



SRI RAAJA RAAJAN

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Anna University)

146 /4B1, Amaravathi Village,
Amaravathipudur (Po.),
Karaikudi – 630 301.
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING PO'S & CO'S MAPPING

REGULATION 2021

I. PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- 1.To provide the students with a strong foundation in the required sciences in order to pursue studies in Electronics and Communication Engineering.
- 2.To gain adequate knowledge to become good professional in electronic and communication engineering associated industries, higher education and research.
- 3.To develop attitude in lifelong learning, applying and adapting new ideas and technologies as their field evolves.
- 4.To prepare students to critically analyze existing literature in an area of specialization and ethically develop innovative and research oriented methodologies to solve the problems identified.
- 5.To inculcate in the students a professional and ethical attitude and an ability to visualize the engineering issues in a broader social context.

II. PROGRAM OUTCOMES (POs)

- 1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3.Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.




PRINCIPAL

Trust Office : No. 1, S.K.M. Building, T. Nagar, Karaikudi - 630 301.
Sri Raaja Raajan College of Engg. & Tech
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4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.




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III. PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1: Design, develop and analyze electronic systems through application of relevant electronics, mathematics and engineering principles
- PSO2: Design, develop and analyze communication systems through application of fundamentals from communication principles, signal processing, and RF System Design & Electromagnetics.
- PSO3: Adapt to emerging electronics and communication technologies and develop innovative solutions for existing and newer problems

PEOs(1 to 5) mapped with POs and PSOs

PEO	PO												PSO		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
I.	3	3	2	2	2	2	-	-	-	-	-	3	3	2	3
II.	3	3	3	3	2	-	-	-	2	1	2	3	3	3	3
III.	3	2	3	3	3	-	-	-	2	2	-	3	3	3	3
IV.	3	3	3	3	2	-	-	3	-	-	-	2	2	2	2
V.	-	-	-	-	2	2	2	2	-	-	-	-	1	1	1

1 - low, 2 - medium, 3 - high, '-' - no correlation



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MR.T.N.BALAJI
HEAD OF THE DEPARTMENT

REGULATION 2021

EC3552- VLSI AND CHIP DESIGN

COURSE OUTCOMES:

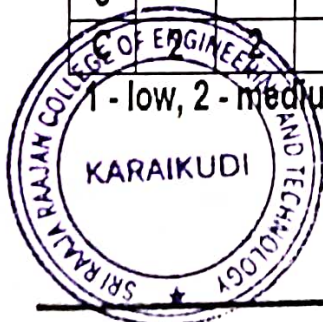
Upon successful completion of the course the student will be able to

- CO1: In depth knowledge of MOS technology
- CO2: Understand Combinational Logic Circuits and Design Principles
- CO3: Understand Sequential Logic Circuits and Clocking Strategies
- CO4: Understand Memory architecture and building blocks
- CO5: Understand the ASIC Design Process and Testing.

CO's-PO's & PSO's MAPPING

C	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO1	PO1	PO1	PSO	PSO	PSO
1	1	1	-	-	-	-	-	-	-	-	-	-	3	3	3
2	3	2	3	2	-	-	-	-	-	-	-	1	3	3	3
3	2	3	2	3	1	1	-	-	-	-	-	2	3	2	3
4	-	-	1	1	-	-	-	-	-	-	-	3	3	3	2
5	-	-	-	-	-	2	-	-	-	-	1	-	3	2	2
			2	2	1	1.5	-	-	-	-	1	2	3	3	3

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MRS.KISABELLA RANI

REGULATION - 2021

EC3551 - TRANSMISSION LINES AND RF SYSTEMS

COURSE OUTCOMES:

- CO1: Explain the characteristics of transmission lines and its losses.
- CO2: Calculate the standing wave ratio and input impedance in high frequency transmission lines.
- CO3: Analyze impedance matching by stubs using Smith Charts.
- CO4: Comprehend the characteristics of TE and TM waves.
- CO5: Design a RF transceiver system for wireless communication

CO's-PO's & PSO's MAPPING

CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	1	-	-	-	1	-	1	2	1	1
2	3	2	2	3	2	1	-	-	-	1	-	1	2	1	1
3	3	3	3	2	1	2	-	-	-	1	-	1	2	1	1
4	3	3	2	3	2	1	-	-	-	1	-	1	2	1	1
5	3	2	3	2	2	1	-	-	-	1	-	1	2	1	1
CO	3	3	3	3	2	1	-	-	-	1	-	1	2	1	1

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MRS.V.GOWSALYA

REGULATION - 2021

EC3251 - CIRCUIT ANALYSIS

COURSE OUTCOMES

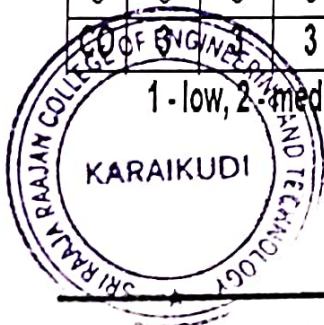
On successful completion of this course, the student will be able to

- CO1:** Apply the basic concepts of circuit analysis such as Kirchoff's laws, mesh current and node voltage method for analysis of DC and AC circuits.
CO2: Apply suitable network theorems and analyze AC and DC circuits
CO3: Analyze steady state response of any R, L and C circuits
CO4: Analyze the transient response for any RC, RL and RLC circuits and frequency response of parallel and series resonance circuits.
CO5: Analyze the coupled circuits and network topologies

