



M.KUMARASAMY
COLLEGE OF ENGINEERING

NAAC Accredited Autonomous Institution

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ISO 9001:2015 Certified Institution

Thalavapalayam, Karur, Tamilnadu.



Curriculum and Its Relevance to Local/National/Regional/Global Needs



Criterion 1: Curricular Aspects

1.1 Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

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Thalavapalayam, Karur, Tamilnadu.



B.Tech – Artificial Intelligence and Data Science



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Artificial Intelligence and Data Science

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|---------------|--|---|--|
| 2018 | 18LEH101J | Technical English | Global | English plays a predominant role in almost all the fields. It is considered as the global language of business. Learning English will increase the employment opportunities globally. |
| 2018 | 8MAB101T | Calculus and Linear Algebra | Global | The basic concepts of engineering mathematics based on differential calculus and linear algebra. |
| 2018 | 18CYB101J | Chemistry | Global | Gives foundation for course related to Engineering. |
| 2018 | 18CSS101J (R) | Programming for Problem Solving | Global | The Students understand the functioning of various components of a computer system, operating system, problem solving methods, programming aspects of C and use of arrays, strings, structures and union in C. |
| 2018 | 18LEH102J | Professional English | Global | Speaking English will enable all to contact people from all over the world and to travel more easily. |
| 2018 | 18MAB102T | Advanced Calculus and Complex Analysis | Global | The analytic knowledge and problem solving skills based on integral calculus and complex analysis can be developed. |
| 2018 | 18PYB101J | Physics | Global | Gives foundation for course related to Engineering. |
| 2018 | 18AIC101J | Python Programming | Global | It is a language that is remarkably easy to learn, and it can be used as a stepping stone into other programming languages and frameworks. |
| 2018 | 18MBH101L | Professional Skills and Practices | Global | A combination of hard and soft skills that can help them perform their job well and succeed in their careers. |
| 2018 | 18GNM101L | Physical & Mental Health using Yoga | National | Yoga's incorporation of meditation and breathing can help improve a student's mental well-being. |
| 2018 | 18MAB207T | Probability and Statistics | Global | To understand the problems of students to test for single mean, difference of means. To use discrete time Markov chains to model computer system. |
| 2018 | 18ECS204T | Digital Logic Design | Global | At the base of all logics being performed by computing devices, the data is being handled. |
| 2018 | 18AIC201J | Foundation of Artificial Intelligence & Data Science | Global | To provide a strong foundation of fundamentals concepts of AI. |
| 2018 | 18AIC202T | Computer Organization and Architecture | Global | Examine thread – Level parallel processing architecture with centralized and distributed memory. |
| 2018 | 18AIC203J | Data Structures and Algorithms | Global | Understand the various data structure concepts and learn the different algorithms to manipulate these data structures. |
| 2018 | 18AIC204J | Object Oriented Programming with Java | Global | Develops core idea for executing or implementing the various software by the use if the language. |
| 2018 | 18MBM201L | Competencies in Social Skills | Global | Students should be able to solve both analytical and logical problems in an effective manner. |



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|------|-----------|--|----------|--|
| 2018 | 18CYM201T | Environmental Science | Global | Gives foundation for course related to Engineering. |
| 2018 | 18MAB206T | Discrete Mathematics | Global | To obtain general knowledge about the area of discrete mathematics and to understand the variety of methods to construct mathematical proofs. |
| 2018 | 18AIC205L | Design Thinking - Practitioner Course | Global | Design thinking encourages us to be creative and solve problems in new ways. |
| 2018 | 18AIC206T | Software Engineering | Global | Projects are assigned to students to enable them to gain understanding about how the software's are developed in the corporates undergoing various phases. |
| 2018 | 18AIC207J | Operating Systems and Virtualization | Global | Understanding of operating system design and its impact on application systems design and performance. |
| 2018 | 18AIC208J | Database Management Systems | Global | Students tend to know about the different query optimization and evaluation techniques. |
| 2018 | 18AIC209T | Design and Analysis of Algorithms | Global | Analyse the various algorithm to know the efficiency time and space complexity. |
| 2018 | 18MBM202L | Critical and Creative Thinking Skills | Global | Students can be able to solve both analytical and logical problems in an effective manner. |
| 2018 | 18LEM103T | Indian Tradition and Heritage | National | Students will learn about the culture and tradition of people in India. |
| 2018 | 18AIC301J | Machine Learning and AI Services | Global | Learn the machine learning concepts like classification of data, clustering, regression techniques. |
| 2018 | 18AIC302J | Data Analytics and Business Intelligence | Global | Large, unstructured data can be transformed into relationships within a meaningful structure with the use of data analytics. This function aids students in making quick and efficient business decisions. |
| 2018 | 18AIC303J | Computer Networks | Global | Students are exposed to the different packet tracer tools to visualize and simulate the path established over the network. |
| 2018 | 18AIC304T | Embedded Systems with AI | Global | Study of embedded computing platform design and analysis, real time OS. |
| | 18MBM301L | Analytical and Logical Thinking Skills | Local | Learn about general aptitude logical conclusion or solution to given problems. |
| 2018 | 18LEM302T | Self-Development and Entrepreneurship | National | Students will learn about the personal development, creativity, self-reliance, initiative taking with a new product or service. |
| 2018 | 18AIC305J | Predictive Modelling and Analytics | Global | Students will able to predict future events or outcomes by analyzing relevant historical data. |
| 2018 | 18AIC306J | Analytics in Cloud Computing | Global | Students will learn about data collection, mining, and analytics on the Cloud. |
| 2018 | 18AIC307T | Cryptography and Network Security | Global | Understanding the basics of cryptography is fundamental to keeping your networks, systems, and data secure. |
| | 18MBM302L | Employability Skills and Practices | Global | Develop the transferable skills needed by an individual to make them 'employable' |
| 2018 | 18LEM301T | Indian Art Forms | National | Students will learn about the culture arts and tradition of people in India. |
| 2018 | 18AIE001T | R Programming for Machine Learning | Global | Students will focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy |
| 2018 | 18AIE002T | AI techniques in Data Mining | Global | Understand the transforms unstructured data into meaningful insights. |



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|------|-----------|-------------------------------|--------|--|
| 2018 | 18AIE003T | Software Project Management | Global | To understand the basic concepts of agile software process and develop agile software process by using the principles of agile testing. |
| 2018 | 18AIE004T | GPU Programming | Global | Understand the concepts of parallel programming with graphics processing units. |
| 2018 | 18AIE005T | Theory of Computation | Global | The students will understand applying the lemma properties to regular and context free languages. |
| 2018 | 18AIE006T | Computer Vision | Global | Understand about the image filtering and processing methods to know the significance of range measurement. |
| 2018 | 18AIE007T | IOT and its Applications | Global | The students will learn the principles of the Internet of Things, which will let them evaluate device integration and enhance the performance of their IoT backend services using a GUI. |
| 2018 | 18AIE008T | Web Development | Global | The students learn the programming languages to create a web application. |
| 2018 | 18AIE009T | Statistical Analysis Using R | Global | Knowledge about R system for statistical computing is an environment for data analysis and graphics. |
| 2018 | 18AIE010T | Web & Social Media Mining | Global | Analyzing and Mining Social Media Data for Predicting Student's Learning Experiences |
| 2018 | 18AIE011T | Clean Coding and DevOps | Global | Students will develop skills that are essential for deploying production machine learning models. |
| 2018 | 18AIE012T | AI for Game Programming | Global | Students will learn the machine learning concepts to apply sentiment analysis and image recognition. |
| 2018 | 18AIE013T | Natural Language Processing | Global | provides interactive and immersive learning experiences, such as chatbots, virtual assistants, and gamification. |
| 2018 | 18AIE014T | Augmented Reality | Global | understand and visualize complex concepts, making them more likely to remember the information long-term. |
| 2018 | 18AIE015T | Autonomous Systems and Drones | Global | Equips students with skills necessary for flying drones and handling autonomous robotics. |
| 2018 | 18AIE016T | XML and Web Services | Global | Students able to build Web Services and Web Service clients using Java technologies. |

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B.Tech – Artificial Intelligence and Machine Learning



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Artificial Intelligence and Machine Learning

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|---------------|--|---|--|
| 2018 | 18LEH101J | Technical English | Global | English plays a predominant role in almost all the fields. It is considered as the global language of business. Learning English will increase the employment opportunities globally. |
| 2018 | 8MAB101T | Calculus and Linear Algebra | Global | The basic concepts of engineering mathematics based on differential calculus and linear algebra. |
| 2018 | 18CYB101J | Chemistry | Global | Gives foundation for course related to Engineering. |
| 2018 | 18CSS101J (R) | Programming for Problem Solving | Global | The Students understand the functioning of various components of a computer system, operating system, problem solving methods, programming aspects of C and use of arrays, strings, structures and union in C. |
| 2018 | 18LEH102J | Professional English | Global | Speaking English will enable all to contact people from all over the world and to travel more easily. |
| 2018 | 18MAB102T | Advanced Calculus and Complex Analysis | Global | The analytic knowledge and problem solving skills based on integral calculus and complex analysis can be developed. |
| 2018 | 18PYB101J | Physics | Global | Gives foundation for course related to Engineering. |
| 2018 | 18AIC101J | Python Programming | Global | It is a language that is remarkably easy to learn, and it can be used as a stepping stone into other programming languages and frameworks. |
| 2018 | 18MBH101L | Professional Skills and Practices | Global | A combination of hard and soft skills that can help them perform their job well and succeed in their careers. |
| 2018 | 18GNM101L | Physical & Mental Health using Yoga | National | Yoga's incorporation of meditation and breathing can help improve a student's mental well-being. |
| 2018 | 18MAB207T | Probability and Statistics | Global | To understand the problems of students to test for single mean, difference of means. To use discrete time Markov chains to model computer system. |
| 2018 | 18AMC201T | Principles of Artificial Intelligence | Global | To provide a strong foundation of fundamentals concepts of AI. |



