

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER
DEPARTMENT OF ELECTRONICS & COMPUTER ENGINEERING
COURSE OUTCOMES (CO)

S. Y. B. Tech

1. Analog and Digital Electronic Circuits (R25-EC-PCC-201), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Analyze EMOSFET characteristics and parameters, and Design basic EMOSFET amplifier circuits.	4
CO2	Apply feedback principles to Analyze and Design amplifiers and oscillators with desired performance characteristics.	4
CO3	Analyze, design, and Implement operational amplifier circuits for various practical applications.	4
CO4	Analyze, Design and Implement combinational and sequential logic circuits using appropriate digital components.	4
CO5	Model, Analyze , and Interpret sequential systems using state machines and state diagrams.	4

2. Data Structures and Algorithms (R25-EC-PCC-202), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Apply object-oriented programming concepts using C++ for problem solving.	3
CO2	Analyze searching and sorting algorithms for efficiency	4
CO3	Implement various types of linked lists and understand their applications.	3
CO4	Implement stack and queue data structures and apply them in relevant problems.	3
CO5	Apply trees and graphs to represent and solve complex problems.	3

3. Computer Organizaton and Operating Systems (R25-EC-PCC-203), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Explain the organization, arithmetic operations and performance aspects of modern computer architectures and processors.	2
CO2	Analyze memory hierarchy, cache organization and storage architectures in computing systems.	3
CO3	Analyze input-output organization and high-speed data transfer techniques used in modern computer systems.	3
CO4	Explain the role and functioning of assemblers, compilers, loaders and linkers in program execution.	2
CO5	Analyze process management, synchronization and deadlock handling mechanisms in operating systems.	3

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4. Fundamentals of IoT (R25-EC-MDM-204), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Explain the fundamentals of IoT, embedded systems, and their evolution.	2
CO2	Identify and describe IoT architecture, sensors, actuators, and their working principles.	2
CO3	Apply IoT communication protocols and networking technologies in practical scenarios.	3
CO4	Analyze security challenges, privacy issues, and solutions in IoT systems.	4
CO5	Implement data management and cloud computing concepts for IoT application.	3

5. Financial Planning, Taxation and Investment (R25-EC-EEM-206), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Explain the objectives of financial management and classify different types of financial decisions like investment, financing and dividend decisions, and apply cost-benefit analysis for financial planning	2
CO2	Prepare a basic personal financial plan considering life cycle stages, CTC structure, savings, and demonstrate knowledge of emergency fund & insurance for salaried professionals	3
CO3	Differentiate between direct and indirect taxes, identify various income heads and deductions u/s 80C, 80D	4
CO4	Compare different investment options like Equity, MF, FD, Gold, Crypto based on liquidity, safety & profitability, and construct a basic investment portfolio using SIP, STP, SWP strategies	4

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6. Universal Human Values and Ethics (R25-EC-VEC-207), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Recognize the concept of self-exploration as the process of value education and see they have the potential to explore on their own right. .	2
CO2	Explore the human being as the coexistence of self and body to see their real needs/basic aspirations clearly	2
CO3	Facilitate the understanding of harmony at various levels starting from self and going towards family, society & nature	2
CO4	Provide the vision for a holistic way of living and facilitate transition from chaotic life to an orderly life.	3

7. Community Engagement Project (R25-EC-CEP-210), S.Y.-Sem-III

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Identify and Analyze local community needs and challenges by engaging with stakeholders and evaluating real-world problems.	4
CO2	Design and Implement practical, creative, and context-specific solutions using engineering principles to address community issues.	6
CO3	Demonstrate and document outcomes effectively	4
CO4	Evaluate impact and sustainability of solution	4

8. Analog and Digital Communication (R25-EC-PCC-211), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Understand and evaluate analog communication systems for Amplitude modulation generation and detection methods, AM receivers, the effect of noise on CW and AM systems.	3
CO2	Understand and evaluate analog communication systems for Frequency and Phase modulation generation and detection methods, FM receivers.	3
CO3	Understand the digital modulation and describe different Digital modulation techniques.	2
CO4	Understand information measures and source coding techniques and apply and Evaluate error control coding methods.	3
CO5	Understand and Describe Software Defined Radio and Cognitive Radio concepts, architectures, platforms, and applications.	2

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9. Signals and Systems (R25-EC-PCC-212), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Understand types of signals, systems and apply the mathematical operations on signals and determine response of a system for any arbitrary input signal using the convolution process.	3
CO2	Apply and analyze the signals in frequency domain using Fourier Transform	4
CO3	Apply Laplace transform for continuous time signals and perform circuit analysis .	3
CO4	Apply Z- transform to discrete time signals and perform system analysis	3

10. Object Oriented Programming (R25-EC-PCC-213), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Explain the basic principles of the Java programming language.	2
CO2	Develop Java programs by applying the concepts of classes and objects	3
CO3	Implement programs using Inheritance, interfaces, and packages in Java	3
CO4	Analyze multithreading and exception handling mechanisms to create robust Java programs.	4
CO5	Construct graphical applications using the Graphics class, AWT packages, and manage file I/O operations in Java	3

11. Applied Mathematics (R25-EC-MDM-214), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Apply probability distributions and statistical techniques to Analyze and interpret data in engineering and robotic systems.	3
CO2	Solve higher-order linear and simultaneous differential equations and Apply partial differential equations to engineering applications.	3
CO3	Apply vector calculus and integral theorems to Analyze engineering systems involving robotic motion, force fields, and spatial transformations.	3
CO4	Use numerical methods to Solve complex algebraic and differential equations in engineering and robotic simulations.	3

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12. Modern Indian Language and Technical Writing (R25-EC-AEC-217), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Demonstrate effective oral and written communication skills in Modern Indian Language and professional environments.	2
CO2	Apply principles of technical and professional communication for preparing emails, resumes, reports, and presentations.	3
CO3	Develop technical content and documentation such as project abstracts, manuals, blogs, and software-related documents.	3
CO4	Prepare software project documents and use digital collaboration tools for professional and academic activities.	3

13. Entrepreneurship Development (R25-EC-EEM-218), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Demonstrate effective oral and written communication skills in Modern Indian Language and professional environments.	2
CO2	Apply principles of technical and professional communication for preparing emails, resumes, reports, and presentations.	3
CO3	Develop technical content and documentation such as project abstracts, manuals, blogs, and software-related documents.	3
CO4	Prepare software project documents and use digital collaboration tools for professional and academic activities.	3

14. Electronics Waste Management (R25-EC-VEC-221), S.Y.-Sem-IV

After successfully completing the course students will be able to,

Co. No.	Description	Bloom's Taxonomy Level
CO1	Explain sources, composition, and impacts of E-waste.	2
CO2	Analyze E-waste handling and recycling technologies.	4
CO3	Analyze the E – waste management measures proposed under national and global legislations.	4
CO4	Propose solutions for effective E-waste management.	3