading condition.
4CE01.6	Students will be able to understand the concept of shear strength, and they able to investigate unconfined compressive strength, cohesion and angle of internal friction of soil.

Course Number:	4CE02
Name of Course:	Fluid Mechanics-I
Sr.No	Course Outcomes
4CE02.1	Students will be able to understand the properties of fluid such as viscosity, surface tension as well as their applications. Students will be able to measure the pressure by various pressure gauges.
4CE02.2	Students will be able to calculate the forces on immersed bodies also the are able to apply Bernoulli's equation based on Law of conservation of energy.
4CE02.3	Students will be able to determine velocity of fluid, energy possessed by fluid using equations of motion.
4CE02.4	Students will be able to measure the flow through the open channel by using the various notches and weir.
4CE02.5	Students will able to distinguish the various types of flow through the pipe also they are able to calculate various losses in the pipe flow.
4CE02.6	Students will be able to apply equations to pipe networks for flow determination.

2018-19

Course Number:	4CE03
Name of Course:	Theory of Structure-1
Sr.No.	Course Outcomes
4CE03.1	Students will be able to classify the structures according to their determinacy
4CE03.2	Students will be able to analyze the beams by using different methods of analysis
4CE03.3	Students will be able to draw the influence line diagram for different types of loading system
4CE03.4	Students will be able to analyze portal frames and beams by using different displacement methods
4CE03.5	Students will be able to analyze determinate structures subjected to moving loads.
4CE03.6	Students will be able to analyze three hinged arches subjected to different types of loadings.

Course Number:	4CE04
Name of Course:	Surveying-1
Sr.No.	Course Outcomes
4CE04.1	Students will be able to understand the basic concepts of plane and geodetic surveying and measure different distance and angles using basic surveying instruments
4CE04.2	Students will be able to operate instruments for measurement of elements
4CE04.3	Students will be able identify field data collection methods and prepare field notes
4CE04.4	Students will be able to calculate distances, angles and reduce levels of points
4CE04.5	Students will be able to interpret the collected data, prepare maps, and compute area volume.
4CE04.6	Students will be able to use minor instruments for measurments.

2018-19

Course Number:	4CE05
Name of Course:	Reinforced Cement Concrete - I
Sr.No.	Course Outcomes
4CE05.1	Students will be able to develop ability to identify the cement & concrete, appropriate to the climate and functional aspects of the buildings
4CE05.2	Students will be able to interpret and apply fundamental knowledge in the fresh and hardened properties of concrete
4CE05.3	Students will be able to appraise different types of admixtures & chemicals with respect to the requirements
4CE05.4	Students will be able to acquire and apply fundamental knowledge in the Special types of concrete as per the special conditions
4CE05.5	Students would be able to appraise the concepts of mix design of concrete.
4CE05.6	Students would be able to apply the fundamental concepts of working stress method of design for beams and slab

FIFTH SEMESTER

Course Number:	5CE01
Name of Course:	Reinforced cement Concrete- II
Sr.No.	Course Outcomes
5CE01.1	List of water Tank & Analyse it by WSM & LSM
5CE01.2	State differentiate between Working stress and Limit stress methods
5CE01.3	To Analyze and Design components parts of the structures (slab, beams, and staircase)
5CE01.4	To Analyze and Design components parts of the structures (column & footing)
5CE01.5	Propose earthquake resistant construction
5CE01.6	Students will be able to understand ductile detailing of beams, columns and shear walls

Course Number:	5CE02
Name of Course:	Fluid Mechanics-II
Sr.No.	Course Outcomes
5CE02.1	Students will be able to understand Nikuradse's experiment, law of velocity distribution, open channel flow and energy momentum equation.
5CE02.2	Student are able to design the economical channel sections for different shape such as rectangular, trapezoidal, etc.
5CE02.3	Students will be able to compare the various types of hydraulic jump in rectangular channel, and understand the concept of specific energy and specific energy curve.
5CE02.4	Students will be able to understand dimension and model analysis, for the various laws of fluid mechanics
5CE02.5	Students will be able to understand the various type of hydraulic turbine, their classification, working principle, power required and efficiencies.
5CE02.6	Students understand the working of centrifugal, reciprocating and Submersible pumps.

Course Number:	5CE03
Name of Course:	Building Planning and CAD
Sr.No.	Course Outcomes
5CE03.1	Students will be able to understand the importance of building drawing and basics of building drawing including scales, types of line, methods, abbreviation and graphical symbols
5CE03.2	Students will be able to develop layout plan, location plan, elevation, section and concepts of working drawing
5CE03.3	Students will be able to apply general principle of building planning
5CE03.4	Students will be able to solve problems on perspective drawing and understand various building bylaws
5CE03.5	Students will be able to do conversion of land to non agricultural land.
5CE03.6	Students will be able to understand criteria for earthquake resistant planning of building.

2018-19

Course Number:	5CE04
Name of Course:	Surveying-II
Sr.No.	Course Outcomes
5CE04.1	Students will be able to calculate the horizontal and vertical distance without taping and chaining by applying principles of tachometry
5CE04.2	Students will be able to design and set out various types of simple circular curve, compound curve and transition curves
5CE04.3	Students will be able to understand basic concepts of geodetic survey for triangulation
5CE04.4	Students will be able to illustrate the methods of carrying out hydrographic and underground survey.
5CE04.5	Students will be able to apply advance surveying techniques such as Photogrammetric and Remote Sensing
5CE04.6	Students will be able to analyze the maps drawn by the using GIS and GPS

Course Number:	5FEME05
Name of Course:	Manufacturing Techniques
Sr.No.	Course Outcomes
5FEME05.1	Students will exhibit knowledge of manufacturing techniques and its application in engineering.
5FEME05.2	Students will exhibit knowledge of machining operation, sheet metal work and processes
5FEME05.3	Students will show the ability to apply various joining methods in practice.
5FEME05.4	Students will exhibit knowledge of powder metallurgy
5FEME05.5	Students will demonstrate the application of various techniques in development of project work.
5FEME05.6	Students will exhibit knowledge of Casting Methods

Course Number:	5CE06
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2018-19

Name of Course:		Communication Skill
Sr.No.	Course Outcomes	
5CE06.1	Students will be able to acquire the knowledge of grammar and unseen passage	
5CE06.2	Students will be able to understand the significance of verbal communication, organization of text, important text factors and evaluation of written communication for its effectivity and subject content.	
5CE06.3	Students will learn the aspects of non verbal communication, body language and types of graphs and pictorial devices	
5CE06.4	Students will be able to write the various formats of written communication like reports, proposals, notice agenda & minutes etc.	
5CE06.5	Students will learn the important objectives of interpersonal skills, face to face communication, group discussion, personal interview. They will learn the methodology of conducting meetings, seminars conferences etc.	
5CE06.6	Students will learn and practise the etiquettes of Email writing	

SIXTH SEMESTER

Course Number:		6CE01
Name of Course:		Numerical Methods and computer Programming
Sr.No.	Course Outcomes	
6CE01.1	Students will be able to handle Spread sheet software and will be able to execute program.	
6CE01.2	Students will be able to handle FORTRAN language and will be able to execute program in FORTRAN language	
6CE01.3	Students will be able to understands the concept of control statement and sub programs of FORTRAN language	
6CE01.4	Students will be able to understand the basic concepts and develop program on matrix operations	
6CE01.5	Students will be able to understand the basic concepts and develop program on numerical methods.	
6CE01.6	Students will be able to apply the knowledge of FORTRAN language on various civil engineering problems	

2018-19

Course Number:	6CE02
Name of Course:	Design of R.C.C. and Pre-Stress Concrete Structure
Sr.No.	Course Outcomes
6CE02.1	Students get fundamental knowledge of behavior, analysis and design of flat slab.
6CE02.2	Acquire and apply fundamental in behavior, analysis and design of retaining wall.
6CE02.3	Develop ability to design combined footings.
6CE02.4	Students get fundamental knowledge of prestressing concrete, methods, losses etc.
6CE02.5	Student's gets hold on the behavior, analysis of prestressed concrete beam.
6CE02.6	Develop ability to design prestressed concrete circular water tank.

Course Number:	6CE03
Name of Course:	Water Resources Engineering-1
Sr.No.	Course Outcomes
6CE03.1	Students will be able to understand basic concepts of hydrology, evaporation, evapotranspiration, hydrological cycle and irrigation structures.
6CE03.2	Students will be able to find out rate of evaporation, evapotranspiration and understand process of infiltration.
6CE03.3	Students will be able to analyze the hydrograph, estimate the flood and study the flood control techniques.
6CE03.4	Students will be able to understand need of irrigation, concept of minor irrigation system.
6CE03.5	Students will be able to find out crop water requirement and hence to estimate the water required for irrigation.
6CE03.6	Students understands the need of water harvesting various methods of water harvesting.

2018-19

Course Number:	6CE04
Name of Course:	Transportation Engineering-II
Sr.No.	Course Outcomes
6CE04.1	Students will be able to indentify functions of components of railway track
6CE04.2	Students will be able to apply existing technology to geometric design of railway track
6CE04.3	Students will be able to apply existing technology to the design, construction, and maintenance of railway physical facilities
6CE04.4	Students will be able to indentify functions of components of airport and draw its layout
6CE04.5	Students will be able to understand characteristics of components of airport
6CE04.6	Students will be able to understand necessity, types, economics, alignment, and methods of tunneling

Course Number:	6CE06
Name of Course:	Estimating and Costing
Sr.No.	Course Outcomes
6CE06.1	Students will be able to understand different methods of estimate and specifications.
6CE06.2	Students will be able to understand the concept of Cost building - schedule rates and task work.
6CE06.3	Students will be able to understand detailed concepts of earthwork estimate in road work.
6CE06.4	Students will be able to understand valuation and its purpose and types of values.
6CE06.5	Students will be able to understand the role of Government Department as a construction agency.
6CE06.6	Students will be able to understand the procedure for tendering in government departments.

SEVENTH SEMESTER

2018-19

Course Number:	7CE01
Name of Course:	Theory of Structure-II
Sr.No.	Course Outcomes
7CE01.1	Students will be able to analyze the portal frame using slope deflection method and moment distribution method
7CE01.2	Students will be able to analyze the indeterminate beams and frame structures using kani's method
7CE01.3	Students will be able to understand castiglano's second theorem
7CE01.4	Students will be able to utilize the concept of influence line diagram for continuous beam
7CE01.5	Students will be able to understand flexible method and plastic analysis of steel structure
7CE01.6	Students will be able to distinguish between determinant and redundant structural system and understand stiffness method

Course Number:	7CE02
Name of Course:	Geotechnical Engineering-II
Sr.No.	Course Outcomes
7CE02.1	Students will be able to understand various field exploration programs such as SPT test, field vane shear test, geophysical methods.
7CE02.2	Students will be able to calculate bearing capacity of soil by analytical methods and by field methods.
7CE02.3	Students will be able to calculate earth pressure of soil for various field conditions.
7CE02.4	Students will be able to classify the piles and able to calculate their capacity and to design understand piles in clay and sand.
7CE02.5	Students will be able to understand the settlement criteria of foundation.
7CE02.6	Students will be able to understand detailed about well foundation,their component parts, design methods.

Course Number:	7CE03
Name of Course:	Structural Design-II
Sr.No.	Course Outcomes
7CE03.1	Student will be able to identify various primary loads, load combinations and Apply the concepts of structural design to obtain suitable member sizes/sections.
7CE03.2	Student will be able to interpret the structural behaviour of different elements of structure with respect to loads.
7CE03.3	Student will be able to assess the various Indian standards for design of flat slab, retaining walls, combined footings, canopies and parking
7CE03.4	Student will be able to analyze and design of flat slab, retaining walls, combined footings, canopies and parking
7CE03.5	Student will be able to interpret concepts of prestress concrete, types of prestressing and their losses
7CE03.6	Student be able to analyze and design prestressed concrete beam, slab and water tank.