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|------|-----------|--|----------|--|
| 2018 | 18AMC202J | Object oriented Programming using JAVA | Global | Examine thread – Level parallel processing architecture with centralized and distributed memory. |
| 2018 | 18AMC203T | Data Structures using C++ | Global | Understand the various data structure concepts and learn the different algorithms to manipulate these data structures. |
| 2018 | 18AMC204T | Computer Organization and Architecture | Global | Develops core idea for executing or implementing the various software by the use if the language. |
| 2018 | 18AMC205T | Fundamentals of Operating Systems | Global | Understanding of operating system design and its impact on application systems design and performance. |
| 2018 | 18MBM201L | Competencies in Social Skills | Global | Students should be able to solve both analytical and logical problems in an effective manner. |
| 2018 | 18CYM201T | Environmental Science | Global | Gives foundation for course related to Engineering. |
| 2018 | 18MAB206T | Discrete Mathematics | Global | To obtain general knowledge about the area of discrete mathematics and to understand the variety of methods to construct mathematical proofs. |
| 2018 | 18AMC208T | Machine Learning Algorithms | Global | Learn the machine learning concepts like classification of data, clustering, regression techniques. |
| 2018 | 18AMC209T | Internet Programming | Global | The students learn the programming languages to create a web application. |
| 2018 | 18AMC210T | Database Management Systems | Global | Students tend to know about the different query optimization and evaluation techniques. |
| 2018 | 18AMC211T | Design and Analysis of Algorithms | Global | Analyse the various algorithm to know the efficiency time and space complexity. |
| 2018 | 18AMC212T | Software Engineering | Global | Projects are assigned to students to enable them to gain understanding about how the software's are developed in the corporates undergoing various phases. |
| 2018 | 18MBM202L | Critical and Creative Thinking Skills | Global | Students can be able to solve both analytical and logical problems in an effective manner. |
| 2018 | 18LEM103T | Indian Tradition and Heritage | National | Students will learn about the culture and tradition of people in India. |


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B.E. – Civil Engineering



Curriculum Design and Development

Curriculum and its Relevance to Local / National/Regional/Global Needs

Name of the Programme: B.E. - CIVIL ENGINEERING

Regulation: 2018

| S. No. | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|--------|-------------|--|---|--|
| 1 | 18CES201T | Engineering Mechanics | National | Student will learn about forces and motion acting on bodies |
| 2 | 18CES202L | Computer Aided Civil Engineering Drawing | National | Student able to draft Plan, Section, elevation of various building using AutoCAD. |
| 3 | 18CEC201J | Fluid Mechanics and Hydraulic Machinery | National | To Learn about properties of Fluids and Application of pumps and Turbines. |
| 4 | 18CEC202T | Construction Materials and Techniques | Local | Able to learn about Geological rocks and Exposure about Construction techniques. |
| 5 | 18CEC203J | Surveying | National | Get an idea about various methods of surveying and its applications. |
| 6 | 18CEC308L | Survey Camp | Local | Get a Practical Exposure about Survey work. |
| 7 | 18CEC204J | Environmental Engineering I | Global | Know about the water quality, water supply system |
| 8 | 18CEC208T | Environmental Engineering II | | |
| 9 | 18CEC205J | Strength of Materials | Regional | Understand the behaviour of Elements |
| 10 | 18CEC206T | Concrete Technology | Global | Get an idea about properties and behaviour of different concrete |
| 11 | 18CEC207J | Soil Mechanics | Regional | Get an idea about behaviour of soil properties and Classify foundation for suitable soil |
| 12 | 18CEC306T | Foundation Engineering | | |
| 13 | 18CEC301T | Analysis of Structures | National | Students will learn about Analysis of indeterminate beams, Arches, Space and cable structures, Influence line diagram. |
| 14 | 18CEC302T | Design of Steel Structures | National | Introduce the design of truss elements, water tanks, and light gauge elements. |
| | 18CEE018T | Advanced Design of Steel Structures | | |
| 15 | 18CEC303T | Highway and Railway Engineering | National | To get an idea about transportation and engineering aspects |
| | 18CEE001T | Airport and Harbour Engineering | | |
| | 18CEE002T | Traffic Engineering and Management | | |
| | 18CEE003T | Urban Planning and Transportation | | |



| S. No. | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|--------|-------------|--|---|---|
| 16 | 18CEC304T | Irrigation and Water Resource Engineering | Global | To Familiarize the students to methods of irrigation, water resource management. |
| 17 | 18CEC305L | Concrete and Highway Engineering Laboratory | National | Can identify the materials through suitable test |
| 18 | 18MBH201T | Management Principles for Engineers | National | Student can Learn about scheduling methods, execution procedure and financial control process. |
| 19 | 18CEC307T | Design of Reinforced Concrete Structures | National | Students will gain knowledge on Water tanks, Retaining walls, Bridges, Yield line concepts. |
| | 18CEE017T | Advanced Design of Concrete Structures | | |
| 20 | 18CEC308L | Survey Camp | Local | Get a Practical Exposure about Survey work. |
| 21 | 18CEC309L | Computer Aided Design and Drafting Laboratory | National | Students able to prepare structural drawings for concrete / steel structures |
| 22 | 18CEC401J | Estimation and Quantity Surveying | Global | Able to estimate the building and other structures. |
| 23 | 18CEC402T | Construction Engineering and Management | National | Student can Learn about scheduling methods, execution procedure and financial control process. |
| 24 | 18CEE004T | Remote Sensing and GIS Application for Civil Engineering | National | Students can gather fundamental knowledge on Remote sensing and GIS in the field of civil Engineering. |
| 25 | 18CEO004T | Remote Sensing and GIS | | |
| 26 | 18CEE005T | Sustainable Construction Methods | Global | Students can be able to learn about various sustainable construction methods and implement in the field work. |
| 27 | 18CEE006T | Construction Equipment and Automation | National | Students able to get exposure on equipment's and update themselves in equipment automation. |
| 28 | 18CEE007T | Quality Control and Assurance in Construction | National | To create awareness on quality aspects in resources in Civil Engineering |
| 29 | 18CEE008T | Project Safety Management | Global | To analyse the existing safety measure and to follow the standard measures can be done by learning this course. |
| 30 | 18CEE010T | Ground Improvement Techniques | National | Student will able to identify the problematic soil and to suggest suitable techniques to improve the behaviour of soil. |
| 31 | 18CEE011T | Integrated Water Resource Management | National | To make the students conversant with different aspects of the management, reservoir planning, cost analysis of water resources. |



| S. No. | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|--------|-------------|--|---|--|
| 32 | 18CEE012T | Solid and Hazardous Waste Management | National | To get exposure on collection, processing and disposal of solid and hazardous wastes |
| 33 | 18CEE013T | Air and Noise Pollution and Control | Global | Student will learn about the sources, characteristics and effects of air pollution. |
| 34 | 18CEE014T | Industrial Waste Management | National | To get exposure on processing industrial wastes |
| 35 | 18CEE015T | Repair and Rehabilitation of Concrete Structures | Global | Understand the durability characteristics of concrete and strengthening of structures. |
| 36 | 18CEE016T | Prefabricated Structures | Global | To get the knowledge on structural components used with respect to the design principles |
| 37 | 18CEE019T | Basics of Dynamics and Aseismic Design | Global | To enhance the ability to identify the mode shapes of the structure under dynamic loading. |
| 38 | 18CEE020T | Prestressed Concrete Structures | National | To understand the concepts of pre-stressed structural components. |
| 39 | 18CEE021T | Bridge Structures | National | Able to understand concepts for the design of different types of bridge, piers and abutments, and bridge foundations |
| 40 | 18CEE022T | Metro System and Civil Engineering Application | National | To get an idea about metro system and engineering aspects in implementation |
| 41 | 18CEO005T | Metro System and Engineering | | |
| 42 | 18CEE023T | Disaster Mitigation and Management | National | students begin to understand the relationship between vulnerability, disasters, disaster mitigation and risk reduction |
| 43 | 18CEO002T | Disaster Preparedness, Planning and Management | | |
| 44 | 18CEE024T | Environmental Impact and Risk Assessment | National | Students understand the importance of documentation and monitoring of EIA along with case studies. |
| 45 | 18CEO003T | Environmental Impact Assessment | | |
| 46 | 18CEO001T | Building Services | National | Students will understand about refrigeration principles and fire safety installation. |

Head of the Department
Department of Civil Engineering
M. Kumarasamy College of Engineering
(Autonomous) Karur - 639113.



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B.Tech – Computer Science and Business Systems



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: B.Tech- Computer Science and Business Systems

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|---|---|--|
| 2018 | 18MAB103T | DISCRETE MATHEMATICS | GLOBAL | The basic concepts of engineering mathematics in graph theory and regular expressions. |
| 2018 | 18MAB104T | CALCULUS, STATISTICS AND PROBABILITY | GLOBAL | The basic concepts of engineering mathematics in calculus, statistics and probability. |
| 2018 | 18PYB102J | PHYSICS FOR COMPUTING SCIENCE | GLOBAL | Basic foundational concepts in physics related to engineering. |
| 2018 | 18EEB102J | PRINCIPLES OF ELECTRICAL ENGINEERING | GLOBAL | Understand the basic concepts in electrical related to engineering. |
| 2018 | 18CBB101J | PROBLEM SOLVING AND C PROGRAMING | GLOBAL | Understand the various programming techniques related to C and basic foundational concepts such as datatypes, arrays, strings, pointers. |
| 2018 | 18CBH101J | BUSINESS COMUNICATION AND VALUE SCIENCE-I | GLOBAL | Learning English and practising it will helps in understanding the employment oppourtunities globally. |
| 2018 | 18LEM101T | CONSTITUTIONS OF INDIA | NATIONAL | Understand and utilizes citizen rights. |
| 2018 | 18MAB105T | LINEAR ALGEBRA | GLOBAL | The basic concepts of engineering mathematics in linear algebra. |



