



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 YEAR 2026-27 ODD DEMESTER

S.No	SEMESTER	COURSE CODE	COURSE NAME
1	3	24EE301	Circuit Theory
2		24EE302	Electron Devices
3		24GE301	Universal Human Values 2: Understanding Harmony
4		24MA304	Fourier Analysis and Partial Differential Equation
5		24CS302	Advanced Java Programming
6		24CS303	Database Management Systems
7	5	24EE501	Transmission and Distribution
8		24EE502	Control System Engineering
9		24EE503	Electrical Machines II
10		24EE504	Microcontroller and Microprocessor
11		24EE912	Linux Operating System – I (PE II)
13	7	22EE915	Linux Kernel and Device Drivers
14		22EE972	Electrical Machine – Transformers Design (PE V)
15		22EE973	Transformers – 2 (Industry Approach)
16		22CB004	Fundamentals of Management (OE IV)
17		22AI002	Soft Computing (OE III)
18		22CE701	Professional Ethics in Engineering



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COURSE CODE	COURSE NAME	COURSE OUTCOMES
24EE301	Circuit Theory	CO1: Apply the knowledge of various mathematical concepts, basic circuit laws and to simplify the dc and ac networks using reduction techniques.
		CO2: Analyse and verify the various network theorems to determine behavior of the given circuit.
		CO3: Design and simulate resonance and coupled circuits.
		CO4: Comprehend the mathematical expression for voltages and currents in RL, RC and RLC circuits to find the transient response of inductor and capacitor in dc circuits.
		CO5: Analyse the three phase power circuits with different types of load arrangements
24EE302	Electron Devices	CO1: Design and analyse simple rectifiers and voltage regulators using diodes.
		CO2: Compare the behaviour of BJT under different configurations.
		CO3: Interpret the characteristics and applications of FET and MOSFET.
		CO4: Design and analyse feedback amplifiers and oscillators.
		CO5: Assess various pulse circuits using different semiconductor devices.
24GE301	Universal Human Values 2: Understanding Harmony	CO1: Develop self-awareness and a deeper understanding of their surroundings, including family, society, and nature.
		CO2: Identify and resolve inner conflicts based on natural acceptance.
		CO3: Become more responsible towards life, and handle problems with sustainable solutions by considering human relationships and natural harmony.
		CO4: Enhance their critical thinking and analyzing skills.
		CO5: Develop a stronger commitment towards human values, relationships, and societal well-being.
		CO6: Apply what they have learnt in different day-to-day settings in real life, and take the initial steps towards integrating these values into daily life.
24MA304	Fourier Analysis and Partial Differential Equation	CO1: Obtain the Fourier series of periodic functions.
		CO2: Analyze the harmonics using Fourier series.
		CO3: Compute the Fourier transform of prescribed functions.
		CO4: Solve first order partial differential equations.
		CO5: Solve higher order partial differential equations.
		CO6: Apply the concept of Fourier series to solve wave and heat equations.
24CS302	Advanced Java Programming	CO1: Implement various data structures by utilizing core Java features and libraries
		CO2: Demonstrate proficiency in handling Java I/O operations, including file manipulation for



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		efficient data storage and retrieval.
		CO3: Apply and Analyze the Stream API for functional programming and data processing.
		CO4: Implement advanced object serialization for complex data structures.
		CO5: Utilize regular expressions for text parsing and string manipulation.
		CO6: Build applications using advanced Java programming techniques.
24CS303	Database Management Systems	CO1: Map ER model to Relational model to perform database design effectively.
		CO2: Implement SQL and effective relational database design concepts.
		CO3: Apply relational algebra, calculus and normalization techniques in database design.
		CO4: Understand the concepts of transaction processing, concurrency control, recovery procedure and data storage techniques.
		CO5: Evaluate and implement transaction processing, concurrency control mechanisms, and recovery procedures to maintain data integrity.
		CO6: Analyze and optimize database queries and understand the features and applications of advanced and distributed database systems, including NoSQL.
24EE501	Transmission and Distribution	CO1: Understand the structure of power system and various distribution systems.
		CO2: Discuss the Modelling of the transmission line parameters.
		CO3: Analyse the equivalent circuits for the transmission lines based on distance.
		CO4: Explain the different types, characteristics of cables and design the performance parameters of different line insulators.
		CO5: Interpret the significance of sag on overall design overhead lines.
		CO6: Ability to explain the type of substation, grounding systems along with the load variation.
24EE502	Control System Engineering	CO1: Develop mathematical model of linear mechanical and electrical systems.
		CO2: Summarize the time response analysis of first and second order systems.
		CO3: Determine the applications of P, PI, PID controllers.
		CO4: Analyze the frequency response of open and closed loop systems.
		CO5: Estimate the stability and suitable compensators for the given system.
		CO6: Examine the state variables, controllability, and observability of linear and time invariant systems.
24EE503	Electrical Machines II	CO1: Illustrate the construction and working of alternators and apply various methods to calculate voltage regulation.