Course Number:	7CE04
Name of Course:	Environmental Engineering-I
Sr.No.	Course Outcomes
7CE04.1	Students will be able to understand the knowledge of different water demands also estimate the quantity of water and forecast the population.
7CE04.2	Students will be able to understand different impurities in water and their effects.
7CE04.3	Students will be able to understand knowledge of different treatments for water in water treatment plants.
7CE04.4	Students are able to understand different types of distribution system and storage reservoir.
7CE04.5	Students will be able to understand the knowledge of different types of aeration systems.
7CE04.6	Students will be able to understand the knowledge of different types of filters in treatment units

Course Number:	7CE05
Name of Course:	Environmental Pollution and Rural Sanitation
Sr.No.	Course Outcomes
7CE05.1	Students will be able to understand general components of environment, nature and scope of environmental pollution, and degradation of environment due to human activity
7CE05.2	Students will be able to analyze the water quality with respect to the different parameters
7CE05.3	Students will be able to draw the general layout for industrial waste water treatment plant
7CE05.4	Students will be able to select proper treatment and disposal technology for waste water, solid waste and noise pollution
7CE05.5	Students will be able to carry out environmental impact assessment for civil engineering project
7CE05.6	Students will be able to apply concepts of environmental impact assessment, understand the collection and disposal methods for night soil and design biogas plant

EIGHTH SEMESTER

Course Number:	8CE01
Name of Course:	Water Resources Engineering-II
Sr.No.	Course Outcomes
8CE01.1	Students will be able to understand the control levels of reservoir, various types of dams also they are able to understand the various failure that occurs in a earthen dam.
8CE01.2	Students will be able to understand the practical and elementary profile of gravity dam also they understand the various forces acting on gravity dam.
8CE01.3	Students will be able to understand the various types of diversion headwork, spillways, what are the different types of energy dissipators.
8CE01.4	Students will be able to understand the types of canals, their design, canal masonry work and cross drainage work such as aqueduct, canal siphon.
8CE01.5	Students will be able to understand canal masonry work and canal regulationry work
8CE01.6	Students will be able to understand well irrigation, watershed management, its need and management also the understand need of water harvesting.

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Course Number:	8CE02
Name of Course:	Environmental Engineering-II
Sr.No	Course Outcomes
8CE02.1	Students will be able to differentiate between types of sewerage systems and design it.
8CE02.2	Students will be able to understand characteristics waste water and will be able to draw layouts of waste water treatment plant.
8CE02.3	Students will be able to apply primary, secondary and tertiary treatment techniques for waste water treatment
8CE02.4	Students will be able to understand different effluent standards and study the low cost waste treatment
8CE02.5	Students will be able to understand the characteristics of solid waste and its treatment and disposal methods.
8CE02.6	Students will be able to understand basic concepts of air pollution, EIA and environmental audit.

Course Number:	8CE03
Name of Course:	Project Planning and Management
Sr.No.	Course Outcomes
8CE03.1	Students will be able to understand basic concepts of project planning, project monitoring and project life cycle
8CE03.2	Students will be able to develop and analyze schedule of activities for construction projects using CPM, bar charts.
8CE03.3	Students will be able to understand the concept of PERT and develop and analyzed the activities for project using PERT
8CE03.4	Students will be able to apply concepts of principles of management, resources smoothening and leveling
8CE03.5	Students will be able to understand principals of management, organisation and then function along with safety management.
8CE03.6	Students will be able to understand construction and working of equipments used in construction

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Course Number:	8CE04
Name of Course:	Dam Engineering
Sr.No.	Course Outcomes
8CE04.1	Students will be able to understand requirement , suitability and classification of dams.
8CE04.2	Students will be able to understand types of rockfill dam, arch dam and its design.
8CE04.3	Students will be able to understand types of buttress dam, forces acting and preliminary design.
8CE04.4	Students will be able to design the spillways, hydraulic jump.
8CE04.5	Students will be able to understand types of head regulator, energy dissipation and hydraulic design of opening and barrel.
8CE04.6	Students will be able to study the various instruments used in earth dam and gravity dam such as piezometers, gauges, strain meters and joint meters.

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THIRD SEMESTER

Course Code: 3KS01	
Course Name: Engineering Maths-III	
CO No.	Course Outcomes
After completion of course students will able to:	
3KS01.1	Get fundamental knowledge of Ordinary Differential equations.
3KS01.2	Familiar with Laplace Transform and its applications to solve Differential equations.
3KS01.3	Familiar with applications of Z-transform to solve Difference equations.
3KS01.4	Solve Fourier Transform and Partial differential equations.
3KS01.5	Understand the concepts of Complex Analysis, Harmonic function and Analytic function.
3KS01.6	Get knowledge of Vector calculus.

Course Code: 3KS03	
Course Name: Electronic Device And Circuits	
CO No.	Course Outcomes
After completion of course students will able to:	
3KS03.1	Understand the characteristics and operation of semiconductor devices such as Diode, Zener Diode, BJT, Amplifier as well as applications like Rectifier circuits & filters
3KS03.2	Understand the construction & working of JFET, MOSFET, VMOSFET with their characteristics
3KS03.3	Gain the knowledge regarding various types of oscillators such as RC, LC & crystal oscillator & their applications
3KS03.4	Understand the principle of operation, characteristics & applications of Opto-Electronic Devices such as photodiodes, phototransistors & Opto-couplers

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Course Code:3KS04	
Course Name:Discrete Structure	
CO No.	Course Outcomes
After completion of course students will able to:	
3KS04.1	Describe well formed formula by using connectivity's, List truth table problems with solution,and identify normal forms problems using implications & equivalence rules.
3KS04.2	Express predicate calculus and inference rules and to solve to theory of the predicate calculus problems.
3KS04.3	Explain basic concept of set theory ,to solve operations on set ,venn diagram, representation of discrete structure, relations matrix with graph ,function & recursion.
3KS04.4	Give example of algebraic system semi groups and monoid, groups and polished expression.
3KS04.5	Estimate lattice and to solve Boolean algebra, function, representation of logical function and minimization Boolean function.
3KS04.6	Sketch the graphs& learn basic concept of graph, trees, storage representation of trees, operations on trees and list structure.

Course Code: 3KS05	
Course Name: Computer Organization	
CO. No	Course Outcomes
After completion of course students will able to:	
3KS05.1	Gain the basic knowledge of computer architecture, different addressing modes, basic I/O operations, stack, queue and subroutines
3KS05.2	Describe the concepts of hardwired and micro programmed control, micro program sequencing, microinstruction pre-fetching and emulation.
3KS05.3	Get knowledge of interrupts to be use to implement I/O control and DMA as well as various types of buses in computer systems.
3KS05.4	Classify different types of memories and their organization.
3KS05.5	Illustrate number representation, arithmetic operations and Booth's algorithm.
3KS05.6	Categorize various peripheral devices like I/O devices, storage devices and communication devices.

FOURTH SEMESTER

Course Code: 4KS01	
Course Name: Data Structure	
CO No.	Course Outcomes
After completion of course students will able to:	
4KS01.1	Gain knowledge on representation and use of primitive data types and built in data structures and their applications.
4KS01.2	Explain the concept of Traversing linear arrays, their array representation in memory and able to perform Linear and Binary search.
4KS01.3	Learn the concept of linked lists and their representation in memory, traversing a linked list, searching in a linked list.
4KS01.4	Classify the concept of Stacks, Queues and their array representation.
4KS01.5	Learn about the concepts of Trees, Binary trees, Traversing binary trees. And their representation in memory.
4KS01.6	Analyze and understand different algorithms techniques (Warshall, Selection sort etc.).

Course Code: 4KS02	
Course Name: Analog & Digital Integrated Circuits	
CO No.	Course Outcomes
After completion of course students will able to:	
4KS02.1	Understand the characteristics and operation of various Analog IC's such as Operational Amplifier, Timer & Phase locked loop as well as their applications
4KS02.2	Introduce to various number systems, codes & their inter conversions. Also they will be able to analyze and design SSI Circuit using the knowledge of Boolean Algebra and various minimization techniques
4KS02.3	Design various combinational circuits such as Adder, Subtractor, Comparator and MSI circuits such as Multiplexer & Decoder
4KS02.4	Gain the knowledge of various types of Flip-Flops and will be able to design various sequential circuits such as shift registers and counters

Course Code: 4KS03	
Course Name: Object Oriented Programming	
CO No.	Course Outcomes
After completion of course students will able to:	
4KS03.1	Classify the basics of OOP and analyzing basics of Object oriented approach on constructors, static class data, objects, and assess the string related programs.
4KS03.2	Describe the knowledge of Operator overloading and by preparing it, design and implement programs using classes and objects, pointer and operator overloading.
4KS03.3	Identify the knowledge of Inheritance and by generalizing it, design the flowchart models and implement programs for the types of inheritance and use them.

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4KS03.4	Able to analyze virtual functions, polymorphic behavior of objects, design the flowchart models and implement programs of friend functions and virtual base classes.
4KS03.5	Outline the Streams & Files in object oriented programming, implement programs of command line argument and analyse and summarize file related operations.
4KS03.6	Differentiate the Standard template library, design and implement class template, function template and template libraries and evaluating the exception handling programs.

Course Code: 4KS04	
Course Name: Assembly Language Programming	
CO No.	Course Outcomes
After completion of course students will able to:	
4KS04.1	Learn the basic concepts of microprocessor and assembly language programming.
4KS04.2	Gain knowledge of microprocessor based systems, addressing modes and interfacing techniques.
4KS04.3	Understand the techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
4KS04.4	Apply the instruction related to stack and subroutine mechanism.
4KS04.5	Define I/O bus cycles, I/O interfaces and PPI organization
4KS04.6	Identify the types of interrupts with their priority and able to explain the interrupt controller IC.

Course Code: 4KS05	
Course Name: Theory of Computation	
CO No.	Course Outcomes
After completion of course students will able to:	
4KS05.1	Clarify the fundamental mathematical, regular languages and finite automata.
4KS05.2	Able to describe and transform regular expressions and grammars.
4KS05.3	Apply the concept and design of push-down automata.
4KS05.4	Summarize the design of Turing machine and various types of TM.
4KS05.5	Recognize decidable and undecidable problems and languages.
4KS05.6	Identify recursive enumerable languages, recursive function theory.

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FIFTH SEMESTER

Course Code: 5KS01	
Course Name: Data Communication	
CO. No	Course Outcomes
After completion of course students will able to:	
5KS01.1	Understand the components of a data communications system and different types of signals and functions of encoding and modulation .
5KS01.2	Understand basic fundamentals concepts of different types of conversion between analog and digital signals/data. Concept of Transmission media and performances and calculation.
5KS01.3	Get the knowledge of multiplexing, De-multiplexing, Error-Correction and Detection methods.
5KS01.4	Get the knowledge of the concepts of data link controls and protocols. Study and analysis of various protocols and their formats.
5KS01.5	Learn the working principles of LAN, Ethernet token ring , token bus, switching techniques and apply those techniques
5KS01.6	Understand the operation of frame relay and their different features. leaky bucket algorithm, To learn congestion control and traffic control mechanism.

Course Code: 5KS02	
Course Name: File Structures And Data Processing	
CO. No	Course Outcomes
After completion of course students will able to:	
5KS02.1	Outline the fundamentals concept of File Processing operations and storage structures.
5KS02.2	Describe and Distinguish methods for field and record organization and file accessing.
5KS02.3	Describe several approaches to data compression techniques and placement
5KS02.4	Analyse some of the fundamentals associated with sorting of files on disc and
5KS02.5	Outline and construct the concept of Multilevel indexing and B-Tree.
5KS02.6	Examine hashing and collision techniques.

Course Code: 5KS03	
Course Name: System Software	
CO. No	Course Outcomes
After completion of course students will able to:	
5KS03.1	Identify and summarize different phases and passes of compiler and their functioning.
5KS03.2	Clarify the concept of syntax analysis and to solve the problems of predictive parsing.
5KS03.3	To differentiate between top down and bottom up parsing and recognize syntax directed translation techniques.

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5KS03.4	To apply code optimization and code generation techniques.
5KS03.5	To produce the Symbol Table and Run-Time Environment.
5KS03.6	Summarize the concept of code generation and code optimization.