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|------|-----------|---|--------|---|
| 2018 | 18MAB106J | STATISTICAL METHOD | GLOBAL | The basic concepts of engineering mathematics in statistics and applying it for complex problems. |
| 2018 | 18ECB101J | PRINCIPLES OF ELECTRONICS | GLOBAL | To provide strong foundations in electronics related to engineering. |
| 2018 | 18CBC101J | DATA STRUCTURES & ALGORITHMS | GLOBAL | Understand the various data structures concepts and algorithms for applying in real time problems. |
| 2018 | 18MBS101T | FUNDAMENTALS OF ECONOMICS | GLOBAL | To provide and understand the basics of economics. |
| 2018 | 18CBH102J | BUSINESS COMMUNICATION & VALUE SCIENCE-II | GLOBAL | Learning English and practising it will helps in understanding the employment opportunities globally. |
| 2018 | 18LEM102T | VALUE EDUCATION | GLOBAL | To connect the learners to identify their potential |
| 2018 | 18GNM101L | PHYSICAL AND MENTAL HEALTH USING YOGA | GLOBAL | Provides deeper insights into curriculum of yoga sciences along with the practical applications of yoga |
| 2018 | 18CBC201T | FORMAL LANGUAGE AND AUTOMATA THEORY | GLOBAL | The students will understand applying the lemma properties to regular and Context Free Languages and design DFA, PDA and languages. |
| 2018 | 18CBC202T | COMPUTER ORGANIZATION & ARCHITECTURE | GLOBAL | Understand the thread level parallel processing architecture with centralized and distributed memory. |
| 2018 | 18CBC203T | OBJECT ORIENTED PROGRAMMING | GLOBAL | Develops core idea for implementing various software with the use of this language. |



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| 2018 | 18CBC204J | COMPUTATIONAL STATISTICS | GLOBAL | The basic concepts of engineering mathematics along with the combination of Python |
| 2018 | 18CBC205J | SOFTWARE ENGINEERING | GLOBAL | Understanding about various phases involved to develop the software in corporate. |
| 2018 | 18MAB209J | OPERATION RESEARCH | GLOBAL | The basic concepts of engineering mathematics related to research. |
| 2018 | 18MBM201L | COMPETENCIES IN SOCIAL SKILLS | GLOBAL | Understand about analytical and logical techniques and able to solve them in future. |
| 2018 | 18LEM103T | INDIAN TRADITION AND HERITAGE | NATIONAL | Students will learn about the culture and tradition of people in India. |
| 2018 | 18CBC207T | DATABASE MANAGEMENT SYSTEMS | GLOBAL | Understand about the various query optimization and evaluation techniques |
| 2018 | 18CBC208J | OPERATING SYSTEMS | GLOBAL | Understand about the operating system concepts and functionalities. |
| 2018 | 18CBC209J | SOFTWARE DESIGN WITH UML | GLOBAL | Understanding about various phases and UML techniques involved to develop the software in corporate. |
| 2018 | 18CBH103J | BUSINESS COMMUNICATION AND VALUE SCIENCE-III | GLOBAL | Learning English and practising it will helps in understanding the employment opportunities globally. |
| 2018 | 18MBS201T | FUNDAMENTALS OF MANAGEMENT | GLOBAL | Understand about the basic fundamentals of management. |



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|------|-----------|--|--------|---|
| 2018 | 18MBS202T | INTRODUCTION TO INNOVATION, IP MANAGEMENT & ENTREPRENEURSHIP | GLOBAL | Understand about the introduction related to Innovation, IP management & entrepreneurship. |
| 2018 | 18MBM202L | CRITICAL AND CREATIVE THINKING SKILLS | GLOBAL | Students can able to solve both logical and analytical problems in effective manner. |
| 2018 | 18CYM201T | ENVIRONMENTAL SCIENCE | GLOBAL | Gives foundation for the science courses related to engineering. |
| 2018 | 18CBC301T | DESIGN AND ANALYSIS OF ALGORITHM | GLOBAL | Analyse the various algorithms to know about the efficiency, time space complexity. |
| 2018 | 18CBC302J | COMPILER DESIGN | GLOBAL | The students will understand applying the lemma properties to regular and Context Free Languages and design DFA, PDA and languages. |
| 2018 | 18MBS301T | FINANCIAL & COST ACCOUNTING | GLOBAL | Understand about the basic fundamental terms related to finance and cost. |
| 2018 | 18MBS302T | BUSINESS STRATEGY | GLOBAL | Understand about the various strategies involved in business strategy. |
| 2018 | 18MBS303J | DESIGN THINKING | GLOBAL | Understand about the basics of design thinking concepts in solving the business related problems. |
| 2018 | 18CBE003J | MACHINE LEARNING | GLOBAL | Understanding and learning about the concepts of machine learning like classification, clustering and regression. |
| 2018 | 18MBM301L | ANALYTICAL AND LOGICAL THINKING SKILLS | GLOBAL | Students can able to solve both logical and analytical problems in effective manner. |



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|------|-----------|---|----------|---|
| 2018 | 18LEM301T | INDIAN ART FORMS | NATIONAL | Students will learn about the culture arts and tradition of people in India. |
| 2018 | 18CBC304T | COMPUTER NETWORKS | GLOBAL | Students will learn about network and associated protocols of each layer |
| 2018 | 18CBC305J | INFORMATION SECURITY | GLOBAL | Understand about various security algorithms and its features |
| 2018 | 18CBC306J | ARTIFICIAL INTELLIGENCE | GLOBAL | Learn about artificial intelligence concepts with various algorithms |
| 2018 | 18MBS304T | FINANCIAL MANAGEMENT | GLOBAL | Learn about the basic fundamental terms related to finance |
| 2018 | 18CBH104J | BUSINESS COMMUNICATION & VALUE SCIENCE-IV | GLOBAL | Learning English and practising it will helps in understanding the employment opportunities globally. |
| 2018 | 18CBE005J | FULL STACK WEB DEVELOPMENT | GLOBAL | Understand about front end and back end web development |

Mrs. V. Banupriya, M.E., (Ph.D).,
Head of the Department,
Department of Computer Science and Business Systems
M. Kumarasamy College of Engineering,
Thalavapalayam, Karur - 639 113.



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|------|-----------|---|----------|---|
| 2018 | 18LEM301T | INDIAN ART FORMS | NATIONAL | Students will learn about the culture arts and tradition of people in India. |
| 2018 | 18CBC304T | COMPUTER NETWORKS | GLOBAL | Students will learn about network and associated protocols of each layer |
| 2018 | 18CBC305J | INFORMATION SECURITY | GLOBAL | Understand about various security algorithms and its features |
| 2018 | 18CBC306J | ARTIFICIAL INTELLIGENCE | GLOBAL | Learn about artificial intelligence concepts with various algorithms |
| 2018 | 18MBS304T | FINANCIAL MANAGEMENT | GLOBAL | Learn about the basic fundamental terms related to finance |
| 2018 | 18CBH104J | BUSINESS COMMUNICATION & VALUE SCIENCE-IV | GLOBAL | Learning English and practising it will helps in understanding the employment opportunities globally. |
| 2018 | 18CBE005J | FULL STACK WEB DEVELOPMENT | GLOBAL | Understand about front end and back end web development |

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Thalavapalayam, Karur, Tamilnadu.



B.E – Computer Science and Engineering

**Criteria 1: Curricular Aspects****1.1: Curriculum Design and Development****1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs****Name of the Programme: Computer Science and Engineering**

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|-----------------------------|--------------------|--|--|--|
| 2018 | 18LEH101J | TECHNICAL ENGLISH | Global | English plays a predominant role in almost all the fields. It is considered as the global language of Business. So learning English will increase the employment opportunities globally. |
| 2018 | 18MAB101T | CALCULUS AND LINEAR ALGEBRA | Global | The basic concepts of engineering mathematics based on differential calculus and linear algebra can be clearly understood with this course |
| 2018 | 18CYB101J | CHEMISTRY | Global | Gives foundation for Courses related to Engineering |
| 2018 | 18MES101J | ENGINEERING GRAPHICS | Global | Understand the way of convey information about an object. |
| 2018 | 18EES101J | BASIC ELECTRICAL AND ELECTRONICS ENGINEERING | Global | Study of design, and application of equipment, devices, and systems |
| 2018 | 18MBH102L | GENERAL APTITUDE | Global | To recapitulate fundamental mathematical concepts and skills |
| 2018 | 18LEH102J | PROFESSIONAL ENGLISH | Global | Speaking English will enable all to contact people from all over the world and to travel more easily. |
| 2018 | 18MAB102T | ADVANCED CALCULUS AND COMPLEX ANALYSIS | Global | The analytic knowledge and problem solving skills based on integral calculus and complex analysis can be developed |



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|------|-----------|---|--------|--|
| 2018 | 18PYB101J | PHYSICS | Global | Gives foundation for Courses related to Engineering |
| 2018 | 18CSS101J | PROGRAMMING FOR PROBLEM SOLVING | Global | The students understand the functioning of various components of a computer system, Operating System, Problem Solving Methods, programming aspects of C and use of Arrays, Strings, Structures and Union in C. |
| 2018 | 18MES102J | BASIC CIVIL AND MECHANICAL ENGINEERING | Global | To select building materials and identify the components of a building |
| 2018 | 18MBH101L | PROFESSIONAL SKILLS AND PRACTICES | Global | To Equip students with different aspects of presentation. |
| 2018 | 18MAB203T | PROBABILITY STATISTICS AND QUEUING THEORY | Global | The knowledge of Probability, Queuing theory, Statistics and its applications in the computing field can be learnt |
| 2018 | 18ECS202J | ANALOG AND DIGITAL ELECTRONICS | Global | The knowledge of signals and types of signals carrying information. The major difference between both signals is that the analog signals have continuous electrical signals, while digital signals have non-continuous electrical signals. |
| 2018 | 18CSC201J | DATA STRUCTURES AND ALGORITHMS | Global | Understand the various data structure concepts and learn the different algorithms to manipulate these data structure |
| 2018 | 18CSC202J | OBJECT ORIENTED PROGRAMMING | Global | Study of java programming concepts to solve the real time application problems |
| 2018 | 18CSC203T | OPERATING SYSTEMS | Global | Study of CPU scheduling, memory management, and device management |
| 2018 | 18CSC204T | COMPUTER ARCHITECTURE AND ORGANIZATION | Global | Deals with the design of computers, data storage devices, and networking components that store and run programs, transmit data, and |