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		CO2: Explain the operation and derive the power equations of synchronous motor.
		CO3: Illustrate the construction and operation of three phase induction motor and to calculate the performance characteristics using circle diagram.
		CO4: Examine various starting methods, speed control methods and breaking of three phase induction motor.
		CO5: Identify proper single phase induction motor for specific application requirements.
		CO6: Explain the fundamentals of special machines.
24EE504	Microcontroller and Microprocessor	CO1: Apply the basic concepts of 8051 microcontrollers and utilize development environments for program development, debugging, and peripheral interfacing.
		CO2: Understand the architecture, on-chip peripherals, and embedded programming techniques of ARM-based microcontrollers.
		CO3: Develop ARM-based embedded applications involving GPIO, timers, interrupts, communication interfaces, sensors, and actuators.
		CO4: Analyze the ARM processor architecture, instruction set, programming model, and exception handling mechanisms for embedded system design.
		CO5: Describe the architecture and functionalities of ARM Cortex and OMAP processors and evaluate their suitability for advanced embedded applications
24EE912	Linux Operating System – I (PE II)	CO1: Describe the evolution, architecture, and components of the Linux operating system and its kernel subsystems.
		CO2: Analyze Linux file system internals including inode structure, virtual file systems, and manage essential system services.
		CO3: Demonstrate knowledge of process management including creation, scheduling, and thread implementation in Linux.
		CO4: Explain and evaluate Linux memory management techniques such as paging, allocation strategies, and kernel memory mechanisms.
		CO5: Apply kernel synchronization primitives like spinlocks, semaphores, and mutexes to manage concurrency.
		CO6: Analyze concurrency problems such as deadlocks and race conditions, and use synchronization strategies to resolve them in the kernel context.
22EE915	Linux Kernel and Device Drivers	CO1: Write device drivers for simple devices used in Linux based embedded systems.
		CO2: Design and implement simple embedded applications.
		CO3: Demonstrate end-end data flow from device to application.
		CO4: Demonstrate various debugging techniques when the system crashes due to a malfunctioning Kernel or Device Driver
		CO5: Execute simple device driver development projects.



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22EE972	Electrical Machine – Transformers Design (PE V)	CO1: Explain the construction, components, accessories, and performance of power transformers, and calculate transformer losses.
		CO2: Explain the protection, monitoring, cooling, and fire prevention systems used in power transformers.
		CO3: Explain the importance of transformer testing and perform standard field tests to assess electrical and insulation performance.
		CO4: Demonstrate transformer drying, oil processing, testing, wiring, and commissioning activities, including DGA analysis and energization, by following standard procedures and safety practices to ensure reliable transformer operation
		CO5: Demonstrate Transformer condition through pre-testing, carry out untanking and internal inspection, and perform necessary maintenance and replacement of oil, insulation, winding components, and auxiliary protective devices by following standard procedures and safety practices.
22EE973	Transformers – 2 (Industry Approach)	CO1: Explain the operating principle and role of transformers in power systems, classify different types of transformers, identify basic transformer constructions and connections, and differentiate between distribution and power transformers
		CO2: Explain transformer core construction, materials, laminations, and assembly practices, and explain the role of the magnetic core and magnetic circuit in efficient transformer operation.
		CO3: Explain transformer winding arrangements, types of windings, conductor materials, and insulation requirements, and explain their importance in ensuring safe and reliable transformer operation.
		CO4: Explain heating effects in transformers, cooling methods and tank construction, and identify essential accessories and protective devices used for safe and reliable transformer operation.
		CO5: Demonstrate transformer ratings and nameplate data, analyze losses and performance characteristics, and gain an overview of transformer assembly and relevant standards.
22CB004	Fundamentals of Management (OE IV)	CO1: Understand the theories, concept, and evolution of management.
		CO2: Demonstrate the ability to employ 'the management way of thinking.
		CO3: Understand how organizations work and find it easier to grasp the intricacies of other management areas such as finance, marketing, strategy etc.
		CO4: Understand the qualities of a leader in the managerial aspect in future terms.
		CO5: Understand the managerial ethics and CSR and its importance.



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22AI002	Soft Computing (OE III)	CO1: Elaborate the basic concepts of Soft Computing.
		CO2: Discuss Artificial neural networks and its applications.
		CO3: Apply Fuzzy logic to solve different applications.
		CO4: Solving problems using Genetic algorithms.
		CO5: Discuss various algorithms in Soft computing with its applications and limitations.
		CO6: Use various algorithms in Soft computing to solve real-world problems.
22CE701	Professional Ethics in Engineering	CO1: Summarize the importance of human values in work place.
		CO2: Discuss the senses of engineering ethics, moral dilemmas, moral autonomy and uses of ethical theories.
		CO3: Describe the role of engineers as responsible experimenters and necessity of codes of ethics in engineering.
		CO4: Explain safety, risk, responsibilities and rights in the society.
		CO5: Analyze the global issues related to environmental ethics, computer ethics, weapons development and the role of engineers as expert witnesses and advisors.
		CO6: Apply ethics in society and discuss the ethical issues related to engineering.