Course Code: 5KS04	
Course Name: Switching Theory And Logic Design	
CO. No	Course Outcomes
After completion of course students will able to:	
5KS04.1	Understand VHDL modeling concept and fundamentals like specific data types, operators and different sequential statements to implement sequential digital logic.
5KS04.2	Understand data collection and representation using arrays and records and their referencing.
5KS04.3	Understand different logic minimization techniques like K-Map, QM Methods and benefits of minimizing logical expressions or functions in terms of cost, time and area.
5KS04.4	Learn combinational logic circuit designing and their benefits.
5KS04.5	Learn combinational logic circuit designing using universal device like multiplexer and etc.
5KS04.6	Learn sequential logic circuit designing like counters, shift registers and FSM modeling.

Course Code: 5FEIT05	
Course Name: Introduction Of Computer Network	
CO. No	Course Outcomes
After completion of course students will able to:	
5FEIT05.1	Understand basic Concept of Networking
5FEIT05.2	Understand concept of Different PC model and related Networking Application.
5FEIT05.3	Understand Interconnecting the LAN, OSI Model, network bridge, switch, Routers.
5FEIT05.4	Understand Introduction of TCP/IP, IPV4 addressing, subnet mask,, basic of IPV6 and
5FEIT05.5	Understand Router configuration and Different Protocol Concept
5FEIT05.6	Understand the dynamic routing protocols such as RIP, EIGP, TFTP, OSPF.

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Course Code: 5KS06	
Course Name: Communication Skills	
CO. No	Course Outcomes
After completion of course students will able to:	
5KS06.1	Acquire the knowledge of grammar and unseen passage.
5KS06.2	Understand the significance of verbal communication, organization of text, important text factors and evaluation of written communication for its effectivity and subject content.
5KS06.3	Learn the aspects of non verbal communication, body language and types of graphs and pictorial devices.
5KS06.4	Write the various formats of written communication like reports, proposals, notice agenda & minutes etc.
5KS06.5	Learn the important objectives of interpersonal skills, face to face communication, group discussion, personal interview. They will learn the methodology of conducting meetings, seminars conferences etc.
5KS06.6	Practise the etiquettes of Email writing

SIXTH SEMESTER

Course Code: 6KS01	
Course Name: Operating System	
CO No.	Course Outcomes
After completion of course students will able to:	
6KS01.1	Learn basic of Operating System, process, threads.
6KS01.2	Describes the various CPU scheduling algorithms & the concept of deadlock.
6KS01.3	Explain various memory management techniques and concept of disk scheduling algorithm for better utilization of external memory.
6KS01.4	Understand the concept of file system.
6KS01.5	Study the concept of I/O scheduling and disk scheduling algorithm.
6KS01.6	Explain the objectives and functions of Linux system.

Course Code: 6KS02	
Course Name: Database Systems	
CO No.	Course Outcomes
After completion of course students will able to:	
6KS02.1	Identify the application areas of database system and ability to design ER diagram.
6KS02.2	Learn the concept of relational model and ability to solve SQL queries.
6KS02.3	Apply integrity constraints and various normalization forms.
6KS02.4	Describe query processing and query optimization
6KS02.5	Define ACID properties and serializability of transaction Management.
6KS02.6	Perceive Concurrency control protocols and recovery management system.

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Course Code:6KS03	
Course Name:Computing Resource Management	
CO No.	Course Outcomes
After completion of course students will able to:	
6KS03.1	Understand the building blocks of IT infrastructure viz. Process, people and
6KS03.2	Understand the process of system management.
6KS03.3	Get the knowledge of complete business model and its process.
6KS03.4	Gain knowledge of the complete business process
6KS03.5	Learn to develop and integrate robust world class infrastructure
6KS03.6	Apply processes of traditional system management to client-server and web-enabled

Course Code: 6KS04	
Course Name: Computer Architecture	
CO No.	Course Outcomes
After completion of course students will able to:	
6KS04.1	Get the information and understanding of Instruction sets and their formats.
6KS04.2	Gain knowledge about addressing modes of ARM and X86 Architecture.
6KS04.3	Get the knowledge about processor structure and its functions. Understanding of instruction pipelining concept.
6KS04.4	Understand the concept of RISC machine and their architecture, RISC vs CISC machine
6KS04.5	Study the control unit operations and microinstruction sequencing & execution.
6KS04.6	Understand Parallel processing environment and knowledge about multicore and multiprocessor organization.

Course Code: 6FEIT05	
Course Name: E-Commerce	
CO No.	Course Outcomes
After completion of course students will able to:	
6FEIT05.1	Understand concepts of E-commerce Business Models and its Strategies.
6FEIT05.2	Understand and use the concepts of developing the E-commerce website and payment issues.
6FEIT05.3	Explain concepts of online communication and marketing tools of E-commerce with its strategies.
6FEIT05.4	Use the concepts of security in e-commerce.
6FEIT05.5	Understand and use the concepts of developing the e-commerce payment issues.

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Course Code : 6KS06	
Course Name: Professional Ethics	
CO No.	Course Outcomes
After completion of course students will able to:	
6KS06.1.	Understand computers in a Social Context, Moral and Legal issues. Computer Ethical issues. Philosophical Ethics and Professional Ethics.
6KS06.2	Understand Ethics and The Internet, characteristics, Hacking and Hacker Ethics, Property Rights in Computer Software, Proprietary Software and Software Copying.
6KS06.3.	Gain the knowledge of Accountability, Computer and information Technology , Software, Y2K Problem, Internet Issues, ISP Liability, and Virtual Action.Technology and Social change, Free Expression, Overarching and Future Issues.

SEVENTH SEMESTER

Course Code: 7KS01	
Course Name: Digital Signal Processing	
CO. No	Course Outcomes
After completion of course students will able to:	
7KS01.1	Familiarized with the types of signal, classification of signals & system and its Fundamental properties
7KS01.2	Understand LTI system.
7KS01.3	Understand need of transform theory (Z-Transform) in discrete domain, its ROC determination, and Inverse Z-Transform by using various methods.
7KS01.4	Understand need of Fourier Transform, Computation of DFT and IDFT, FFT.
7KS01.5	Design LP, BP, HP, FIR, and IIR filters.
7KS01.6	Realize FIR, IIR filters.

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Course Code: 7KS02	
Course Name: Computer Networks	
CO. No	Course Outcomes
After completion of course students will able to:	
7KS02.1	Understand the layered architecture and internet protocols along with the principles and purpose of application layer and transport layer.
7KS02.2	Get knowledge of network layer, routing protocols and their working principles in depth.
7KS02.3	Learn concepts of link layer and its services.
7KS02.4	Understand principles of security issues in network and infrastructure for network management.
7KS02.5	Learn to Network security, its basic issues, principles and protocols
7KS02.6	Get knowledge of Network Management, its basic issues, principles and protocols

Course Code :- 7KS03	
Course Name :- Design and Analysis of Algorithms	
CO. No	Course Outcomes
After completion of course students will able to:	
7KS03.1	Describe various design issues for iterative algorithms.
7KS03.2	Apply divide and conquer strategy to solve problems.
7KS03.3	Define greedy algorithms. Apply greedy strategy to solve problems.
7KS03.4	Describe dynamic programming approach to practice examples based on it.
7KS03.5	Define and apply backtracking methods for solving examples.
7KS03.6	Summarize various ways for calculating efficiency of algorithm.

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Course Code: 7KS04	
Course Name: Object Oriented Analysis & Design	
CO. No	Course Outcomes
After completion of course students will able to:	
7KS04.1	Understand the basic concept of modeling
7KS04.2	Classify the different systems in modeling concept
7KS04.3	Mastered the techniques of Object Oriented Philosophy.
7KS04.4	Analyse of System in Object Oriented way.
7KS04.5	Design the System in Object Oriented Way.
7KS04.6	Implement various systems in models and compare it.

Course Code: 7KS05	
Course Name: Web Engineering	
CO. No	Course Outcomes
After completion of course students will able to:	
7KS05.1	Classify the basics of web engineering and its applications
7KS05.2	Demonstrate the knowledge of programming in Hypertext Markup Language with Cascading Style Sheet
7KS05.3	Distinguish the concept of the DTD, Purpose of DTD and DTD in XML document.
7KS05.4	Practice various programs on Java Script
7KS05.5	Apply the knowledge of XML scheme and Structure
7KS05.6	Define the knowledge of Common Gateway Interface

EIGHT SEMESTER

Course Code: 8KS01	
Course Name: Artificial Intelligence	
CO No.	Course Outcomes
After completion of course students will able to:	
8KS01.1	Clarify the concept of Artificial Intelligence and Basic knowledge of Artificial Intelligence.
8KS01.2	Explain and Give the example on different searching techniques like using different machine techniques and AND-OR graph.
8KS01.3	Illustrate Game playing with Mini-max search and Adding alpha-Beta Cutoffs etc.
8KS01.4	Analyze the knowledge Representation using predicate logic.
8KS01.5	Generalize structure representation of knowledge and explain declarative representations.
8KS01.6	Summarize common AI applications and justify the AI By using NLP.

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Course Code:8KS02	
Course Name: Embedded System	
CO No.	Course Outcomes
After completion of course students will able to:	
8KS02.1	Learn the concept of Embedded system and component of Embedded system.
8KS02.2	Understand application areas and purpose of embedded system.
8KS02.3	Learn detail architecture of Intel 8051 microcontroller.
8KS02.4	Understand 8051 microcontroller programming.
8KS02.5	Familiar with the concept of programming in Embedded C.
8KS02.6	Familiar with the concept of Real time Operating System such as VxWorks.

Course Code:8KS03	
Course Name: Software Engineering	
CO No.	Course Outcomes
After completion of course students will able to:	
8KS03.1	Learn basic concept of software engineering.
8KS03.2	Understand the concepts of process modeling.
8KS03.3	Analysis software sizing in software development.
8KS03.4	Synthesis of risk analysis
8KS03.5	Able to understand Software Quality Assurance concepts.
8KS03.6	Evaluate testing principles.

Course Code :- 8KS04	
Course Name :- Network Security	
CO No.	Course Outcomes
After completion of course students will able to:	
8KS04.1	Describe various encryption algorithm along with OSI security architecture.
8KS04.2	Define various method of cryptography and message authentication.
8KS04.3	Describe IP security and various authentication application.
8KS04.4	Describe the concept of network security and management.
8KS04.5	State various malicious software and summarize the concept of firewall.

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Master of Business Administration (MBA)

FIRST SEMESTER

Course Number:MBA.101	
Course Name: Principles and Practices of Management.	
Sr. No	Course Outcome
MBA.101.1	Students understood the concepts and philosophies of management.
MBA.101.2	Students learned various aspects of planning.
MBA.101.3	Students gained knowledge about various aspects of organizing.
MBA.101.4	Students understood concepts like direction and co-ordination.
MBA.101.5	Students learned various tools, techniques of control.

Course Number: MBA.102	
Course Name: Managerial Economics	
Sr. No	Course Outcome
MBA.102.1	Students acquainted themselves with the roles of manager in firms.
MBA.102.2	Students learnt interaction between the supply of a resource & demand for that resource.
MBA.102.3	Students are in position to make optimal business decision by integrating the concepts of economics, mathematics & statistics.
MBA.102.4	Students explored how the firms interact with the market to determine pricing and demand and then allocate resources according to models that look to maximize net profits.
MBA.102.5	With the understanding of market structure students can now determine the nature of competition prevailing in the market.

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Course Number: MBA.103	
Course Name: Managerial Skills Development	
Sr. No	Course Outcome
MBA.103.1	Students able to understand the knowledge of employability skill, soft skill and technical skill.
MBA.103.2	Students comprehend the Importance, nature, type, principles, process, and barriers of effective communication.
MBA.103.3	Students understand the Do's and Don'ts of various types of business writing and business correspondence with introduction to e-communication.
MBA.103.4	Students come to know about importance and gain the knowledge of listening skills, body language, public speaking and negotiation skill.
MBA.103.5	Students acquire the knowledge of Interview Techniques, Group Discussion, Presentation skill, Paper writing.