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| | | | | drive interactions between computers, across networks, and with users. |
| 2018 | 18MAB206T | DISCRETE MATHEMATICS | Global | The variety of methods to construct mathematical proofs and to model situations in a mathematical way using Graph Theory can be learnt |
| 2018 | 18ECS203J | MICROPROCESSOR AND MICROCONTROLLER | Global | A microprocessor consists of a powerful CPU on a single chip while connecting to an external peripheral, the microcontroller puts CPU and peripherals on a single chip. |
| 2018 | 18CSC205J | DATABASE MANAGEMENT SYSTEMS | Global | A DBMS serves as an interface between an end-user and a database, allowing users to create, read, update, and delete data in the database. |
| 2018 | 18CSC206J | COMPUTER NETWORKS | Global | A knowledge about interconnected computing devices that can exchange data and share resources with each other. |
| 2018 | 18CSC207T | DESIGN AND ANALYSIS OF ALGORITHMS | Global | A knowledge about design the algorithms for solving different types of problems in Computer Science. |
| 2018 | 18CSC208T | HUMAN COMPUTER INTERACTION | Global | Study of focusing on the design of computer technology and, in particular, the interaction between humans and computers |
| 2018 | 18CSC301JT | MACHINE LEARNING | Global | A branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy. |
| 2018 | 18CSC302T | COMPILER DESIGN | Global | Knowledge in translating the computer code from one programming language into another language. |
| 2018 | 18MEO001T | INDUSTRIAL SAFETY | Global | Study an engineering |



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| | | FOR ENGINEERS | | discipline which assures that engineered systems provide acceptable levels of safety. |
| 2018 | 18MBH201T | MANAGEMENT PRINCIPLES FOR ENGINEERS | Global | Understand the principles and Improving Employee Motivation |
| 2018 | 18MBM202L | CRITICAL AND CREATIVE THINKING SKILLS | Global | It involves students thinking broadly and deeply using skills, behaviours and dispositions such as reason, logic, resourcefulness, imagination and innovation in all learning areas |
| 2018 | 18CSX001L | ANIMATIONS | Global | The method of photographing successive drawings, models, or even puppets, to create an illusion of movement in a sequence |
| 2018 | 18CSX002L | PROBLEM SOLVING USING C++ | Global | Learn from it basic approach to solve any problem, it is more related to solving advances algorithms an coding challenges using C++ language of program. |
| 2018 | 18CSX003L | REACTJS | Global | Understand the creation of reusable UI components, which present data that changes over time. |
| 2018 | 18CSX004L | STATISTICAL ANALYSIS USING R | Global | Knowledge about R system for statistical computing is an environment for data analysis and graphics. |
| 2018 | 18CSX005T | DATA CENTER AND CLOUD BASICS | Global | Study the Data Center is a physical resource that helps businesses to store, organize, and operate data efficiently. |
| 2018 | 18CSX006L | ETHICS IN CYBER SECURITY | Global | Understand the well-founded standards of what is right and wrong that prescribe what we ought to do when confronted with specific situations. |
| 2018 | 18CSC303JT | WEB PROGRAMMING | Global | Learn about the writing, markup and coding involved in Web development, which includes Web content, Web client and server scripting and |



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| | | | | network security |
| 2018 | 18CSC304JT | BIG DATA AND ANALYTICS | Global | Understand the process of collecting, examining, and analyzing large amounts of data to help companies make better business decisions |
| 2018 | 18CSE016T | DISTRIBUTED COMPUTING SYSTEMS | Global | Understand the method of making multiple computers work together to solve a common problem |
| 2018 | 18MEO005T | PRODUCT DESIGN AND DEVELOPMENT | Global | Create a new product to be sold by a business to its customers. |
| 2018 | 18CSX007L | MONGODB | Global | Create a document database with the scalability and flexibility |
| 2018 | 18LEM101T | CONSTITUTION OF INDIA | Regional | Learn the document lays down the framework that demarcates fundamental political code, structure, procedures, powers, and duties of government institutions and sets |
| 2018 | 18GNM101L | PHYSICAL AND MENTAL HEALTH USING YOGA | Local | Practicing Yoga can positively affect mood, behaviour and overall mental health in various ways |
| 2018 | 18LEM102T | VALUE EDUCATION | Global | knowledge of the rules needed to function in this mode of relating to other people and to seek the development in the student a grasp of certain underlying principles |
| 2018 | 18GNM102L | NSS | Local | Helps the student to grow individually and also as a group. |
| 2018 | 18MBM201L | COMPETENCIES IN SOCIAL SKILLS | Global | Social and Personal Competencies are a set of skills to include self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These are the "soft skills |



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| 2018 | 18CYM201T | ENVIRONMENTAL SCIENCE | Global | Study about social sciences for understanding human relationships, perceptions and policies towards the environment. |
| 2018 | 18LEM103T | INDIAN TRADITION AND HERITAGE | Global | Study the heritage of social norms and technologies that originated in or are associated with the ethno-linguistically diverse India. |
| 2018 | 18LEM301T | INDIAN ART FORMS | Regional | Understand the design of characteristic of Indian art and can be observed in its modern and traditional forms. |
| 2018 | 18LEM302T | SELF-DEVELOPMENT AND ENTREPRENEURSHIP | Global | Learn the pursuit of a long-term educational goal or the cultivation of skill. |
| 2018 | 18MBM301L | ANALYTICAL AND LOGICAL THINKING SKILLS | Local | Learn about general aptitude logical conclusion or solution to given problems. Critical thinking, analytical thinking critically examines the different parts or details of something to fully understand or explain it. |
| 2018 | 18MBM302L | EMPLOYABILITY SKILLS AND PRACTICES | Global | Develop the transferable skills needed by an individual to make them 'employable' |
| 2018 | 18CSE001T | ADHOC AND SENSOR NETWORKS | Global | Learn the meetings or in any location where a network doesn't exist and where people need to share files. |
| 2018 | 18CSE002T | AGILE METHODOLOGY | Global | Study of agile scrum framework, testing and agile software design and development |
| 2018 | 18CSE003T | ARTIFICIAL INTELLIGENCE AND ROBOTICS | Global | Identify problems where artificial intelligence techniques are applicable.. Participate in the design of systems that act intelligently and learn from experience. |
| 2018 | 18CSE004T | BIOINFORMATICS | Global | knowledge and awareness of the basic principles and concepts of biology, computer science and |



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| | | | | mathematics. |
| 2018 | 18CSE005T | BLOCKCHAIN | Global | Helps in the verification and traceability of multistep transactions needing verification and traceability. |
| 2018 | 18CSE006T | BUILDING ENTERPRISE APPLICATIONS | Global | Designing and developing high quality enterprise applications and other task related to it. |
| 2018 | 18CSE007T | COMPUTER VISION | Global | Demonstrate awareness of the current key research issues in computer vision. Develop and evaluate solutions to problems in computer vision. |
| 2018 | 18CSE008T | CRYPTOGRAPHY AND NETWORK SECURITY | Global | Understand and analyze data encryption standard. |
| 2018 | 18CSE009T | CYBER FORENSICS | Global | Analyze and evaluate the cyber security needs of an organization |
| 2018 | 18CSE010J | DATA SCIENCE | Global | Students will develop relevant programming abilities. Students will demonstrate proficiency with statistical analysis |
| 2018 | 18CSE011T | DATA WAREHOUSING AND DATAMINING | Global | Understand the transforms unstructured data into meaningful insights |
| 2018 | 18CSE012T | DATABASE SECURITY AND PRIVACY | Global | Developing risk-based data security processes is the key to keeping data secure |
| 2018 | 18CSE013T | DEEP LEARNING | Global | Gain the knowledge about machine learning and artificial intelligence (AI) that imitates the way humans gain certain types of knowledge. |
| 2018 | 18CSE014J | DEVELOPING WEBAPPLICATION SIN.NET | Global | Learn the multiple languages, editors, and libraries to build for web, mobile, desktop, games, IoT etc. |
| 2018 | 18CSE015T | DIGITAL IMAGE PROCESSING | Global | Perform image enhancement techniques and apply the concept of image segmentation. |



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| 2018 | 18CSE016T | DISTRIBUTED COMPUTING SYSTEMS | Global | Get knowledge in distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security, and distributed file systems. |
| 2018 | 18CSE017T | EMBEDDED COMPUTING SYSTEMS | Global | Perform effectively as entry level Embedded Systems professionals |
| 2018 | 18CSE018T | FREE OPEN SOURCE SOFTWARE | Global | Understand the freely licensed to use, copy, study, modify or enhance the software in any way |
| 2018 | 18CSE019T | GREEN COMPUTING | Global | Knowledge about green computing is the need of the hour to protect the environment |
| 2018 | 18CSE020T | INFORMATION RETRIEVAL TECHNIQUES | Global | Understanding the basics of Information Retrieval |
| 2018 | 18CSE021T | INFORMATION SECURITY | Global | Learn the confidentiality, integrity, and availability of information. |
| 2018 | 18CSE022J | INSIGHT INTO CLOUD COMPUTING | Global | providing computing services via the internet, |
| 2018 | 18CSE023T | INTELLECTUAL PROPERTY RIGHTS | Global | Study the legal rights given to the inventor or creator to protect his invention or creation for a certain period of time. |
| 2018 | 18CSE024T | INTERNET OF THINGS | Global | Study the network of connected smart devices providing rich data |
| 2018 | 18CSE025J | IOT AND SMART APPLIANCES | Global | Understand the users to connect, control, and monitor their appliances allowing them to save time, energy, and money. |
| 2018 | 18CSE026J | MOBILE COMPUTING | Global | Knowledge about design, development and evaluation of mobile applications using appropriate solutions that meet user requirements. |
| 2018 | 18CSE027T | PARALLEL COMPUTING | Global | Learn about many calculations or processes are |



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| | | | | carried out simultaneously. |
| 2018 | 18CSE028J | PYTHON PROGRAMMING | Global | Understand the uses of create a variety of different programs and isn't specialized for any specific problems. |
| 2018 | 18CSE029J | SIMULATION AND MODELLING | Global | Understand the important method of analysis which is easily verified, communicated, and understood |
| 2018 | 18CSE030T | SOFT COMPUTING | Global | Develop intelligent machines to provide solutions to real world problems, |
| 2018 | 18CSE031T | SOFTWARE ENGINEERING | Global | Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. |
| 2018 | 18CSE032T | SOFTWARE PROJECT MANAGEMENT | Global | Understand the project management concepts and techniques to an IT project ... |
| 2018 | 18CSE033T | SOFTWARE TESTING | Global | Knowledge about actual outcome is compared with the expected outcome and the deviations are noted. |
| 2018 | 18CSE034T | TCP/IP AND INTERNET PROGRAMMING | Global | Understand the communication between the computers |
| 2018 | 18CSE035T | USER INTERFACE TECHNOLOGIES – PART I | Global | Learn the users interact with a computer, website or application. |
| 2018 | 18CSE036T | USER INTERFACE TECHNOLOGIES- PARTII | Global | Learn the visibility to the functioning of the system |
| 2018 | 18CSE037T | VISUALIZATION TECHNIQUES | Global | Focus on what your life will look like once your desired outcome has been attained. |
| 2018 | 18CSP201L | MINOR PROJECT-I | Global | Student can be able to understand the real world problems and give a solution. |
| 2018 | 18CSP202L | MINOR PROJECT-II | | |
| 2018 | 18CSP301L | MINOR PROJECT-III | | |
| 2018 | 18CSP302L | MINOR PROJECT-IV | | |



