



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

(Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade / ISO 9001:2015 Certified Institution
All the Eligible UG Programs are Accredited by NBA, New Delhi.)
RSM Nagar, Kavaraipettai – 601 206.



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

ACADEMIC 2024-25 EVEN SEMESTER

S.No	SEMESTER	COURSE CODE	COURSE NAME
1	IV	22GE301	Universal Human Values – II Understanding Harmony
2		22EE401	Digital Signal Processing
3		22EE921	Smart grid System (PE I)
4		22EE402	Operating Systems
5		22EE403	Transmission and Distribution
6		22EE404	Microprocessors
7		22EE405	Electrical Machines -II
8	VI	22EE601	Power System Protection and Control
9		22EE602	Power Electronics
10		22ME918	Total Quality Management (ME)
11		22EE912	Fundamentals of Networking (PE III)
12		22EE946	Fibre Optics & Laser Instrumentation (PE IV)
13		22EC907	Sensors and Actuator Devices (OE I)
14		22EE932	EV Architecture (H2)
15		22EE934	Energy Storage and Battery Management Systems (H3)
16		22AI007	Introduction to Data Science (M2)
17		22AI009	Machine Learning Algorithms (M3)



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

(Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade / ISO 9001:2015 Certified Institution
All the Eligible UG Programs are Accredited by NBA, New Delhi.)
RSM Nagar, Kavaraipettai – 601 206.



COURSE CODE	COURSE NAME	COURSE OUTCOMES
22GE301	Universal Human Values II: Understanding Harmony	<p>CO1: Be aware of themselves, and their surroundings (family, society, nature).</p> <p>CO2: Be more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.</p> <p>CO3: Have better critical ability.</p> <p>CO4: Become sensitive to their commitment towards human values, human relationships, and human society.</p> <p>CO5: Apply what they have learnt to their own self in different day-to-day settings in real life.</p>
22EE401	Digital Signal Processing	<p>CO1: Analyze the properties of various Signals and Systems.</p> <p>CO2: Apply Z transform technique in Discrete Time signal analysis.</p> <p>CO3: Examine Discrete Time LTI systems utilizing DTFT.</p> <p>CO4: Compute FFT for reducing the computational complexity of DFT.</p> <p>CO5: Analyze IIR and FIR Filters on digital signal processors.</p> <p>CO6: Summarize the architecture of programmable digital signal processors.</p>
22EE921	Smart Grid System	<p>CO1: Understanding on the concepts of Smart Grid and its present developments.</p> <p>CO2: Study about different Smart Grid technologies.</p> <p>CO3: Acquire knowledge about different smart meters and advanced metering infrastructure.</p> <p>CO4: Have knowledge on power quality management in Smart Grids</p> <p>CO5: Develop more understanding on LAN, WAN and Cloud Computing for Smart Grid applications.</p>
22EE402	Operating Systems	<p>CO1: Develop programs for creating parent and child process for any Operating System.</p> <p>CO2: Compare various CPU scheduling algorithms and find the best suitable algorithm for a system.</p> <p>CO3: Analyse various synchronization problems and implement IPC without deadlocks.</p> <p>CO4: Design different memory management schemes for a given application.</p> <p>CO5: Implement various I/O and file management techniques for a device.</p>
22EE403	Transmission and Distribution	<p>CO1: Analyse the power system under various load conditions.</p> <p>CO2: Model the line parameters of a transmission line.</p> <p>CO3: Predict transmission lines using simulation software & propose appropriate compensation techniques.</p> <p>CO4: Select an appropriate cable for a given system & propose suitable method to improve string efficiency of a given insulator.</p> <p>CO5: Propose mechanical design for transmission lines under different conditions & familiarize various substations layout, grounding techniques</p> <p>CO6: Make conversant with real time operations of power system.</p>



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

(Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade / ISO 9001:2015 Certified Institution
All the Eligible UG Programs are Accredited by NBA, New Delhi.)
RSM Nagar, Kavaraipettai – 601 206.



22EE404	Microprocessors	<p>CO1: Compare the functionally and architectures of microprocessors.</p> <p>CO2: Understand architecture of 8086 microprocessor and classify the instruction set.</p> <p>CO3: Realize the interfacing of memory & various I/O devices with 8086.</p> <p>CO4: Apply instructions in assembly language programming using simulation and kit.</p> <p>CO5: Familiarize with programmable interface devices and realize their programming & interfacing.</p>
22EE405	Electrical Machines II	<p>CO1: To Predetermine voltage regulation of an Alternator using various methods and compare their merits and Demerits.</p> <p>CO2: To Analyse various characteristics of a synchronous motor and to connect a machine on infinite Bus.</p> <p>CO3: Predetermine the Performance Parameters of a three-phase induction motor.</p> <p>CO4: Compare the various types of Starters for a given application.</p> <p>CO5: To Propose appropriate speed control mechanism for a given application.</p> <p>CO6: Will be able to select an appropriate motor based on its characteristics for a given application.</p>
22EE601	Power System Protection and Control	<p>CO1: Ability to analyze the characteristics and functions of relays.</p> <p>CO2: Summarize the merits and demerits and application areas of various circuit breakers.</p> <p>CO3: Model and analyze the control actions that are implemented to meet the minuteto minute variation of system real power demand.</p> <p>CO4: Model and analyze the compensators for reactive power control and various devices used for voltage control.</p> <p>CO5: Prepare day ahead and real time economic generation scheduling.</p>
22EE602	Power Electronics	<p>CO1: Summarize the fundamental concepts of power electronic switches and their relevant applications.</p> <p>CO2: Analyze the performance of single phase and phase-controlled rectifiers and their application.</p> <p>CO3: Evaluate the performance of DC-DC converter in regulated power supplies.</p> <p>CO4: Analyze the performance of single phase and three phase inverters and their applications.</p> <p>CO5: Investigate the performance of single phase and three phase AC to AC converter and their applications.</p> <p>CO6: Simulate the various power electronic converter circuits using simulation software.</p>
22ME918	Total Quality Management (ME)	<p>CO1: Synthesize quality philosophies and customer-focused managerial systems to develop comprehensive approaches for enhancing organizational performance and customer satisfaction.</p>