Course Number: MBA.104	
Course Name: Accounting for Managers	
Sr. No	Course Outcome
MBA.104.1	It increased the basic conceptual understanding about Financial Accounting.
MBA.104.2	Students understood Financial Statements and its analysis
MBA.104.3	Students acquainted with the Depreciation and inventory valuation method.
MBA.104.4	Attained in depth knowledge of Management accounting and budgeting.
MBA.104.5	Students understood the various types of costing & its use for management.

Course Number: MBA.105	
Course Name: Organizational Behavior and Effectiveness	
Sr. No	Course Outcome
MBA.105.1	Students understand the behavior aspects of individual and group.
MBA.105.2	Students come to know about various personality traits.
MBA.105.3	Students attain the knowledge about change and strategies for change intervention and management.
MBA.105.4	Students learn the concept of power, politics and way of conflict management.
MBA.105.5	They understand the strategies for organizational effectiveness.

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Course Number: MBA.106	
Course Name: Business Ethics	
Sr. No	Course Outcome
MBA.106.1	Students comprehend and understand the basic concepts of Theory of Karma and Holistic Management
MBA.106.2	Students understand types of business ethics
MBA.106.3	Students gain knowledge about Theories of Ethics and Values
MBA.106.4	Enable student to understand Indian Secular and Spiritual Values and lessons from Ancient Indian Educational System.
MBA.106.5	Students understand the techniques of Stress Management

Course Number: MBA.107	
Course Name: Management Information System	
Sr. No	Course Outcome
MBA.107.1	States and explains the importance and use of Information system and Management information system in Business Management
MBA.107.2	Importance of decision making and how its embedded in information system to assist the business user and details of different information technology system and models available to make use in the business decision making
MBA.107.3	Explains the student's practical application of information system as per the requirements needed time to time
MBA.107.4	Understanding the bigger picture of the technology solution available to execute the business transactions globally.
MBA.107.5	To help understand that irrespective the geographic and demographic and difference with the help of ERP software solutions.

Course Number: MBA.108	
Course Name: Quantitative Methods	
Sr. No	Course Outcome
MBA.108.1	Students understand the importance, scope and application of quantitative methods.
MBA.108.2	Students learned the concept of arithmetic progression, matrices etc.
MBA.108.3	Students become familiar with the concepts of frequency distribution and their analysis.
MBA.108.4	Grasp the knowledge of time series analysis and forecasting.
MBA.108.5	Understand probability theory and its application.

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SECOND SEMESTER	
Course Number: MBA.201	
Course Name: BUSINESS ENVIORNMENT	
Sr. No	Course Outcome
MBA.201.1	Students get familiarize with the nature of business environment and its components.
MBA.201.2	Students can now outline how an entity operates in business environment.
MBA.201.3	Students can differentiate between the needs and wants of a society and can identify how these are satisfied through business activity.
MBA.201.4	Students will demonstrate an understanding of the forces that shape the business & economic structure
MBA.201.5	Students can understand the differing objectives of private and public sector businesses

Course Number: MBA.202	
Course Name: Research Methodology	
Sr. No	Course Outcome
MBA.202.1	Students have understood the concepts of research methodology, hypothesis.
MBA.202.2	Students have learned the broad framework of various research designs and research process.
MBA.202.3	Students were introduced to the data collection techniques.
MBA.202.4	Students have gained knowledge about data analysis and interpretation
MBA.202.5	Students have understood basic knowledge of research techniques.

Course Number: MBA.203	
Course Name: Human Resource Management	
Sr. No	Course Outcome
MBA.203.1	Created Conceptual awareness about Human Resource Management.
MBA.203.2	Developed basic understandings of Human Resource and Management.
MBA.203.3	Enlightened the knowledge about improving factors of Human Resource.
MBA.203.4	Learnt important elements of reward & QWL in OD.
MBA.203.5	Attained the knowledge about Global aspect to Human resource management.

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Course Number: MBA.204	
Course Name: Financial Management	
Sr. No	Course Outcome
MBA.204.1	After Completing the course, the student understands the broad framework of Cost Volume Profit and the importance of Leverage in Financial Management.
MBA.204.2	Students will understand the broad framework of optimum capital structure and Time value of Money.
MBA.204.3	Student grasps the knowledge of cost of capital and sources of raising capital.
MBA.204.4	Students come to know about various types of various bonds, stock their valuation and the methods of capital budgeting.
MBA.204.5	Students secured the basic knowledge about the internal financing, working capital requirement and dividend policy.

Course Number: MBA.205	
Course Name: Marketing Management	
Sr. No	Course Outcome
MBA.205.1	Able to understand the concept of marketing management with its orientation.
MBA.205.2	Understand planning of marketing, its mix and segmenting and positioning
MBA.205.3	Understanding the various concept related to product development and decision making
MBA.205.4	Understand the channels of distribution and targeting of products
MBA.205.5	Now can analyze the promotion, mix and understand the importance of research.

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Course Number: MBA.206	
Course Name: Production and Operations Management	
Sr. No	Course Outcome
MBA.206.1	Conversant with the importance of production and operations management in globalized environment with respect to plant and facility location
MBA.206.2	Understand the types of production techniques used to produce the goods
MBA.206.3	Understand the importance of international quality standards and protocols
MBA.206.4	Explore the concept of work study techniques and maintenance management
MBA.206.5	Understand the concept of material handling for inventory management

Course Number: MBA.207	
Course Name: Logistic Management	
Sr. No	Course Outcome
MBA.207.1	Students understand the techniques of Logistics and challenges associated in it.
MBA.207.2	Students come to know about the cost involved in Inventory management and controlling techniques.
MBA.207.3	Students understand concepts of packaging and distribution.
MBA.207.4	Students gain the knowledge of transportation and assignment model.
MBA.207.5	Students learn the concept and different components in international logistics management.

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Course Number: MBA.208	
Course Name: Management Science	
Sr. No	Course Outcome
MBA.208.1	Students learned the basic concept and role of management science in decision making. .
MBA.208.2	Understand the concept of decision tree.
MBA.208.3	Students gain the knowledge of transportation and assignment model.
MBA.208.4	Students learned the concept of network analysis- CPM and PERT
MBA.208.5	Students know the basic theory of simulation.

Course Number: MBA.301	
Course Name: Business Law	
Sr. No	Course Outcome
MBA.301.1	Students understand the essentials, classification, rights and obligation of Indian Contract Act 1872.
MBA.301.2	Students come to know about varies provisions of Sale of Goods Act 1930.
MBA.301.3	Students understand the importance of The Negotiable Instruments Act 1881, its various types, and characteristics of Instruments.
MBA.301.4	Students also get the knowledge of The Companies Act 1956 and introductory knowledge of Article of Association, Memorandum of Association.
MBA.301.5	Student recognize the importance of Consumer Protection Act 1986 with introductory information about Cyber law and IT Act.

2018-19

THIRD SEMESTER

Course Number: MBA.F.3101	
Course Name: INDIAN FINANCIAL SYSTEM	
Sr. No	Course Outcome
MBA.F.3101.1	Understand the fundamentals of Indian Financial Markets.
MBA.F.3101.2	Students will investigate impact factors of Money Market, Capital Market & Foreign Exchange Market
MBA.F.3101.3	Students understand the need & working of Financial Intermediaries
MBA.F.3101.4	Reveal the importance & various functions of Market Regulators.
MBA.F.3101.5	Students gained knowledge about the types of financial instruments to develop the understanding about its role in providing an efficient flow and transfer of capital all throughout the investors.

Course Number: MBA.F.3102	
Course Name: Banking System	
Sr. No	Course Outcome
MBA.F.3102.1	Understand the banking structure prevailing in economy.
MBA.F.3102.2	Gain the knowledge of banking regulation act.
MBA.F.3102.3	Analyze and understood different types of banks and its functions.
MBA.F.3102.4	Acquainted themselves with the upcoming issues in banking.
MBA.F.3102.5	Students become aware about new trends in banking.

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Course Number: MBA.F.3103	
Course Name: Working Capital Management	
Sr. No	Course Outcome
MBA.F.3103.1	Students get the basic knowledge of Working capital management and its technique of estimation.
MBA.F.3103.2	They understand the importance of Cash Management.
MBA.F.3103.3	Students understand the Role of Liquidity in working capital management and its different Models.
MBA.F.3103.4	They also get the knowledge of Inventory Management
MBA.F.3103.5	Students understand the basics of Receivable Management and understand the credit & collection policies.

Course Number: MBA.F.3104	
Course Name: International Financial Management	
Sr. No	Course Outcome
MBA.F.3104.1	Help's the student to view the global business environment from the MNC(Multi National Company) Perspective
MBA.F.3104.2	To help students understand the need of standardize global monetary system for international business and international loaning facilities available.
MBA.F.3104.3	To help students to understand managing assets and liabilities in international business environment
MBA.F.3104.4	Exposure to international credit environment and taxation and dividend policy.
MBA.F.3104.5	Exposure to importance of political and law and order stability in the investment pro nation and overall ease of doing business.

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Course Number: MBA.F.3105	
Course Name: INVESTMENT SCIENNCE	
Sr. No	Course Outcome
MBA.F.3105.1	Understand Risk – Return & its relationship.
MBA.F.3105.2	Students will understand the need & working of Financial Intermediaries
MBA.F.3105.3	Students will learn the importance and use the results of time value of money calculations to support financial decisions.
MBA.F.3105.4	Develop their problem solving & analytical thinking skills through exposure to practice of examples.
MBA.F.3105.5	Students will learn to evaluate various personal if any & commercial investment alternatives.

Course Number: MBA.F.3106	
Course Name: Risk Management	
Sr. No	Course Outcome
MBA.F.3106.1	Students come to know about the principles, Aims, objectives and standards of Risk Management with its approach, impact and types.
MBA.F.3106.2	Students able to assess the Risk assessment Architecture and structure its classification system and likelihood impact.
MBA.F.3106.3	They obtained introductory knowledge of Risk and Organization relationship.
MBA.F.3106.4	They understand the enterprise risk management, risk appetite, 4 T's of Risk Management, Risk control techniques.
MBA.F.3106.5	Students evaluate the control environment, activities of the internal audit function, Business Impact Analysis and risk assurance techniques.

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Course Number: MBA.M.3201	
Course Name: International Marketing Strategies	
Sr. No	Course Outcome
MBA.M.3201.1	Understand the importance and barriers of International Marketing.
MBA.M.3201.2	Students come to know about the stages of product development in international market.
MBA.M.3201.3	Student gain the knowledge of export procedure and documents.
MBA.M.3201.4	Acquainted with international culture and international trade.
MBA.M.3201.5	Able to understand issues in International Business.

Course Number: MBA.M.3202	
Course Name: Sales & Distribution Management	
Sr. No	Course Outcome
MBA.M.3202.1	Developed the knowledge about Sales & Distribution Management
MBA.M.3202.2	Improved the knowledge of sales forecast.
MBA.M.3202.3	Learnt the various methods help to improve sales force
MBA.M.3202.4	Enlightened the knowledge of logistics interface with various function
MBA.M.3202.5	Understood the knowledge of retail & wholesale management strategies

Course Number: MBA.M.3203	
Course Name: Consumer Behavior	
Sr. No	Course Outcome
MBA.M.3203.1	Students have understood the concept of consumer buying Behavior.
MBA.M.3203.2	Students have learned about Decision Rules.
MBA.M.3203.3	Students came to know about various Consumer Attitudes and Lifestyles.
MBA.M.3203.4	Students have gained knowledge about Diffusion of Innovation and Opinion Leadership.
MBA.M.3203.5	Students have explored industrial buying Behavior.