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| 2018 | 18CSE023T | INTELLECTUAL PROPERTY RIGHTS | Global | Knowledge about legal rights given to the inventor or creator to protect invention or creation for a certain period of time. |
| 2018 | 18CSE026J | MOBILE COMPUTING | Global | Study about design, development and evaluation of mobile applications using appropriate solutions that meet user requirements |
| 2018 | 18CSE032T | SOFTWARE PROJECT MANAGEMENT | Global | To attain knowledge in planning, scheduling, resource allocation, execution, tracking, and delivery of software and web projects. |
| 2018 | 18CSX003L | REACTJS | Global | Learn the free and open-source front-end JavaScript library for building user interfaces based on UI components. |
| 2018 | 18CSE033T | SOFTWARE TESTING | Global | Analyse the process of evaluating and verifying software product or application |


HOD - CSE

Dr. S. THILAGAMANI, M.E., Ph.d.
Professor & Head
Computer Science & Engineering
M. Kumarasamy College Of Engineering
Karur - 639 113



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B.E – Electronics and Communication Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Programme: **ELECTRONICS AND COMMUNICATION ENGINEERING**

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|------|--------------|---|----------|--|
| 2018 | 18CSS101J(R) | Programming for Problem Solving | Global | Introduce foundational concepts of computer programming to different branches of Engineering and Technology. |
| 2018 | 18EES101J | Basic Electrical and Electronics Engineering | Global | Understand the parts, functions and working of motors, generators and transformers that function in AC and DC Utilize the basic electronic devices and circuits. |
| 2018 | 18ECC202J | Analog Electronics | Global | Learn the technique for Midband analysis of amplifier circuits using small signal equivalent circuit. Understand the high frequency analysis of amplifier circuits. |
| 2018 | 18ECC203T | Measurements and Instrumentation | Global | Know the various operating principle of instruments which use to AC and DC measurements Elaborate discussion about storage & display devices |
| 2018 | 18ECC206T | Transmission lines and waveguides | Global | Impart technical knowledge in impedance matching using smith chart and Create an exposure for various transducers. |
| 2018 | 18ITS201J | Data Structures and object oriented programming | Global | Understand the sorting algorithm, implementation and design of algorithms. |
| 2018 | 18ECC301J | Digital Signal Processing | Global | Learn about the design methods of Digital filters and understand the concepts of DSP processor. |
| 2018 | 18ECC302T | Antennas and Wave Propagation | Global | Understand the working principles of antennas and its performance. |
| 2018 | 18ECC303T | Analog Communication | Global | Attain knowledge on modulation, demodulation and design methods of various modulation schemes. |
| 2018 | 18ECC304J | Digital Communication | Global | Understand the principles of digital communication with different modulation techniques. |
| 2018 | 18ECC305J | Microwave Engineering | Global | Learn the concepts of Waveguide components and analyze microwave measurements. |
| 2018 | 18ECC401T | Wireless communication | Global | Attain knowledge on cellular concepts and mathematical model of various fading channels. |
| 2018 | 18ECE003T | Real time Operating systems | National | Acquire essential skills for developing various real time models. |
| 2018 | 18ECE006T | Automotive Embedded systems | National | Learn about the concepts of embedded systems in automobile engineering. |
| 2018 | 18ECE009J | Internet of Things | Global | Understand the evolution of internet technology and need for IoT. |



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| 2018 | 18ECE012T | Cognitive Radio | Global | Learn the design of the wireless networks based on cognitive radios. |
| 2018 | 18ECE021J | Fiber optic communication | Global | Attain knowledge on optical fiber modes and configuration of optical fibers. |
| 2018 | 18ECE036J | Database Management Systems | Global | Apply Database concepts, structure and query language to maintain data |

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Dr.S.JEGADEESAN, M.E., Ph.D.,
 Associate Professor & Head,

Department of Electronics and Communication Engineering
 M.Kumarasamy College of Engineering,
 Thalavapalayam Karur -639 113



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B.E – Electrical and Electronics Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Electrical and Electronics Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|----------------------------------|---|---|
| 2018 | 18EES201T | Analog Electronics | Global | Expose the students to study the different application of PN junction diode circuits and transistors and analyse the frequency of different oscillator circuits and understand the operation of multivibrators. |
| 2018 | 18EEEC201T | Electro Magnetic Theory | Global | Understand the concepts of vectors, co-ordinate systems and electric fields, concept of conductors, dielectrics, capacitance and boundary conditions in electrostatic field, the concept of and boundary conditions in magnetostatic field. |
| 2018 | 18EEEC202T | Electrical Machines I | Global | Understand the parallel operation, Commutation & Armature Reaction in DC generator, DC motors & their characteristics, |
| 2018 | 18EEEC203J | Measurements and Instrumentation | Global | Understand the basic needs of instrument, necessary for Analog and Digital measurements, bridges, storage & display devices, transducers and electronic instruments |
| 2018 | 18EEEC204T | Electric Power Generation | Global | Understand the concepts of thermal and hydro power generation, nuclear power generation, Gas turbine and diesel power generation, solar, wind, tidal, ocean, geothermal, biomass plants. |
| 2018 | 18EES202J | Digital Electronics | Global | Study implementation of combinational circuits, analysis and design of synchronous sequential |



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| | | | | circuits, the fundamentals of VIIDL |
| 2018 | 18EEEC207T | Electrical Machines II | Global | Analyze the synchronous motor and hunting methods, induction machines. |
| 2018 | 18EEEC208T | Transmission and Distribution | Global | Understand the operation of the different distribution schemes and improve the voltage profile of the transmission system, analyze the voltage distribution in cables. |
| 2018 | 18EEEC209T | Control Systems | Global | Analyze the system dynamics in time domain specifications and explain the time domain and frequency domain performance using MATLAB tool. |
| 2018 | 18EEEC210T | Power Electronics and Converters | Global | Understand the different types of power semiconductor devices, controlled rectifiers and the operation of AC-voltage regulator, Cycloconverter. |
| 2018 | 18EEEC301T | Power System Analysis | Global | Understand about Per Unit calculation, Single Line Diagram and Network Matrices formation for power system. |
| 2018 | 18EEEC302T | Microcontroller and Embedded System | Global | Understand the architecture of 8085 Microprocessors and its comparable features with microcontroller and the concept of 8051 Microcontroller and its various features with simple programs. |
| 2018 | 18EEEC305T | Power System Protection and Switchgear | Global | Understand the need of protection of electrical equipment and their protection schemes. |
| 2018 | 18EEEC306T | Solid State Drives | Global | Understand the basic knowledge of Electrical Drives, the operation of controlled rectifier and chopper fed DC Drives. |
| 2018 | 18EEEE001T | Power System Operation and Control | Global | Understand Real power frequency interaction and design of power frequency controller, Reactive power voltage interaction, SCADA and its |



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| | | | | application for real time operation and control of power system |
| 2018 | 18EEEE003T | Electric Power Utilization and Energy Auditing | Global | understanding of illumination, type of lighting schemes and lamps, the electric traction systems and their performance and the conservation of electrical power and steps involved in energy audit. |
| 2018 | 18EEEE007T | Wind Energy Conversion Systems | Global | Understand the fundamentals of wind energy and its conversion system. |
| 2018 | 18EEEE010T | Communication Engineering | Global | Study the concepts of amplitude modulation and its modulator circuits, the concepts of angle and frequency modulation and its transmitter and receiver circuits, and Pulse Modulations techniques. |
| 2018 | 18EEEE011T | Electric Vehicles | Global | Understand the Configuration of Electric Vehicles, the energy storage for Electric and Hybrid Vehicles. |
| 2018 | 18EEEE012T | Smart Grid | Global | Study the basic concepts of smart grid and its characteristics, working principle. |
| 2018 | 18EEEE017T | Special Electrical Machines | Global | Understand the performance and control of Stepper Motors with their applications, the theory of operation and control of Switched Reluctance Motor, BLDC. |
| 2018 | 18EEEE020T | Solar Energy Utilization | Global | Enable the students to acquire knowledge of solar radiation data and its measurement, the concept of various forms of solar thermal systems, direct steam generation systems. |

HOD/EEE

HEAD OF THE DEPARTMENT
 Dept. of Electrical & Electronics Engg.
 M.Kumarasamy College of Engineering
 Karur-639113.