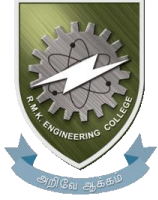
R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

(Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade / ISO 9001:2015 Certified Institution
All the Eligible UG Programs are Accredited by NBA, New Delhi.)
RSM Nagar, Kavaraipettai – 601 206.



		<p>CO2: Evaluate and integrate quality management principles, synthesizing key concepts to inform decision-making and strategic planning within organizational contexts.</p> <p>CO3: Explain and apply Six Sigma concepts in both manufacturing and service sectors, integrating principles to optimize processes and drive continuous improvement initiatives.</p> <p>CO4: Develop and apply a range of tools and techniques for quality improvement, synthesizing best practices to address organizational challenges and achieve quality objectives.</p> <p>CO5: Evaluate standards and auditing systems for Total Quality Management (TQM) implementation, synthesizing knowledge to assess effectiveness and recommend improvements in quality assurance processes.</p> <p>CO6: Create and analyze standards for the operation of Environmental Management Systems (EMS), integrating regulatory requirements and organizational goals to ensure environmental sustainability and compliance.</p>
22EE912	Fundamentals of Networking (PE III)	<p>CO1: Implement the basic concepts of Networking.</p> <p>CO2: Analyze OSI & TCP/IP layer of Networking.</p> <p>CO3: Implement Network/Ethernet Phy Driver.</p> <p>CO4: Implement MAC Layer in Network/Ethernet Driver.</p> <p>CO5: Implement various Networking Protocols.</p>
22EE946	Fibre Optics & Laser Instrumentation (PE IV)	<p>CO1: Understand the principle, transmission, dispersion, and attenuation characteristics of optical fibers.</p> <p>CO2: Apply the gained knowledge on optical fibers for its use in industrial and biomedical applications.</p> <p>CO3: Understand laser theory and laser generation system.</p> <p>CO4: Apply the gained knowledge on laser theory for its use in industrial applications.</p> <p>CO5: Gain ability to apply laser theory for the selection of lasers for a specific Industrial and medical application.</p>
22EC907	Sensors and Actuator Devices (OE I)	<p>CO1: Build schematic for IoT solutions with sensors.</p> <p>CO2: Design and develop IoT based sensor systems.</p> <p>CO3: Select the appropriate sensors for various industrial applications.</p> <p>CO4: Evaluate the wireless sensor technologies for IoT.</p> <p>CO5: Design and develop an IoT Prototype project.</p> <p>CO6: Identify the IoT networking components with respect to sensors.</p>
22EE932	EV Architecture (H2)	<p>CO1: Understand the architecture of Hybrid EVs.</p> <p>CO2: Describe the various EV components.</p> <p>CO3: Analyse the details and Specifications for the various EVs developed.</p> <p>CO4: Describe the hybrid vehicle control strategy.</p> <p>CO5: Describe the concepts related in the Plug-In Hybrid Electric Vehicles.</p>



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

(Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade / ISO 9001:2015 Certified Institution
All the Eligible UG Programs are Accredited by NBA, New Delhi.)
RSM Nagar, Kavaraipettai – 601 206.



22EE934	Energy Storage and Battery Management Systems (H3)	CO1: Acquire knowledge of different Li-ion Batteries performance. CO2: Design a Battery Pack and make related calculations. CO3: Demonstrate a Battery Model or Simulation. CO4: Estimate State-of-Charges in a Battery Pack. CO5: Approach different BMS architectures during real world usage.
22AI007	Introduction to Data Science (M2)	CO1: Interpret the fundamentals of data science process. CO2: Apply python libraries for data science applications. CO3: Apply and interpret basic classification algorithms. CO4: Outline clustering and outlier detection approaches. CO5: Present and interpret data using visualization tools in Python. CO6: Implement basic data science techniques using Python.
22AI009	Machine Learning Algorithms (M3)	CO1: Interpret the fundamentals of data science process. CO2: Apply python libraries for data science applications. CO3: Apply and interpret basic classification algorithms. CO4: Outline clustering and outlier detection approaches. CO5: Present and interpret data using visualization tools in Python. CO6: Implement basic data science techniques using Python.