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Course Number: MBA.M.3204	
Course Name: Advertising Management	
Sr. No	Course Outcome
MBA.M.3204.1	Students will be able to understand the characteristics and aspects of various Advertising such as Economical, Ethical&Social as well as their role in Market Place.
MBA.M.3204.2	Students will be introduced to Marketing Communication, Process and its flow. Also, they will be able to analyze Advertising effective Models using the knowledge of Communication skill and various innovative techniques.
MBA.M.3204.3	Students will be able to build of Advertising Programs such as Message, Headline, Copy, Logo, Appeals and Layout.
MBA.M.3204.4	Student will have the knowledge of various types of Media Planning and strategies and will be able to design Advertising budget Allocations, Approaches and influences factors.
MBA.M.3204.5	Students will be able to understand the Advertising Campaign Planning, Compensation & Appraisal of Advertising Agencies, Web Advertising.

Course Number: MBA.M.3205	
Course Name: BRAND MANAGEMENT	
Sr. No	Course Outcome
MBA.M.3205.1	Students learned the key principles of Branding
MBA.M.3205.2	Students will be able to define core terms such as brand personality, brand equity, positioning & repositioning.
MBA.M.3205.3	Students learned in depth about creating brand, maintain relationship with customers, making a choice by addition/ subtraction /keeping intact the existing portfolio.
MBA.M.3205.4	Got knowledge of Design and implement brand strategies that consider brand extension, brand stretching and so forth.
MBA.M.3205.5	Students develop understanding of branding techniques will get an insight how it is applied on different sectors

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Course Number: MBA.M.3206	
Course Name: Agro Business Marketing	
Sr. No	Course Outcome
MBA.M.3206.1	To understand the agriculture and allied products with issues in Indian context
MBA.M.3206.2	Learn more about agricultural marketing and upcoming practices in marketing
MBA.M.3206.3	Understanding the non-conventional form of agriculture and scope for Export from India of agricultural produce.
MBA.M.3206.4	Understand scope for branding of the agriculture products from India
MBA.M.3206.5	Study the scope of exports of the agriculture products from India

Course Number:MBA.H.3301	
Course Name: Management of Industrial Relations	
Sr. No	Course Outcome
MBA.H.3301.1	Understand the Industrial Relations Perspectives.
MBA.H.3301.2	Gain the knowledge of Trade Union, its formation, working, role et
MBA.H.3301.3	Understand the concept of grievance handling in industries.
MBA.H.3301.4	Understand participative management and co-ownership.
MBA.H.3301.5	Students come to know about employee empowerment and allied issues.

Course Number: MBA.H.3302	
Course Name: Human Relations &Legal framework	
Sr. No	Course Outcome
MBA.H.3302.1	Students have gained knowledge of basics of labour laws
MBA.H.3302.2	Students have learned about industrial law.
MBA.H.3302.3	Students understand laws related to welfare.
MBA.H.3302.4	Students came to know about laws related to wages.
MBA.H.3302.5	Student have the knowledge about laws related to factories

Course Number: MBA.H.3303	
Course Name: Compensation Management	
Sr. No	Course Outcome
MBA.H.3303.1	Students are well versed with the concept & theoretical & practical importance of compensation Management.
MBA.H.3303.2	Learnt the diagnosing & benchmarking in compensation system
MBA.H.3303.3	Improves the skills in designing & implementing the Compensations Packages.
MBA.H.3303.4	It has enlightened the importance of components of compensation.
MBA.H.3303.5	Gained the knowledge about compensation practices in various sectors.

Course Number: MBA.H.3304	
Course Name: Human Resource Development	
Sr. No	Course Outcome
MBA.H.3304.1	It increased the basic conceptual understanding & practices of HRD.
MBA.H.3304.2	Learnt to plan and design HRD programs.
MBA.H.3304.3	Understood employee socialization & orientation.
MBA.H.3304.4	Gained in depth knowledge of career management in an organization.
MBA.H.3304.5	Students understood the importance of Performance Management.

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Course Number: MBA.H.3305	
Course Name: Management of Training and Development	
Sr. No	Course Outcome
MBA.H.3305.1	Students Familiarize with training needs, techniques and applications for overall development of employees.
MBA.H.3305.2	Students got the knowledge of Training Functions, Training needs Assessment, Action Research and Organizational Objective of training in depth.
MBA.H.3305.3	Students understand Training Methods & Techniques, Training aids, Tools and Facility for Training.
MBA.H.3305.4	Students understand Training feedback and evaluation, training audit and Training process as continuous process.
MBA.H.3305.5	Students learned Learning Process, Training Climate, Development and Designing Training Modules.

Course Number: MBA.H.3306	
Course Name: Performance Management	
Sr. No	Course Outcome
MBA.H.3306.1	Students understands the concept, nature and scope of Performance Management and Evolution of concept of performance management.
MBA.H.3306.2	Students understands Principles, elements and Models of Performance Management.
MBA.H.3306.3	Students come to know about Performance Management System recent developments in it and Performance Counseling Concept, Principles and Skills.
MBA.H.3306.4	Students now acquainted with varies concepts of Performance Management Process and Performance Management Audit.
MBA.H.3306.5	Students understands varies concepts in Performance Management Implementation

FOURTH SEMESTER

Course Number: MBA.401	
Course Name: Strategic Management	
Sr. No	Course Outcome
MBA.401.1	Understand the concept of strategy. Strategic Management, its process, and various models and frameworks.
MBA.401.2	To gain knowledge SWOT Analysis and its implications
MBA.401.3	Ability to analyze the strategy using various tools
MBA.401.4	To understand the and implements strategies formulated like mergers, acquisitions, turnaround
MBA.401.5	To determine the strategic choices and evaluate them.

Course Number: MBA.F.4101	
Course Name: Financial Decision Analysis	
Sr. No	Course Outcome
MBA.F.4101.1	Students got the basic knowledge of tools of financial decision making like ratio analysis, operation of fund & cash flow statements.
MBA.F.4101.2	Students understand the financial decisions, capital expenditure decision and cost volume profit analysis under the conditions of Risk and Uncertainty.
MBA.F.4101.3	Students got introductory knowledge of financial decisions alternatives like leasing Vs buying replacements and sequencing.
MBA.F.4101.4	Students understand the financial restructuring decision like business failure and reorganization;
MBA.F.4101.5	They are able to analyze the valuation of the merger, acquisition and dividend valuation through model.

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Course Number: MBA.F.4102	
Course Name: Security Analysis & Portfolio Management	
Sr. No	Course Outcome
MBA.F.4102.1	Students understand the Objectives, importance and characteristics of security analysis, with knowledge of listing and Indexing of Securities.
MBA.F.4102.2	Students able to describe Fundamental and Technical Analysis, its tools and techniques.
MBA.F.4102.3	Students understand the concept of Portfolio Management and its different theories.
MBA.F.4102.4	Students understand various kinds of models in security analysis and portfolio management.
MBA.F.4102.5	Student got the knowledge of Disinvestment Management, Portfolio Evaluation Process and Revision Models.

Course Number: MBA.F.4103	
Course Name: Financial Derivatives	
Sr. No	Course Outcome
MBA.F.4103.1	Student Conversant with Introduction of Derivatives contracts in financial risk mitigation in global financial environment and its regulations in India
MBA.F.4103.2	Understand the details of Forward Derivative contracts
MBA.F.4103.3	Students learned the concept and details of Future Derivative contract
MBA.F.4103.4	Understanding the details of Option derivative contract
MBA.F.4103.5	Students acquainted with the SWAPS derivative contract

Course Number: MBA.F.4104	
Course Name: Management of Financial Services	
Sr. No	Course Outcome
MBA.F.4104.1	Explains the details of financial system within regulated framework
MBA.F.4104.2	Details out the various financial risk arising within stock exchanges, bond markets, and inter corporate loans
MBA.F.4104.3	Exposure to multiple financial services
MBA.F.4104.4	To help student understand role credit rating agencies in credit card, mutual funds, advance banking and insurance
MBA.F.4104.5	To explain the student, role of venture capitalist.

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Course Number: MBA.F.4105	
Course Name: Foreign Exchange Market	
Sr. No	Course Outcome
MBA.F.4105.1	Students understood International financial system and its' working
MBA.F.4105.2	Learnt about foreign exchange rate and factors for its determination.
MBA.F.4105.3	Students understood the challenges & management of exposure.
MBA.F.4105.4	Increased the understanding and learnt various types of swaps and their uses.
MBA.F.4105.5	Improved the knowledge of Euro financial market.

Course Number: MBA.F.4106	
Course Name: Insurance Management	
Sr. No	Course Outcome
MBA.F.4106.1	Understand the principles and importance of insurance.
MBA.F.4106.2	Gain knowledge of different types of insurance.
MBA.F.4106.3	Students learned types and construction of mortality table.
MBA.F.4106.4	Students understand the computation of Premium.
MBA.F.4106.5	They come to know about types and principles of General Insurance.

Course Number: MBA.M.4201	
Course Name: Sales Promotion Management	
Sr. No	Course Outcome
MBA.M.4201.1	Developed an understanding about sales promotion.
MBA.M.4201.2	Increased the knowledge about impact of sale promotion on consumer behavior.
MBA.M.4201.3	Learnt the various methods help to improve and evaluate promotion strategies.
MBA.M.4201.4	Understood sales promotion planning, budgeting and process implementation.
MBA.M.4201.5	Learn to obtain optimum result from sales promotion activities

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Course Number: MBA.M.4202	
Course Name: MARKETING OF SERVICES	
Sr. No	Course Outcome
MBA.M.4202.1	Understand the important role of service sector in the economic development of countries.
MBA.M.4202.2	Define the role of Services marketing and discuss its core concepts and explain the relationship among customer value, satisfaction, productivity and quality.
MBA.M.4202.3	Conceptual understanding of the role of marketing in service organizations from new perspectives and a strategic vision.
MBA.M.4202.4	Understand how to develop effective service marketing strategies that emphasizes the value exchange between suppliers and their customers
MBA.M.4202.5	Discuss how marketing managers go about developing profitable customer relationships in the Services marketing area.

Course Number: MBA.M.4203	
Course Name: Marketing of Nonprofit Organizations and Social Sciences	
Sr. No	Course Outcome
MBA.M.4203.1	Students have learned the basic application of social services.
MBA.M.4203.2	Students came to know about the environments affecting NPO's and social services.
MBA.M.4203.3	Students have gained knowledge of various marketing mix strategies.
MBA.M.4203.4	Students have gained basic knowledge about the marketing tools and distribution and delivery strategy.
MBA.M.4203.5	Student have explored various CSR and monitoring.

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Course Number: MBA.M.4204	
Course Name: Retail Marketing	
Sr. No	Course Outcome
MBA.M.4204.1	Students gain knowledge regarding the concept of retailing and its importance for economy.
MBA.M.4204.2	Students understand the concepts of retail marketing mix.
MBA.M.4204.3	They come to know about the retail location, factors affecting it and concept of store layout.
MBA.M.4204.4	Attain the knowledge of retail communication mix.
MBA.M.4204.5	Students come to know about the different retail strategies.

Course Number: MBA.M.4205	
Course Name: Rural Marketing	
Sr. No	Course Outcome
MBA.M.4205.1	Students have understood the concepts of rural marketing.
MBA.M.4205.2	Students have learned about rural buying behavior and decision process.
MBA.M.4205.3	Students were introduced to Marketing Information System.
MBA.M.4205.4	Students have understood about product and pricing strategies.
MBA.M.4205.5	Students have gained the knowledge of various promotional strategies and distribution channels.

Course Number: MBA.M.4206	
Course Name: International Marketing Environment	
Sr. No	Course Outcome
MBA.M.4206.1	Students got the knowledge regarding environment of International and Domestic Marketing.
MBA.M.4206.2	Students are able to differentiate India and World Trade and understand different Policies, Barriers, Agreement, Strategies, Blocks in International Market.
MBA.M.4206.3	Students understand the different bodies in promotion of international marketing from India.
MBA.M.4206.4	Students got introductory knowledge to the shipping transportation insurance, financial and trading documents.
MBA.M.4206.5	They understand the trade and BOP of India, and Technological Developments in international marketing.