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B.Tech – Information Technology



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Information Technology

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|---|---|--|
| 2018 | 18LEH101J | Technical English | Global | English plays a predominant role in almost all the fields .It is considered as the global language of Business. So learning English will increase the employment opportunities globally. |
| 2018 | 18MAB101T | Calculus and Linear Algebra | Global | The basic concepts of engineering mathematics based on differential calculus and linear algebra can be clearly understood with this course |
| 2018 | 18CYB101J | Chemistry | Global | Gives foundation for Courses related to Engineering |
| 2018 | 18MES101J | Engineering Graphics | Global | To apply engineering graphic fundamentals to draw/evaluate engineering curves |
| 2018 | 18EES101J | Basic Electrical and Electronics Engineering (Common to all UG program) | Global | To analyse given electric circuits consisting of active and passive components |
| 2018 | 18MBH102L | General Aptitude (Common to all UG program) | Global | To recapitulate fundamental mathematical concepts and skills |
| 2018 | 18LEM101T | Constitution of India | Global | Utilize the citizen's rights |
| 2018 | 18LEH102J | Professional English (Common to all UG program) | Global | Speaking English will enable all to contact people from all over the world and to travel more easily. |
| 2018 | 18MAB102T | Advanced Calculus and Complex Analysis (Common to all UG program) | Global | To evaluate double and triple integral and apply them in problems in engineering industries |
| 2018 | 18PYB101J | Physics (Common to all UG program) | Global | Gives foundation for Courses related to Engineering |
| 2018 | 18MES102J | Basic Civil and Mechanical Engineering | Global | To select building materials and identify the components of a building |



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| 2018 | 18CSS101J(R) | Programming for Problem Solving (Common to all UG program) | Global | The students understand the functioning of various components of a computer system, Operating System, Problem Solving Methods, programming aspects of C and use of Arrays, Strings, Structures and Union in C. |
| 2018 | 18MBH101L | Professional Skills and Practices (Common to all UG program) | Global | To Equip students with different aspects of presentation |
| 2018 | 18LEM102T | Value Education (Common to all UG program) | Global | To connect the learners to their potential, identify their potential to create a new positive world |
| 2018 | 18GNM101L | Physical and Mental Health Using Yoga (Common to all UG program) | Global | Provide deeper insight into the curriculum of yogic sciences along with the practical applications of yoga |
| 2018 | 18MAB203T | Probability Statistics and Queuing Theory | Global | To understand the problems of Students T test for single mean, difference of means. To use discrete time Markov chains to model computer systems. |
| 2018 | 18ECS202J | Analog and Digital Electronics | Global | To understand the methods of biasing the Transistors & to know construction and characteristics of special diodes. |
| 2018 | 18ITC201J | Data Structures and Algorithms | Global | Knowledge in data structures will help them in solving complex problems. |
| 2018 | 18ITC202T | Agile Development Methodology | Global | To Understand the basic concepts of Agile Software Process and develop Agile Software Process by using the principles of Agile Testing. |
| 2018 | 18ITC203J | Object Oriented Programming | Global | Develops core idea for executing or implementing the various software's by the use of the language. |
| 2018 | 18ITC204T | Computer Organization and Architecture | Global | Examine Thread -Level parallel processing architectures with centralized and distributed memory. Infer the ways available for processing Graphical data in High Performance computers. |
| 2018 | 18CYM201T/ 18LEM103T | Environmental Science | Global | Gives foundation for Courses related to Engineering |



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| 2018 | 18ITY001L | Web Programming | Global | Guide the students to know the concept of computer communications, mark-up language and multimedia applications. |
| 2018 | 18MAB206T | Discrete Mathematics | Global | To obtain general knowledge about the area of discrete mathematics To understand a variety of methods and to construct mathematical proofs. |
| 2018 | 18ITS202J | Embedded Systems | Global | Equip the students with knowledge of electronics and how the software is configured and embedded into those systems with their programming skills. |
| 2018 | 18ITC205T | Object Oriented Analysis and Design | Global | Helps the students to visually understand the software by the use of various UML diagrams , that would enable the developers. |
| 2018 | 18ITC206J | Computer Networks | Global | Students are exposed to the different packet tracer tools to visualize and simulate the path established over the network. |
| 2018 | 18ITC207J | Database Management Systems | Global | Students tend to know about the different query optimization and evaluation techniques and the ways in which data are stored in the computer system |
| 2018 | 18ITC208T | Operating Systems | Global | Understanding of operating system design and its impact on application systems design and performance |
| 2018 | 18LEM103T | Indian Tradition and Heritage | National | Students will know about the Indian culture, Tradition, heritage of social norms and technologies that originated in or are associated with the ethno-linguistically diverse India |
| 2018 | 18ITX009L | Internet of Things Using Simulators | Global | The students will gain knowledge about IoT fundamentals, helps to test device integration and improve performance of their IoT backend services, via graphical user interface |
| 2018 | 18ITC301T | Formal Language and Automata Theory | Global | The students will understand Apply the pumping lemma properties to Regular and Context Free Languages and design DFA, PDA and Turing machine for a Language. |



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| 2018 | 18ITC302J | Software Testing | Global | Projects are assigned to students to enable them to gain understanding about how the software's are developed 56 in the corporate undergoing various phases. |
| 2018 | 18ITC303L | Mobile Application Development Laboratory | Global | To make the students to be familiar with the basic concepts of Mobile Communication |
| 2018 | 18ITE001J | Python Programming | Global | Outline the core syntax and semantics of Python programming language. |
| 2018 | 18ITE021T | User Interface Design | Global | Gain knowledge of the theoretical foundations of human computer interaction. |
| 2018 | 18ITE043T | Block Chain | Global | Understand the basic concepts of cryptography in Distributed Systems |
| 2018 | 18LEM301T | Learning an Indian Art Form | Global | Students learn about the salient features of Literature, Art Forms, and Architecture from ancient to modern times. |
| 2018 | 18ITX002L | Application Development Using AR and VR | Global | To design create and integrate audio visual and interactive elements into a comprehensive immersive experience. |
| 2018 | 18MBH301T | Management Principles for Engineers | Global | Student understands the company's strategic growth and profitability objectives. |
| 2018 | 18ITC304J | Web Technology | Global | Designing of web application using the programming languages |
| 2018 | 18ITC305J | Bigdata Technologies | Global | To enable the students to understand the operation of various types of data, principles of interactive data visualisation, handle the network, temporal, text based, geospatial, hierarchical and graph based data counters. |
| 2018 | 18ITC306L | Software Design Laboratory | Global | Develop a software package in any application relevant to any area of study of your curriculum by software industries |
| 2018 | 18ITE007T | Compiler Engineering | Global | To study the concept of relation between regular language, context free language and corresponding recognizers, regular languages and context free languages, Turing machines. |



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| 2018 | 18ITE022T | Machine Learning | Global | Learn the machine learning concepts like classification of data, clustering, regression techniques |
| 2018 | 18MBH202T | Social Engineering | Global | To learn about fundamental concept of social Engineering |
| 2018 | 18ITC401J | Cryptography and Network Security | National | Understand OSI security architecture and classical encryption techniques. |
| 2018 | 18ITC402L | FOSS lab | Global | Understand the basic principles of open source software and learn to work in different open source platforms. |
| 2018 | 18ITE016T | Enterprise Computing | Global | Demonstrate with knowledge of software construction at enterprise level. |
| 2018 | 18ITE017T | Grid Computing | Global | Student can understand grid computing is to provide users with a single view and/or single mechanism that can be utilized to support any number of computing tasks. |
| 2018 | 18ITE032T | Cloud Computing | Global | Study of different service providers to the corporate company, collaboration in various web based environment |
| 2018 | 18ITE031T | Software Project Management | Global | To attain knowledge in training software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process. |



HOD / IT

Head of the Department
Department of Information Technology
M. Kumarasamy College of Engineering
(Autonomous)
Thalavapalayam - Karur.



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Master of Business Administration



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Programme: MBA

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|------------------------------------|---|---|
| 2018 | PBA18207 | International Business Management | Global | Acquire Knowledge on organisational Structure and functions of WTO , GATT, MNCs ,Export and Import Procedures . |
| 2018 | PBA183M3 | Digital and Social Media Marketing | Global | To apply digital Marketing strategies and to develop Ads and implant other platforms |
| 2018 | PBA183M4 | International Marketing | Global | To Impart knowledge about policy framework and procedural aspects of export and import in International Market |
| 2018 | PBA183M5 | Marketing Analytics | National | Analyse the data using marketing metrics for marketing Decision |
| 2018 | PBA183F2 | Taxation | National | Understand the basics of taxation , Principles of Direct and Indirect taxation and service tax application. |
| 2018 | PBA183F3 | Behavioural Finance | National | Focus on Behavioural factors influencing financial markets and corporate world |
| 2018 | PBA183F4 | Financial Analytics | National | Can identify and classify different types of risk in financial risks and to measure the risks |
| 2018 | PBA183H1 | Human Resource Analytics | National | To Provide knowledge and necessary skills for carrying out job roles in the |



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| | | | | domain of HR Analytics. |
| 2018 | PBA183H5 | Career Management | National | To make students to use appropriate methods and tools for determining personal Career path. |
| 2018 | PBA183M3 | International Human Resource Management | National | Able to differentiate between Domestic and International HRM and design the role of an expatriate |
| 2018 | PBA183E1 | Business Analytics | National | Able to understand the entire lifecycle of Business Analytics |
| 2018 | PBA183E2 | Business Organisation and Taxation | National | Gain knowledge on form of registration, taxation, Managing firm properly. |
| 2018 | PBA183E3 | Textile Management | Regional | Gain Practical Knowledge about textile Industry , Fashion Industry and Apparel Industry |
| 2018 | PBA183E4 | Design Thinking | Local | Test and results interpretation for attaining the end goal |
| 2018 | PBA183E5 | Export Management and Documentation | National | Understand the International trading environment and practices . |
| 2018 | PBA183E6 | Entrepreneurial Finance | National | Can Evaluate the corporate performance through financial statement Analysis. |
| 2018 | PBA183E7 | Small Business Management | Regional | To know how to start a small business and gain knowledge on different analysis and technical aspects |
| 2018 | PBA183E8 | Start- Ups and Launch Pad | Regional | Expose student to the various avenue for getting funds for start-ups and to explore building blocks of business model canvas. |



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Master of Computer Applications



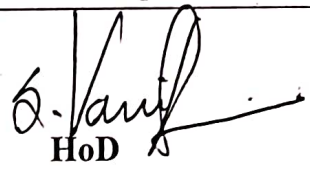
Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Department: Department of Master of Computer Applications

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|---|---|---|
| 2020 | 20PCAC102T | Data Base Management Systems | Global | To learn the various structure of data manipulation and management of large data |
| 2020 | 20PCAC101T | Data Structures | National | To Understand the various types of data structure to organize the large amount of data |
| 2020 | 20PCAC103T | Software Engineering | Local | To Apply computer science concepts in the development of software product and maintenance of reliable, usable, and dependable software. |
| 2020 | 20PCAB101T | Digital Logic And Computer Organization | Local | To comprehend the basis operations that happen in a CPU and implementation of data path and control path |
| 2020 | 20PCAE103T | Block chain Technology | National | To understand the importance of block chain, abstract model of block chain and crypto currencies |
| 2020 | 20PCAC201T | Mobile Application Development | Local | To provide fundamental knowledge in Mobile Application Development |

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| 2020 | 20PCAP201L | Mobile Application Development Laboratory | Local | To develop the Mobile application for the given problem |
| 2020 | 20PCAE112T | Social Network Analysis | National | To introduce the basic concept and analysis techniques |


HoD

*Head of the Department,
Department of Master of
Computer Applications,
M.Kumarasamy College of Engineering,
Thalavayalam, Karur - 639 113.*



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Thalavapalayam, Karur, Tamilnadu.