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Course Number: MBA.H.4301	
Course Name: Human Behavior at Workplace	
Sr. No	Course Outcome
MBA.H.4301.1	Learned the basic concepts of Organizational Behavior, its elements.
MBA.H.4301.2	Understand the elements of human behavior like, Intelligence, Emotions and moods, abilities, personality, perception, attitudes, Values, motivation and learning.
MBA.H.4301.3	Understand the techniques for Job Satisfaction, Organizational commitment and loyalty and Overview of Group Dynamics.
MBA.H.4301.4	Students understand Learning Behavior, Conflict and Conflict Resolution, negotiation strategies, Counseling, Participative management.
MBA.H.4301.5	Understand the Organizational culture and climate and Quality of Work life.

Course Number: MBA.H.4302	
Course Name: Organizational Development and Intervention Strategies	
Sr. No	Course Outcome
MBA.H.4302.1	Students have understood the concept of Organizational Development.
MBA.H.4302.2	Students have learned about the competencies and skills of Organizational Development.
MBA.H.4302.3	Students have gained the detailed knowledge of organizational effectiveness.
MBA.H.4302.4	Students have learned about the Organizational Change concept.
MBA.H.4302.5	Student came to know about various Organizational Intervention strategies.

Course Number: MBA.H.4303	
Course Name: Management of Group Process	
Sr. No	Course Outcome
MBA.H.4303.1	Gained the knowledge of Group in an organization.
MBA.H.4303.2	Students understood the group learning & change management.
MBA.H.4303.3	Learnt the dynamics and influence process.
MBA.H.4303.4	Improves the knowledge about various aspects of interpersonal relationship.
MBA.H.4303.5	Attained the knowledge on various aspects of group effects.

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Course Number: MBA.H.4304	
Course Name: Corporate Leadership Management	
Sr. No	Course Outcome
MBA.H.4304.1	Learned the basic concepts of Leadership and its Components with Assessing Leadership and Measuring Its effects.
MBA.H.4304.2	Understand the techniques for Focus on the Leader, Leadership, Values and Leadership Behavior.
MBA.H.4304.3	Understand the Contingency Theories and Styles of Leadership.
MBA.H.4304.4	Student learned Leadership Skills, Build Technical Competency and Advance Leadership Skills.
MBA.H.4304.5	Gain knowledge of Leadership Model. Brief Biographies of some great western and Indian Business Leaders.

Course Number:MBA.H.4305	
Course Name: Knowledge Management	
Sr. No	Course Outcome
MBA.H.4305.1	Students understand the concept and meaning of Knowledge Management
MBA.H.4305.2	They understood the knowledge management and business strategies through different models of Knowledge Management.
MBA.H.4305.3	Students learn the concept of learning and Knowledge Management.
MBA.H.4305.4	Gain the knowledge about the concept of knowledge creation and loss.
MBA.H.4305.5	Understand the correlation of communication technology and knowledge management.

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Course Number: MBA.H.4306	
Course Name: International Human Resource Management	
Sr. No	Course Outcome
MBA.H.4306.1	Students have understood the concepts of international HRM.
MBA.H.4306.2	Students have learned the concepts International Business.
MBA.H.4306.3	Students were introduced to concept of Organizationperformance.
MBA.H.4306.4	Students came to know about IHRM Functions.
MBA.H.4306.5	Students have gained basic knowledge about the International Projects and Ethics.

2018-19

Master Engineering (ME)
Information Technology

FIRST SEMESTER

Course Number: 1 NMEF 1	
Course Name: OPERATING SYSTEM CONFIGURATION	
Sr. No.	Course Outcomes
Students will be able to	
1 NMEF 1.1	Understand the internal of Linux operating systems such as Kernel Source tree. Process management in Linux
1 NMEF 1.2	Learn the process scheduling in Linux and various Linux scheduling algorithm.
1 NMEF 1.3	Gather knowledge of various aspects of kernel synchronization of Linux.
1 NMEF 1.4	Understand kernel notion of the time, Hardware Clock and Timers.
1 NMEF 1.5	Learn the virtual file system in Linux.
1 NMEF 1.6	Gain the knowledge of the process address space the Memory Descriptor, Memory Areas, Page Tables

Course Number: 1NMEF2	
Course Name: Database System Design	
Sr. No.	Course Outcomes
Students will be able to	
1NMEF2.1	Design ER-models to represent simple and complex database application scenarios
1NMEF2.2	Gain the knowledge of Object oriented database and its Architecture..
1NMEF2.3	Perform queries using database query language, i.e. SQL and will have the knowledge of query processing and Optimization techniques.
1NMEF2.4	Explain the concept of distributed Databases, Parallel Databases and its working.
1NMEF2.5	Illustrate web based XML database its storage and its applications.
1NMEF2.6	Differentiate Active, Temporal and Spatial Databases.

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Course Number: 1NMEF3	
Course Name: NET - CENTRIC COMPUTING	
Sr. No.	Course Outcomes
Students will be able to	
1NMEF3.1	Gain the knowledge of Computer Communications and Networking.
1NMEF3.2	Understand the various concepts of physical layer such as Copper Media, Fiber-Optic Media, Wireless Communications, Satellite Communications
1NMEF3.3	Learn the working of network layer and various routing protocol.
1NMEF3.4	Gain the knowledge of Ethernet and 802.3 Networks
1NMEF3.5	Understand the various aspects of Fiber Distributed Data Interface
1NMEF3.6	Learn the concepts of Switched Multimegabit Data Services.

Course Number: 1 NMEF 4	
Course Name: REAL TIME EMBEDDED SYSTEM DESIGN	
Sr. No.	Course Outcomes
Students will be able to	
1 NMEF 4.1	Understand the architecture of Embedded system.
1 NMEF 4.2	Gain the knowledge of Detailed study of PIC18 Family Microcontroller Architecture.
1 NMEF 4.3	Learn PIC 18 Instruction set, Programming using C / Assembly
1 NMEF 4.4	Understand Clock-Driven Scheduling: Notation and Assumptions
1 NMEF 4.5	Gain the knowledge of Priority-Driven Scheduling of Periodic Tasks
1 NMEF 4.6	Learn Scheduling Aperiodic and Sporadic Jobs in Priority-Driven Systems

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Course Number: 1 NMEF 5	
Course Name: Software Engineering Methodologies	
Sr. No.	Course Outcomes
Students will be able to	
1 NMEF 5.1	Aware about Various Software Models ,Process and Framework.
1 NMEF 5.2	Gather Software Requirements: Functional, Non-Functional, Domain and can explain Traceability, System Analysis Model Generation, Requirement Prioritization.
1 NMEF 5.3	Understand the basic UML Concepts and its programming diagrams and specification techniques.
1 NMEF 5.4	Understand the Behavioral Model, Use Cases, Use Case Diagram Components, Use Case Diagram.
1 NMEF 5.5	Gain the Knowledge of Design Engineering, Design quality, Design Concepts.
1 NMEF 5.6	Gain the Knowledge of Object Oriented Design its features and Methods.

Course Number: 1NMEF5	
Course Name:INTELLIGENT SYSTEM	
Sr. No.	Course Outcomes
Students will be able to	
1NMEF5.1	Learn Intelligence, Artificial intelligence, intelligent systems. Knowledge representation
1NMEF5.2	Gain the knowledge of introduction, expert systems, stages in the development of expert system
1NMEF5.3	Understand introduction, foundation of fuzzy systems, fuzzy relations, arithmetic operations of fuzzy numbers
1NMEF5.4	Learn introduction, Neuron physiology, artificial neurons, artificial neural networks, features of artificial neural networks
1NMEF5.5	Gain the knowledge of Genetic Algorithms and Evolutionary Programming
1NMEF5.6	Understand importance of the ant colony paradigm, ant colony systems

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Course Number: 2NMEF5	
Course Name: Legal and Professional Ethics	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF5.1	Learn Oral presentations Technical writing, System documentation
2NMEF5.2	Gain the knowledge of Social informatics, Social impact of IT on society
2NMEF5.3	Understand Foundations of intellectual property, Ownership of information
2NMEF5.4	Learn Compliance to Cyber laws, Hackers/crackers
2NMEF5.5	Gain the knowledge of Business processes, IT environment, Organizational culture, Professionalism
2NMEF5.6	Understand History of computer hardware, software

SECOND SEMESTER

Course Number: 2NMEF1	
Course Name: INTEGRATIVE PROGRAMMING	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF1.1	Learn various concepts of object oriented programming
2NMEF1.2	Gain the knowledge of Multithreaded Programming such as Threads and life cycle of a thread, Creating and running the threads
2NMEF1.3	Understand Databases Programming and Model-View-Persistence design pattern
2NMEF1.4	Learn the concepts of XML such as XML structure, XML DTD creation and Schema creation, well formed and valid XML documents
2NMEF1.5	Gain the knowledge of Java approach for URLs, Sockets – TCP/ IP and Datagram sockets, Programming using socket
2NMEF1.6	Understand Web application development and Technology of the web.

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Course Number: 2NMEF2	
Course Name: DIGITAL MEDIA DEVELOPMENT	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF2.1	Learn Multimedia Systems design, Elements, Systems architecture & technologies.
2NMEF2.2	Gain the knowledge of Data and file format standards RTF, TIFF,RIFF, MIDI , JPEG ,AVI, MPEG Standards
2NMEF2.3	Understand Telecommunications considerations for Multimedia, Specialized processors
2NMEF2.4	Learn Multimedia Authoring and User Interface, Design Considerations
2NMEF2.5	Gain the knowledge of Distributed Multimedia Systems, Components, Client-server Operation, Object Server
2NMEF2.6	Understand System Design and Design issues, requirements.

Course Number: 2NMEF3	
Course Name: INFORMATION TECHNOLOGY MANAGEMENT	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF3.1	Learn Information revolution, Business and strategy. IT Strategy, Strategy and Success
2NMEF3.2	Gain the knowledge of IT management and its roles, It governance.
2NMEF3.3	Understand E-business and E-strategy, Ebusiness objectives
2NMEF3.4	Learn IT strategies for Knowledge Management
2NMEF3.5	Gain the knowledge of IT Strategies in specific scenario, Enterprise resource planning implementation
2NMEF3.6	Understand Global dimension of It Strategy

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Course Number: 2NMEF4	
Course Name: SYSTEM SECURITY	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF4.1	Learn Security, Attacks, Computer criminals, Method of Defense.
2NMEF4.2	Gain the knowledge of Secure programs, Non-malicious program errors.
2NMEF4.3	Understand Protected Objects and methods of protection, Memory address protection
2NMEF4.4	Learn Trusted Operating System, Security Policies, models of Security
2NMEF4.5	Gain the knowledge of Security requirements for Database , Reliability and integrity, sensitive data, interface, multilevel database
2NMEF4.6	Understand Threats in networks, Network security controls

Course Number: 2NMEF5	
Course Name: Software Testing	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF5.1	Differentiate Testing and Debugging and can explain goals and Phases of Testing
2NMEF5.2	Gain the knowledge of characteristics of test engineers, level of testing, testing approaches and drawbacks.
2NMEF5.3	Design the Flow chart describing testing process, and can explain application of path Testing, Transaction-Flow Testing techniques.
2NMEF5.4	Perform testing of Object-orientated systems, Software Test Automation, Steps of Automation, Design and Architecture for Automation, Process Model for Automation, Selecting a Test Tool..
2NMEF5.5	Gain the Knowledge of various software tools WinRunner, Load Runner
2NMEF5.6	Gain the Knowledge of Source code Testing Utilities in UNIX/LINUX environment

Course Number: 2NMEF5	
Course Name: WIRELESS COMMUNICATION AND NETWORKS	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF5.1	Learn Wireless Telecommunication Systems and Networks, evolution of modern telecommunications infrastructure
2NMEF5.2	Gain the knowledge of Cellular network hardware components, cellular network databases
2NMEF5.3	Understand CDPD, GPRS and EDGE data networks, network layout, packet data transfer
2NMEF5.4	Learn Wireless modulation techniques and hardware
2NMEF5.5	Gain the knowledge of Wireless LANs / IEEE 802.1x : evolution, architecture, Wi-Fi system
2NMEF5.6	Understand PANs and WLANs, IEEE 802.15.1 standard, Bluetooth protocol stack