B.E – Mechanical Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Mechanical Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|--|---|--|
| 2018 | 18MEE002T | Composite Materials | Global | To fabricate the new material for different application |
| 2018 | 18MEE009T | Operational Research and Production Management | Global | To gain the knowledge in optimization and able to solve real world problems |
| 2018 | 18MEE010T | Hydraulics and Pneumatics | Local | To develop the lifting system with assembling components of Hydraulics and Pneumatics |
| 2018 | 18MEE022T | Maintenance Engineering | National | To implement the concept of Maintenance in Industrial environment |
| 2018 | 18MEE024T | Non-destructive testing | Regional | To identify the failure of equipment with advanced testing methods |
| 2018 | 18MEE025T | Additive Manufacturing | National | To fabricate the product with advanced manufacturing technology |
| 2018 | 18MEE026T | Production Planning and Control | Global | To introduce the new methods to complete the task in short time |
| 2018 | 18MEE031T | Engineering Economics and Cost Analysis | National | To gain the knowledge in solving the problem related to financial department in industry |



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| 2018 | 18MEE041T | Total Quality Management and Reliability | Global | To gain the knowledge of different tools and techniques to solve the industrial problems and understand the importance of quality systems |
| 2018 | 18MEE044T | Enterprise Resource Planning | Local | To develop the new software for industrial requirement |


Head of The Department
Department of Mechanical Engineering
M.Kumarasamy College of Engineering,
Karur - 639 113, Tamil Nadu.



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Thalavapalayam, Karur, Tamilnadu.



M.E – Communication Systems



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Programme: Communication Systems

| Year of Introduction | Course Code | Course Name | Need (Local / Regional / National / Global) | Description |
|----------------------|-------------|---|---|--|
| 2012 | PCM12102 | Modern Digital Communication Techniques | Global | Understand the concept of block coded and convolution coded communication |
| 2012 | PCM12356 | Electromagnetic Interference and Compatibility in System Design | Global | Understand how materials affect electric and magnetic fields Understand the relation between the fields under time varying situations |
| 2012 | PCM12104 | Optical Communication Networks | Global | Understand the optical communication networks |
| 2019 | 19PCMC102T | Wireless and Mobile Communication | Global | Understand the various mobile communication systems. |
| 2019 | 19PCMC101T | Advanced Communication Networks | Global | Learn the functions of network layer and the various routing protocols. |
| 2019 | 19PCMC104T | Advanced Digital Signal Processing | Global | Understand the concept behind multirate signal processing |
| 2020 | 19PCME014T | Wireless Embedded Systems | Global | Understand the concept of Wireless Embedded Systems |
| 2020 | 19PCME016T | PCB design Technology | Local | Understand the various Technology used in PCB Design |


HoD

Dr.S.JEGADEESAN, M.E, Ph.D.,
Associate Professor & Head,
Department of Electronics and Communication Engineering
M.Kumarasamy College of Engineering,
Thalavapalayam Karur -639 113



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M.E – Computer Science and Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Programme: M.E -Computer Science and Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|--|---|---|
| 2019 | 19PCSC101J | Advanced Data Structures | Regional | Understand the ADT/libraries and use it to design algorithms for a specific problem. |
| 2019 | 19PCSC102J | Advanced Algorithms | Global | Familiarize students with advanced paradigms and data structure to solve algorithmic problems. |
| 2019 | 19PCSC103T | Soft Computing | Global | Understand knowledge of non-traditional technologies and fundamentals of artificial neural networks, fuzzy sets, fuzzy logic and genetic algorithms. |
| 2019 | 19PCSB101T | Mathematical foundations of Computer Science | Regional | Understanding of mathematical and logical basis to many modern techniques in information technology like machine learning, programming language design and concurrency. |
| 2019 | 19PCSE001J | Machine Learning Techniques | Global | Learn the machine learning concepts like classification of data, clustering, regression techniques |
| 2019 | 19PCSE002J | Web Engineering | Regional | Learn the concepts of servlets and jsp to create dynamic web pages using server side scripting. |
| 2019 | 19PCSE003J | Agile Software Development and Usability Engineering | Global | Study of agile scrum framework, testing and agile software design and development |
| 2019 | 19PCSE004J | IoT Architecture and Programming | Global | Learn the various architecture of IOT, programming microcontroller. |
| 2019 | 19PCSE005J | Cloud Services and Virtualization | Global | Study of different service providers to the corporate company, collaboration in various web based environment |
| 2019 | 19PCSE006J | Data Science and Analytics | Global | Demonstrate an understanding of statistics and machine learning concepts that are vital for data science. |



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| 2019 | 19PCSE007J | Image Processing and Analysis | Global | Understand the image processing concepts and analysis their applications. |
| 2019 | 19PCSE008T | Distributed Systems | Regional | Understand the significance of agreement, fault tolerance and recovery protocols in Distributed Systems. |
| 2019 | 19PCSE009T | Human and Computer Interaction | Global | Understand the interaction of user with the system |
| 2019 | 19PCSE010T | GPU Computing | Global | Understanding the concepts of parallel programming with Graphics Processing Units. |
| 2019 | 19PCSE011T | Advanced Wireless Sensor Networks | Global | Understand the challenging issues in each layer of sensor networks. |
| 2019 | 19PCSE012T | Security for IoT | Global | Learn the significance of front end security measures. |
| 2019 | 19PCSE013T | Software Project Management | Regional | To identify the factors that influence people's behaviour in a project environment and selection of appropriate people for the project, continual training and learning to improve group working to select appropriate leadership styles. |
| 2019 | 19PCSE014T | Mobile Application Development | Regional | Demonstrate their ability to develop software with reasonable complexity on mobile platform. |
| 2019 | 19PCSE015T | Software Quality Assurance | Regional | Understand how the SQA components can be integrated into the project life cycle. |
| 2019 | 19PCSE016T | Block Chain Technology | Global | Understand emerging abstract models for Block chain Technology. |
| 2019 | 19PCSE017T | Cyber Security and Computer Forensics | Global | Be familiar with cyber security vulnerabilities and safeguards. |
| 2019 | 19PCSE018T | Recommender System | Regional | Learn techniques for making recommendations, including non-personalized, content-based and collaborative filtering. |
| 2019 | 19PCSE019T | Modern Computer Architecture | Regional | Understand the concepts of register transfer logic and arithmetic operations. |
| 2019 | 19PCSE020T | Advanced Database | Regional | Understand the principles of parallel and distributed databases with controlling concurrent transactions. |
| 2019 | 19PCSE021T | Optimization Techniques | Regional | Understand the mathematical problems using nature based algorithms and provide the solution for NP-Hard problems. |
| 2019 | 19PCSE022T | Compiler for High Performance Computing | Global | Understand the structure of compilers and high performance |



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| | | | | computing. |
| 2019 | 19PCSE023T | Social Network Analysis | Global | Understand the concept of semantic web and related applications. |
| 2019 | 19PCSE024T | Computer Vision | Global | Understand about the image filtering and processing methods to know the significance of range measurement. |
| 2019 | 19PCSE025T | Information Retrieval Techniques | Global | Understand machine learning techniques for text classification and clustering. |
| 2019 | 19PCSP101L | Mini Project with Seminar | Global | Understand the real world problems and provide the solution for the problems. |
| 2019 | 19PCSP102L | Project Phase I | Global | Understand the real world problems and provide the solution for the problems |
| 2019 | 19PCSP103L | Project Phase II | Global | Understand the real world problems and provide the solution for the problems |
| 2019 | 19PATM101 | Research Methodology and IPR | Regional | Understand and analyse the fundamental of research problem with ethics. |

HOD - CSE

Dr. S.THILAGAMANI, M.E., Ph.d.
Professor & Head
Computer Science & Engineering
M. Kumarasamy College Of Engineering
Karur - 639 113



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M.E – Manufacturing Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development


1.1.1: Curriculum and Its Relevance to Local/National/Regional/Global Needs

Name of the Programme: M.E Manufacturing Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|---|---|--|
| 2013 | PME13102 | Advanced Materials Technology | Global | Gain the knowledge on on elastic, plastic and fractured behavior of engineering materials and selection of metallic and non-metallic materials for the various engineering applications. |
| 2013 | PME13103 | Automated Computer Integrated Manufacturing Systems | Global | Understand the role of computers in processing of information knowing across the various stages and various departments in a manufacturing industries. |
| 2013 | PME13201 | Robot Design & Programming | Global | Assimilate the functions of robot drive system and end effectors and gain knowledge on sensor and machine vision system, explore the logics of kinematics of robots and robot programming. |
| 2013 | PME13202 | Manufacturing Metrology and Quality Engineering | Global | Gain knowledge on the importance of measurement and the various latest measuring techniques using Laser, Coordinate measuring machines and Opto-electronics devices. Also to stress upon the Importance of quality in manufacturing. |
| 2013 | PME13501 | Finite Element Application in Manufacturing | Global | Solve one dimensional structural problems, vector variable problems and determine thermal distribution and able to implement finite element method to solve complex equations |
| 2013 | PME13503 | Design for Manufacture and Assembly | Global | Acquire knowledge about the significance of design for manufacturing and assembly and learn about tolerance analysis, allocation and geometrical tolerances. |
| 2014 | PMA14101 | Applied Probability and Statistics | Global | Gain knowledge on probability to industrial research problems and sampling techniques, so that they can be used for industrial applications. |
| 2014 | PME14104 | Micro Manufacturing | Global | Gain knowledge on the principles, basic machine tools, and developments in the micro manufacturing process and research trends in the area of micro manufacturing process. |



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| 2014 | PME14201 | Optimization Techniques in Manufacturing | Global | Impart knowledge on modelling and solving the engineering problems of different fields and various optimization techniques and their advancements. |
| 2014 | PME14205P | Automation and Metal Forming Laboratory | Regional | Understand the industrial automation and Predict the behaviour of structural element, finding stiffness, hardness and microstructure of various metals |
| 2014 | PME14351 | Computer Aided Product Design | Global | Understand the various design concepts and design tools and techniques while designing a product. and model a product using CAD software. |
| 2019 | 19PMEC103T | Modern Manufacturing Processes | Global | Understand and grasp the significance of modern machining process and its applications. Create new devices involved in micro fabrication and recent technology. |
| 2019 | 19PATM101 | Research Methodology and IPR | Global | Understand and analyse the fundamental of research problems and Understand Intellectual Property Rights |
| 2019 | 19PMEC105L | CAD/CAM Laboratory | Regional | Understand and interpret the drawings of machine components so as to prepare assembly drawings, Acquire knowledge on G and M codes in CNC machine and program on various operations and able simulate machining operations using CAM software. |
| 2016 | 19PATM102 | English for Research Paper Writing | Global | Acquire communication skills, reading and writing skills and knowledge on technical and scientific vocabulary |
| 2019 | 19PATM103 | Pedagogy Studies | Regional | Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics and the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to evolution in India. |
| 2019 | 19PMEE009T | Polymers and Composite Materials | Global | Understand the knowledge on types, physical properties and processing of polymer matrix composites, metal matrix composites and ceramics matrix composite. |
| 2019 | 19PMEE010T | Non-Destructive Evaluation | Global | Exposure in the fundamentals of Non-Destructive testing procedures and all types of Non-Destructive testing methods and their applications in Engineering. |


Dr. C.RAMESH,
Professor and Head,
Department of Mechanical Engineering,
M.Kumarasamy College of Engineering,
Thalavapalayam, Karur-639 113.


PRINCIPAL,
M.Kumarasamy College of Engineering,
THALAVAPALAYAM,
KARUR - 639 113



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M.E – Power Systems Engineering



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: Electrical and Electronics Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|----------------------------------|---|---|
| 2018 | 18EES201T | Analog Electronics | Global | Expose the students to study the different application of PN junction diode circuits and transistors and analyse the frequency of different oscillator circuits and understand the operation of multivibrators. |
| 2018 | 18EEEC201T | Electro Magnetic Theory | Global | Understand the concepts of vectors, co-ordinate systems and electric fields, concept of conductors, dielectrics, capacitance and boundary conditions in electrostatic field, the concept of and boundary conditions in magnetostatic field. |
| 2018 | 18EEEC202T | Electrical Machines I | Global | Understand the parallel operation, Commutation & Armature Reaction in DC generator, DC motors & their characteristics, |
| 2018 | 18EEEC203J | Measurements and Instrumentation | Global | Understand the basic needs of instrument, necessary for Analog and Digital measurements, bridges, storage & display devices, transducers and electronic instruments |
| 2018 | 18EEEC204T | Electric Power Generation | Global | Understand the concepts of thermal and hydro power generation, nuclear power generation, Gas turbine and diesel power generation, solar, wind, tidal, ocean, geothermal, biomass plants. |
| 2018 | 18EES202J | Digital Electronics | Global | Study implementation of combinational circuits, analysis and design of synchronous sequential |



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| | | | | circuits, the fundamentals of VIIDL |
| 2018 | 18EEEC207T | Electrical Machines II | Global | Analyze the synchronous motor and hunting methods, induction machines. |
| 2018 | 18EEEC208T | Transmission and Distribution | Global | Understand the operation of the different distribution schemes and improve the voltage profile of the transmission system, analyze the voltage distribution in cables. |
| 2018 | 18EEEC209T | Control Systems | Global | Analyze the system dynamics in time domain specifications and explain the time domain and frequency domain performance using MATLAB tool. |
| 2018 | 18EEEC210T | Power Electronics and Converters | Global | Understand the different types of power semiconductor devices, controlled rectifiers and the operation of AC-voltage regulator, Cycloconverter. |
| 2018 | 18EEEC301T | Power System Analysis | Global | Understand about Per Unit calculation, Single Line Diagram and Network Matrices formation for power system. |
| 2018 | 18EEEC302T | Microcontroller and Embedded System | Global | Understand the architecture of 8085 Microprocessors and its comparable features with microcontroller and the concept of 8051 Microcontroller and its various features with simple programs. |
| 2018 | 18EEEC305T | Power System Protection and Switchgear | Global | Understand the need of protection of electrical equipment and their protection schemes. |
| 2018 | 18EEEC306T | Solid State Drives | Global | Understand the basic knowledge of Electrical Drives, the operation of controlled rectifier and chopper fed DC Drives. |
| 2018 | 18EEEE001T | Power System Operation and Control | Global | Understand Real power frequency interaction and design of power frequency controller, Reactive power voltage interaction, SCADA and its |



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| | | | | application for real time operation and control of power system |
| 2018 | 18EEEE003T | Electric Power Utilization and Energy Auditing | Global | understanding of illumination, type of lighting schemes and lamps, the electric traction systems and their performance and the conservation of electrical power and steps involved in energy audit. |
| 2018 | 18EEEE007T | Wind Energy Conversion Systems | Global | Understand the fundamentals of wind energy and its conversion system. |
| 2018 | 18EEEE010T | Communication Engineering | Global | Study the concepts of amplitude modulation and its modulator circuits, the concepts of angle and frequency modulation and its transmitter and receiver circuits, and Pulse Modulations techniques. |
| 2018 | 18EEEE011T | Electric Vehicles | Global | Understand the Configuration of Electric Vehicles, the energy storage for Electric and Hybrid Vehicles. |
| 2018 | 18EEEE012T | Smart Grid | Global | Study the basic concepts of smart grid and its characteristics, working principle. |
| 2018 | 18EEEE017T | Special Electrical Machines | Global | Understand the performance and control of Stepper Motors with their applications, the theory of operation and control of Switched Reluctance Motor, BLDC. |
| 2018 | 18EEEE020T | Solar Energy Utilization | Global | Enable the students to acquire knowledge of solar radiation data and its measurement, the concept of various forms of solar thermal systems, direct steam generation systems. |

HOD/EEE

HEAD OF THE DEPARTMENT
 Dept. of Electrical & Electronics Engg.
 M.Kumarasamy College of Engineering
 Karur-639113.



Criteria 1: Curricular Aspects

1.1: Curriculum Design and Development

1.1.1: Curriculum and Its Relevance to Local / National / Regional / Global Needs

Name of the Programme: M.E Power Systems Engineering

| Year of Introduction | Course Code | Course Name | Need (Local / National / Regional / Global) | Description |
|----------------------|-------------|---|---|---|
| 2019 | 19PPSC101T | Advanced Power System Analysis | Global | Illustrate different numerical integration methods and factors influencing transient stability |
| 2019 | 19PPSC102T | Advanced Power System Operation and Control | Global | Summarize the various methods of solving the economic dispatch problems, the importance of reactive power and voltage control in a power system. |
| 2019 | 19PPSC103T | System Theory | Global | Understand the fundamentals of physical systems in terms of its linear and nonlinear models, solving linear and non-linear state equations |
| 2019 | 19PATM101 | Research Methodology and IPR | Global | Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity |
| 2019 | 19PATM102 | English for Research Paper Writing | Global | Understand that how to improve your writing skills and level of readability, what to write in each section, Understand the skills needed when writing a Title |
| 2019 | 19PPSC105T | Power System Dynamics | Global | Understand the effects of small signal stability without using the controllers, the effects of small signal stability while using the controllers, the various methods to enhance the small signal stability. |



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| 2019 | 19PPSC106T | Power Electronics Application to Power Systems | Global | Acquire the knowledge on flexible AC Transmission System and its importance for FACTS controllers, Understand the various FACTS controllers operation on FACTS systems. |
| 2019 | 19PPSC107T | Restructured Power Systems | Global | Introduce the restructuring of power industry and market models and impart knowledge on fundamental concepts of congestion management. |
| 2019 | 19PATM103 | Pedagogy Studies | Global | Review existing evidence on the review topic to inform programme design and policy making undertaken by the DfID, other agencies and researchers. |
| 2019 | 19PPSE001T | Modeling and Analysis of Electrical Machines | Global | Expose the students to learn the electromechanical energy conversion techniques |
| 2019 | 19PPSE002T | Power Converters for Renewable Energy Sources | Global | Enumerate the power converters used in solar and wind energy conversion system |
| 2019 | 19PPSE003T | Power System Planning and Reliability | Global | Understand basic concept of generation system reliability, transmission system stability by fuzzy |
| 2019 | 19PPSE004T | Power System Economics | Global | Explore the structure of electrical tariff and the impact of depreciation on the power components |
| 2019 | 19PPSE005T | Control System Design | Global | Acquire knowledge to design on controllers and compensator using time domain and frequency domain approach. |
| 2019 | 19PPSE006T | EHVAC Transmission | Global | Impart knowledge on types of power transmission and configurations |
| 2019 | 19PPSE007T | Electrical Transients in Power Systems | Global | Expose the students to study about the Electromagnetic transient assessments of power systems. |
| 2019 | 19PPSE008T | Energy Management and Auditing | Global | Analyse the economical value cost and load management techniques. |



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|------|------------|---|--------|--|
| 2019 | 19PPSE009T | Power Distribution Systems | Global | Understand the standards and Terminologies used in Distribution systems. |
| 2019 | 19PPSE010T | Advanced Power System Dynamics | Global | To impart the knowledge on the mathematical models applied in dynamic response of transient stability. |
| 2019 | 19PPSE011T | Smart Grid | Global | Understand the Basic Concepts of Smart grid and its Characteristics, Working Principle. |
| 2019 | 19PPSE012T | High Voltage Direct Current Transmission | Global | Understand the concept, planning of DC power transmission and comparison with AC Power transmission. |
| 2019 | 19PPSE013T | Industrial Power System Analysis and Design | Global | Understand the calculation used with induction motor starting |
| 2019 | 19PPSE014T | Optimal Control and Filtering | Global | Understand the basic concepts of optimal control, concepts of LQ control and dynamic programming. |
| 2019 | 19PPSE015T | Solar and Energy Storage Systems | Global | Acquire knowledge about the behaviour of solar panels for variation in different parameters. |
| 2019 | 19PPSE016T | Optimization Techniques | Global | Acquire knowledge in different optimization techniques. |
| 2019 | 19PPSE017T | Power System Stability | Global | Understand various methods of transient stability for excitation system and governors |
| 2019 | 19PPSE018T | Wind Energy Conversion Systems | Global | Understand Components of WECS-WECS schemes, Gain knowledge on wind turbine |
| 2019 | 19PPSE019T | Power System Protection | Global | Understand the various protection schemes available for transformer and Generator Protection |

(Signature)
HoD/EEE

HEAD OF THE DEPARTMENT
Dept of Electrical & Electronics Engg.
M.Kumarasamy College Of Engineering
Kuru-639 112.