Course Number: 2NMEF5	
Course Name: DATA WARE HOUSING & DATA MINING	
Sr. No.	Course Outcomes
Students will be able to	
2NMEF5.1	Learn data warehouse defined, data warehouse users, benefits of data warehousing
2NMEF5.2	Gain the knowledge of Role of metadata, classification of metadata, metadata management.
2NMEF5.3	Understand Keys in the data warehouse schema
2NMEF5.4	Learn fundamentals of data mining, data mining functionalities
2NMEF5.5	Gain the knowledge of Market basket analysis, frequent itemsets, closed itemsets and association rules
2NMEF5.6	Understand Classification and prediction

2018-19

Master Engineering (ME)
Computer Engineering

FIRST SEMESTER

Course Number:	1KMEF1
Name of Course:	ADVANCED COMPUTER ARCHITECTURE
Sr.no	Course Outcomes
1KMEF1.1	Student get fundamental knowledge of computer technology usage trends, costs, performance measurements
1KMEF1.2	Student get aware of basic pipelining principle and various hazards pipeline, data and control hazards
1KMEF1.3	Student will learn advanced instruction level parallelism, challenges and hardware support for parallelism
1KMEF1.4	Students understand the issues and concept of memory hierarchy design
1KMEF1.5	Students get the knowledge of various types of storage devices and their performance.
1KMEF1.6	Students understand the concepts and issues for interconnection networks

Course Number:	1KMEF2
Name of Course:	ALGORITHMIC
Sr.no	Course Outcomes
1KMEF2.1	Describe various design issues and parameters for measuring algorithmic complexity
1KMEF2.2	Analysis of algorithms based on various data structures and control structures.
1KMEF2.3	Apply divide and conquer strategy and greedy algorithms to solve problems
1KMEF2.4	Apply dynamic programming approach and backtracking methods to solve problems
1KMEF2.5	Apply probabilistic and parallel algorithmic strategies to solve problems
1KMEF2.6	Define and demonstrate computational complexity and Heuristic algorithms

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Course Number:	1KMEF3
Name of Course:	OPERATING SYSTEM DESIGN
Sr.no	Course Outcomes
1KMEF3.1	Student gets overview of OS and Kernel in Linux and Process Scheduling in Linux.
1KMEF3.2	Student understands Kernel Synchronization in Linux.
1KMEF3.3	Student learns Time Management in Linux and Virtual File System in Linux.
1KMEF3.4	Student gets knowledge of Process Address Space and Linux Kernel Modules.

Course Number:	1KMEF4
Name of Course:	OBJECT ORIENTED SYSTEMS
Sr.no	Course Outcomes
1KMEF4.1	Students gain the knowledge of UML structure, Unified Process (UP), Use case modeling
1KMEF4.2	Students get knowledge of analysis work flow, analysis artifacts, UML object class
1KMEF4.3	Students get the knowledge of analysis packages, Use case realization, Interaction diagrams
1KMEF4.4	Students get the knowledge about Activity diagrams, Connectors, Interruptible activity regions and Exception handling
1KMEF4.5	Students gain the knowledge of design workflow, Design artifacts metamodel, Design relationships and Interfaces
1KMEF4.6	Students gain the knowledge about Use case realization-design, Modeling concurrency, implementation workflow and deployment diagram

Course Number:	1KMEF5
Name of Course:	MOBILE COMPUTING
	Course Outcomes
Sr.no	Upon successful completion of this course, the student will be able to:
1KMEF5.1	Understand the fundamentals of a basic Cellular system.
1KMEF5.2	Use fundamentals of cell and channel allocation techniques for a cellular system.
1KMEF5.3	Demonstrate concepts of 2G and other wireless data communication networks.
1KMEF5.4	Gain knowledge of Adhoc sensor networks.
1KMEF5.5	Demonstrate concepts of WLAN, WMAN and WPAN.
1KMEF5.6	Use design fundamentals in Sensor , Bluetooth and Security issues in Networks .

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SECOND SEMESTER

Course Number:	2KMEF1
Name of Course:	NETWORK SYSTEMS DESIGN
Sr.no	Course Outcomes
2KMEF1.1	Students will understand System descriptions, services, performance characteristics, Network supportability and Requirements Analysis
2KMEF1.2	Students will be able to identify process to gathering and listing requirements and mapping, service metrics development, behavior characterization
2KMEF1.3	Students will understand the concept of Flow analysis
2KMEF1.4	Students will understand the concept of Network Addressing and routing architecture.
2KMEF1.5	Students will understand the concept of Network Management Mechanisms and Network architecture.
2KMEF1.6	Students will understand the concept of Network Performance Architecture using Network layout, Design traceability and Design metrics.

Course Number:	2KMEF2
Name of Course:	ADVANCED COMPILING TECHNIQUES
Sr.no	Course Outcomes
2KMEF2.1	Learn Basics of compiler, Symbol-Table Structure and Approaches to Generating Loads and Stores
2KMEF2.2	Understand Issues in Designing an Intermediate Language
2KMEF2.3	Understand Run-Time Support: Data Representations and Polymorphic Language Support
2KMEF2.4	Understand Automatic production of Code Generators.
2KMEF2.5	Understand Various Approaches for Control-Flow Analysis
2KMEF2.6	Understand Various Approaches for Data-Flow Analysis

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Course Number:	2KMEF3
Name of Course:	EMBEDDED SYSTEM DESIGN
Sr.no	Course Outcomes
2KMEF3.1	Students will get fundamentals of Architecture of Embedded System, Creation of Threads and Inter Thread Communication, Memory Management
2KMEF3.2	Students will learn detailed study of PIC18 Family Microcontroller Architecture
2KMEF3.3	Students will learn PIC 18 Instruction set, Programming using C / Assembly
2KMEF3.4	Students will get knowledge of Clock-Driven Scheduling, algorithms for Constructing Schedules.
2KMEF3.5	Students will understand Priority-Driven Scheduling of Periodic Tasks
2KMEF3.6	Students will get knowledge of Scheduling Aperiodic and Sporadic Jobs in Priority-Driven Systems.

Course Number:	2KMEF4
Name of Course:	SYSTEMS SECURITY
Sr.no	Course Outcomes
2KMEF4.1	Students gain the knowledge of basic security, Cryptography, and Encryption algorithms
2KMEF4.2	Students get knowledge of Program Security
2KMEF4.3	Students get the knowledge of Operating System Security
2KMEF4.4	Students get the knowledge about Trusted Operating System
2KMEF4.5	Students gain the knowledge of Database Security
2KMEF4.6	Students gain the knowledge about Firewalls, Administrating Security, Secure E-mail

2018-19

Master Engineering (ME)
Computer Science Engineering

FIRST SEMESTER

Course Number:	1RMEF1
Name of Course:	ADVANCED COMPUTER ARCHITECTURE
Sr.no	Course Outcomes
1RMEF1.1	Student get fundamental knowledge of computer technology usage trends, costs, performance measurements
1RMEF1.2	Student get aware of basic pipelining principle and various hazards pipeline, data and control hazards
1RMEF1.3	Student will learn advanced instruction level parallelism, challenges and hardware support for parallelism
1RMEF1.4	Students understand the issues and concept of memory hierarchy design
1RMEF1.5	Students get the knowledge of various types of storage devices and their performance.
1RMEF1.6	Students understand the concepts and issues for interconnection networks

Course Number:	1RMEF2
Name of Course:	ALGORITHMIC
Sr.no	Course Outcomes
1RMEF2.1	Describe various design issues and parameters for measuring algorithmic complexity
1RMEF2.2	Analysis of algorithms based on various data structures and control structures.
1RMEF2.3	Apply divide and conquer strategy and greedy algorithms to solve problems
1RMEF2.4	Apply dynamic programming approach and backtracking methods to solve problems
1RMEF2.5	Apply probabilistic and parallel algorithmic strategies to solve problems
1RMEF2.6	Define and demonstrate computational complexity and Heuristic algorithms

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Course Number:	1RMEF3
Name of Course:	OPERATING SYSTEM DESIGN
Sr.no	Course Outcomes
1RMEF3.1	Student gets overview of OS and Kernel in Linux and Process Scheduling in Linux.
1RMEF3.2	Student understands Kernel Synchronization in Linux.
1RMEF3.3	Student learns Time Management in Linux and Virtual File System in Linux.
1RMEF3.4	Student gets knowledge of Process Address Space and Linux Kernel Modules.

Course Number:	1RMEF4
Name of Course:	EXPERT SYSTEM DESIGN
Sr.no	Course Outcomes
1RMEF4.1	Students gain the knowledge of An Overview of Artificial Intelligence, Knowledge Representation.
1RMEF4.2	Students get knowledge of Rule Based Systems
1RMEF4.3	Students get the knowledge of Representing Uncertainty: Sources of uncertainty, Expert systems and probability theory.
1RMEF4.4	Students get the knowledge about Heuristic Classification (I): Classifications of expert system tasks, Classification problem solving
1RMEF4.5	Students gain the knowledge of Hierarchical Hypothesize and Test.
1RMEF4.6	Students gain the knowledge about Tools for Building Expert Systems.

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Course Number:	1RMEF5
Name of Course:	DATABASE PROCESSING
	Course Outcomes
1RMEF5.1	Understand database concepts and structures and Models of Database. identify the application areas of database system and ability to design Database using E-R Model.
1RMEF5.2	Learn the concept of relational model and Normalization and Apply integrity constraints and various normalization forms.
1RMEF5.3	To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
1RMEF5.4	Learn the concept of relational model and ability to solve SQL queries.
1RMEF5.5	Learn Managing skills of Multi user databases. Learn ORACLE, Perceive Concurrency control and recovery management system.
1RMEF5.6	Learn multi structure Databases – XML, Database connectivity's scripts reference to database.

SECOND SEMESTER

Course Number:	2RMEF1
Name of Course:	COMPUTER COMMUNICATION NETWORKS
Sr.no	Course Outcomes
2RMEF1.1	Understand the services of TCP/IP protocol, Need of protocol architecture with reference with reference to TCP, UDP and interfacing.
2RMEF1.2	Learn ATM architecture and its services. Analysis of various high speed networks.
2RMEF1.3	Learn probability and stochastic process. Queuing analysis and estimating model parameters.
2RMEF1.4	Understand the concept of congestion, flow and error control. Apply various traffic management strategies.
2RMEF1.5	Understand and apply graph theory and least cost method, various routing principles and protocols.
2RMEF1.6	Learn ISA, real time traffic and RTP. Understand and learn resource reservation and RSVP.

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Course Number:	2 RMEF2
Name of Course:	ADVANCED COMPILING TECHNIQUES
Sr.no	Course Outcomes
2RMEF2.1	Learn Basics of compiler, Symbol-Table Structure and Approaches to Generating Loads and Stores
2RMEF2.2	Understand Issues in Designing an Intermediate Language
2RMEF2.3	Understand Run-Time Support: Data Representations and Polymorphic Language Support
2RMEF2.4	Understand Automatic production of Code Generators.
2RMEF2.5	Understand Various Approaches for Control-Flow Analysis
2RMEF2.6	Understand Various Approaches for Data-Flow Analysis

Course Number:	2RMEF3
Name of Course:	REAL-TIME SYSTEMS
Sr.no	Course Outcomes
3ME02.1	Student gets overview of Typical Real-Time Application and Reference Model for Real-Time System.
3ME02.2	Student gets knowledge of Commonly Used Approaches to Real-time Scheduling.
3ME02.3	Student understands Clock Driven Scheduling.
3ME02.4	Student gets acquainted with Priority Driven Scheduling of Periodic Tasks.
3ME02.5	Students learns Scheduling of Aperiodic and Sporadic Jobs in Priority-Driven Systems.
3ME02.6	Student knows Resources and Resource Access Control.

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Course Number:	2RMEF4
Name of Course:	NETWORK SECURITY
Sr.no	Course Outcomes
2RMEF4.1	Student get fundamental knowledge of security, attacks and cryptography
2RMEF4.2	Student gets knowledge of Image pre-processing image smoothing, edge detection, scaling, parametric edge models, multi-spectral images
2RMEF4.3	Student understands Image Segmentation and threshold detection methods
2RMEF4.4	Students learns region identification, object recognition and pattern recognition
2RMEF4.5	Student gets knowledge parallel, serial processing hierarchical control and image classification
2RMEF4.6	Students understand Linear discrete image transforms and Image data compression

2018-19

Master Engineering (ME)
Digital Electronics

FIRST SEMESTER

Course Number:	1UMEF1
Name of Course:	Digital Instrumentation
Sr.no	Course Outcomes
After completion of course students will able to:	
1UMEF1.1	Understand different time and frequency measurement techniques.
1UMEF1.2	Analyze signal with the help of different analyzers in digital instrumentation.
1UMEF1.3	Understand Need and requirement of automated systems.
1UMEF1.4	Recognize uses of microcontroller and PC based data acquisition system.
1UMEF1.5	Understand concepts of Supervisory control system.
1UMEF1.6	Understand concepts of intelligent control system.

Course Number:	1UMEF2
Name of Course:	Advanced Digital Signal Processing
Sr.no	Course Outcomes
After completion of course students will able to:	
1UMEF2.1	Understand Different transforms and their properties for discrete time signal and system
1UMEF2.2	Design of IIR Filters
1UMEF2.3	Understand the concept of Multi-rate digital signal processing
1UMEF2.4	Understand different adaptive signal processing algorithm
1UMEF2.5	Understand discrete Hilbert and Cosine transform
1UMEF2.6	Learn architecture and application of DSP Processor

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Course Number:	1UMEF3
Name of Course:	Computer Communication Network
Sr.no	Course Outcomes
After completion of course students will able to:	
1UMEF3.1	Student will be able to understand ISO-OSI Reference model and data network switching techniques.
1UMEF3.2	Student will be able to understand TCP/IP architecture.
1UMEF3.3	Student will be able to develop delay model in data network and will identify the need network management and congestion control.
1UMEF3.4	Student will be able to categorize multiple access techniques.
1UMEF3.5	Student will be able to understand various wireless network architecture.
1UMEF3.6	Student will be able to Identify the need of network securities and will categorized various attacks and counter measure.

Course Number:	1UMEF4
Name of Course:	Digital Communication Techniques
Sr.no	Course Outcomes
After completion of course students will able to:	
1UMEF4.1	Characterize communication Signal and Optimum Receiver for AWGN Channel
1UMEF4.2	Analyze different Source coding techniques
1UMEF4.3	Design different Channel coding Techniques
1UMEF4.4	Understand the properties of signal design for band limited channel
1UMEF4.5	Analyze different linear equalization Techniques
1UMEF4.6	Learn different spread spectrum Techniques

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Course Number:	1UMEF5
Name of Course:	Embeded System Design
Sr.no	Course Outcomes
After completion of course students will able to:	
1UMEF5.1	Understand Hardware Components & details of ARM 7 Architecture
1UMEF5.2	Demonstrate the techniques of writing efficient C Code for microcontroller programming
1UMEF5.3	Know on chip components like ADC, UART, Timer, its interfacing & programming
1UMEF5.4	Familiar with the concepts of Real Time Systems & its security issues
1UMEF5.5	Understand the scheduling algorithms
1UMEF5.6	Get knowledge for implementation aspects of Embedded Systems

SECOND SEMESTER

Course Number:	2UMEF1
Name of Course:	Digital Image Processing
Sr.no	Course Outcomes
After completion of course students will able to:	
2UMEF1.1	understand basic principles of digital image processing
2UMEF1.2	understand different techniques for Image enhancement in spatial domain
2UMEF1.3	gain the need for image transforms, different types of image transforms and their properties
2UMEF1.4	Understand Image enhancement in frequency domain
2UMEF1.5	Understand different edge detection techniques for image segmentation and its representation
2UMEF1.6	understand the need for image compression and its types

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Course Number:	2UMEF2
Name of Course:	CMOS VLSI Design
Sr.no	Course Outcomes
After completion of course students will able to:	
2UMEF2.1	Learn various methods of CMOS design & CMOS Testing Techniques
2UMEF2.2	Understand the design aspects of CMOS Digital subsystem like combinational circuits, sequential circuits & memories.
2UMEF2.3	Understand various Components of analog CMOS Integrated Circuits.
2UMEF2.4	Learn & design the CMOS RF Integrated Circuits like Mixer, RF Power Amplifiers, Oscillator, PLL.
2UMEF2.5	Know the Physical design of Application Specific Integrated Circuits & to study the CAD tools associated with it.
2UMEF2.6	Understand the physical design flow with Floor planning, Placement for CMOS VLSI design.

Course Number:	2UMEF3
Name of Course:	Parallel Computing
Sr.no	Course Outcomes
Upon successful completion of this course, the student will be able to:	
2UMEF3.1	Get detail understanding of Parallel computer models.
2UMEF3.2	Understand the concept of program partitioning and scheduling.
2UMEF3.3	Identify linear and non-linear Pipeline Processors.
2UMEF3.4	Understand the network characteristics and protocols in parallel and scalable architecture.
2UMEF3.5	Get detail understanding of scalable, multithread and dataflow architecture.
2UMEF3.6	Understand the parallel program development in Parallel computing.

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Course Number:	2UMEF4
Name of Course:	Artificial Intelligent Systems
Sr.no	Course Outcomes
After completion of course students will able to:	
2UMEF4.1	Familiar to introduction to fuzzy set theory, Fuzzification & defuzzification
2UMEF4.2	Understand fuzzy rules, reasoning & Decision making
2UMEF4.3	Understand Hybrid system, Fuzzy controller and learning methods.
2UMEF4.4	understand fundamentals of Artificial Neural Network and its algorithm.
2UMEF4.5	understand unsupervised learning and its classification
2UMEF4.6	Understand support vector machine[SVM] & Genetic algorithm.

Course Number:	2UMEF5
Name of Course:	High Speed Digital System Design
Sr.no	Course Outcomes
After completion of course students will able to:	
2UMEF5.1	Understand importance of interconnect design.
2UMEF5.2	Illustrate non ideal interconnect issues.
2UMEF5.3	Understand simultaneous switching noise and power delivery
2UMEF5.4	Gain detail of Buffer Modeling and Digital Timing analysis.
2UMEF5.5	Design different methodologies in HSDSD
2UMEF5.6	To have detail insight of Measurement Methods used in HSDSD

2018-19

Master Engineering (ME)
Electronics & Telecommunication Engineering

FIRST SEMESTER

Course Number:	1ENTC1
Name of Course:	Advanced Optical Communication
Sr.no	Course Outcomes
After completion of course students will able to:	
1ENTC1.1	Understand details of guided optical communication.
1ENTC1.2	Categorize different types of optical sources and understand their construction and operating principle.
1ENTC1.3	Understand working of optical amplifiers and calculate power budgets and feasibility of optical system design.
1ENTC1.4	Identify types of optical detectors and their applications.
1ENTC1.5	Understand Multiplexing component & Techniques like WDM,DWDM system design.
1ENTC1.6	Measure attenuation, dispersion, refractive index profile ,fiber cutoff wavelength ,Numerical aperture and Fiber diameter.

Course Number:	1ENTC2
Name of Course:	Random Processes
Sr.no	Course Outcomes
After completion of course students will able to:	
1ENTC2.1	Fundamentals of probability , random variables & its Statistical parameters.
1ENTC2.2	Understand Standard Distributions in detail.
1ENTC2.3	Understand multidimensional random variables and their statistical parameters.
1ENTC2.4	Characterize random processes
1ENTC2.5	Find correlation of random processes.
1ENTC2.6	Evaluate power spectral density.

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Course Number:	11ENTC3
Name of Course:	Digital Communication Techniques
Sr.no	Course Outcomes
After completion of course students will able to:	
1ENTC3.1	Characterize communication Signal and Optimum Receiver for AWGN Channel
1ENTC3.2	Analyze different Source coding techniques
1ENTC3.3	Design different Channel coding Techniques
1ENTC3.4	Understand the properties of signal design for band limited channel
1ENTC3.5	Analyze different linear equalization Techniques
1ENTC3.6	Learn different spread spectrum Techniques

Course Number:	1ENTC4
Name of Course:	Digital Signal Processing and Applications
Sr.no	Course Outcomes
After completion of course students will able to:	
1ENTC4.1	Understand of Digital Filter and its realization
1ENTC4.2	Design Digital FIR Filters using Fourier series Method windowing Technique
1ENTC4.3	Design Digital IIR Filters.
1ENTC4.4	Understand the concept of Multirate DSP
1ENTC4.5	Understand the fundamentals of DSP Processor and its applications
1ENTC4.6	Understand the concept of wavelets and its Properties.

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Course Number:	1ENTC5
Name of Course:	Cryptography & Network Security
Sr.no	Course Outcomes
1ENTC5.1	Student will be able to understand the basics of data securities and various algorithms related to it.
1ENTC5.2	Student will be able to understand role of public key cryptography.
1ENTC5.3	Student will be able to understand the requirements of Authentication and HASH function.
1ENTC5.4	Student will be able to develop network security applications.
1ENTC5.5	Student will be able to categorize various intruders and intrusion detection techniques
1ENTC5.6	Student will be able to understand IP security and Web security.

SECOND SEMESTER

Course Number:	2ENTC1
Name of Course:	Adaptive Signal Processing
Sr.no	Course Outcomes
After completion of course students will able to:	
2ENTC1.1	Understand Random signals, statistical parameters and spectral estimation
2ENTC1.2	Design of Wiener filters
2ENTC1.3	Understand LMS adaptive filtering algorithms
2ENTC1.4	Design of Kalman filter and Square Root adaptive filter
2ENTC1.5	Understand RLS adaptive filtering algorithms
2ENTC1.6	Applications of Adaptive filtering

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Course Number:	2ENTC2
Name of Course:	Wireless Communication
Sr.no	Course Outcomes
Upon successful completion of this course, the student will be able to:	
2ENTC2.1	Illustrate the evolution and understand the fundamentals of wireless communication.
2ENTC2.2	Gain detail understanding of the Analog and Digital Cellular Mobile system.
2ENTC2.3	Understand applications of Wireless sensor network.
2ENTC2.4	Understand the need of low power wireless communication systems with emphasis on protocols.
2ENTC2.5	Aware of different standards in wireless communication.
2ENTC2.6	To have detail insight of the Private Mobile Radio network and introduction to the 3G systems.

Course Number:	2ENTC3
Name of Course:	Advanced Computer Network and Programming
Sr.no	Course Outcomes
After completion of course students will able to:	
2ENTC3.1	Understand ISO-OSI Reference model and data network switching techniques.
2ENTC3.2	Understand TCP/IP architecture and routing protocols.
2ENTC3.3	Delay model in data network and will identify the need network management and congestion control algorithm, Queuing Model.
2ENTC3.4	Understand the need and working of ATM networks
2ENTC3.5	To have detail insight of the advance network architecture
2ENTC3.6	Understand the fundamentals of network security.

2018-19

Course Number:	2ENTC4
Name of Course:	RF & Microwave Circuit Design
Sr.no	Course Outcomes
After completion of course students will able to:	
2ENTC4.1	Analyze Two Port RF Networks-Circuit.
2ENTC4.2	Use and design Matching & Biasing Network for microwave circuit.
2ENTC4.3	Design RF Transistor Amplifier.
2ENTC4.4	Design RF Oscillators and Mixers.
2ENTC4.5	Understand Fundamentals of Microwave Integrated Circuits.
2ENTC4.6	Get familiar to MMIC Technology.

Course Number:	2ENTC5
Name of Course:	Mobile Computing
Sr.no	Course Outcomes
Upon successful completion of this course, the student will be able to:	
2ENTC5.1	Understand the wireless 3G and 4G network technologies.
2ENTC5.2	Use fundamentals of channel allocation and interference reduction techniques.
2ENTC5.3	Understand the concept of mobility and location management.
2ENTC5.4	Get knowledge of different protocols in mobile.
2ENTC5.5	Understand the services pertaining to the wireless networks.
2ENTC5.6	Have an detail insight of security issues in mobile and wireless networks.