CO's-PO's & PSO's MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	-	-	-	1		1	-	-	-	-	-
2	3	3	2	2	-	-	-	1		1	-	-	-	-	-
3	3	3	3	3	-	-	-	1		1	-	-	-	-	-
4	3	3	3	3	-	-	-	1		1	-	-	-	-	-
5	3	3	3	2	-	-	-	1		1	-	-	-	-	-
			3	2	-	-	-	1		1	-	-	-	-	-

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Mr.T.KAMESWARAN

REGULATION - 2021

EC3354 SIGNALS AND SYSTEMS

COURSE OUTCOMES:

At the end of the course, the student will be able to:

CO1:determine if a given system is linear/causal/stable

CO2: determine the frequency components present in a deterministic signal

CO3:characterize continuous LTI systems in the time domain and frequency domain

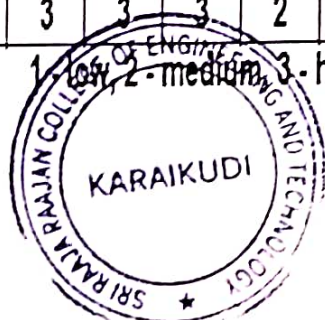
CO4:characterize discrete LTI systems in the time domain and frequency domain

CO5:compute the output of an LTI system in the time and frequency domains

CO's-PO's & PSO's MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	-	-	-	1		1	-	-	-	-	-
2	3	3	2	2	-	-	-	1		1	-	-	-	-	-
3	3	3	3	3	-	-	-	1		1	-	-	-	-	-
4	3	3	3	3	-	-	-	1		1	-	-	-	-	-
5	3	3	3	2	-	-	-	1		1	-	-	-	-	-
CO	3	3	3	2	-	-	-	1		1	-	-	-	-	-

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Mr. VENGATESAN

REGULATION - 2021

EC3351 CONTROL SYSTEMS

COURSE OUTCOMES :

Upon successful completion of the course the student will be able to

CO1: Compute the transfer function of different physical systems.

CO2: Analyse the time domain specification and calculate the steady state error.

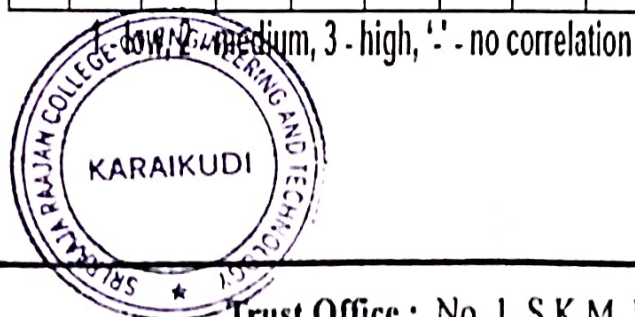
CO3: Illustrate the frequency response characteristics of open loop and closed loop system response.

CO4: Analyse the stability using Routh and root locus techniques.

CO5: Illustrate the state space model of a physical system and discuss the concepts of sampled data control system.

CO's-PO's & PSO's MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	2	2	-	-	-	-	2	3	3	3	3
2	3	3	3	3	2	3	-	-	-	-	2	2	3	3	3
3	3	2	3	3	2	2	-	-	-	-	2	3	3	2	3
4	3	3	3	2	2	2	-	-	-	-	2	2	3	3	3
5	2	2	3	3	2	3	-	-	-	-	2	3	2	2	3
CO	3	3	3	3	2	2	-	-	-	-	2	3	3	3	3



(Signature)

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V.SUBASHINI

REGULATION - 2021

EC3451 - LINEAR INTEGRATED CIRCUITS

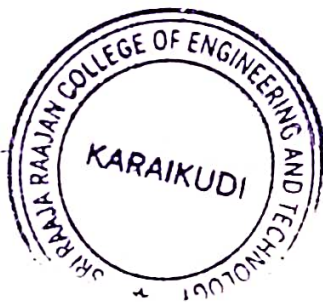
COURSE OBJECTIVES:

- CO1.To introduce the basic building blocks of linear integrated circuits
CO2. To learn the linear and non-linear applications of operational amplifiers
CO3.To introduce the theory and applications of analog multipliers and PLL
CO4.To learn the theory of ADC and DAC
CO5.To introduce the concepts of waveform generation and introduce some special function ICs

CO's-PO's & PSO's MAPPING

C	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO1	PO1	PO1	PSO	PSO	PSO
1	2	-	-	-	-	-	-	-	-	-	1	-	2	1	1
2	2	3	3	2	-	-	-	-	-	-	-	-	2	1	1
3	1	-	-	2	-	-	-	-	-	-	-	-	2	1	1
4	1	-	-	2	-	-	-	-	-	-	-	-	2	1	1
5	1	2	3	3	-	-	-	-	-	-	-	3	2	1	1
C	1.4	2.5	3	2.2	-	-	-	-	-	-	1	3	2	1	1

1 - low, 2 - medium, 3 - high, '-' - no correlation



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M. SARAVANN

REGULATION - 2021

EC3492 -DIGITAL SIGNAL PROCESSING

COURSE OUTCOMES:

At the end of the course students will be able to:

CO1:Apply DFT for the analysis of digital signals and systems

CO2:Design IIR and FIR filters CO3: Characterize the effects of finite precision representation on digital filters

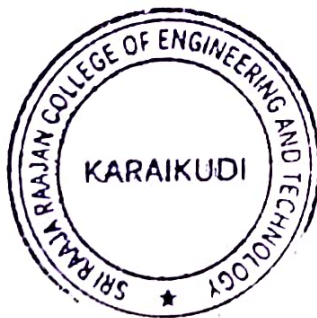
CO4:Design multirate filters

CO5:Apply adaptive filters appropriately in communication systems

CO's-PO's & PSO's MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	2	-	-	-	-	1	1	3	3	2
2	3	3	3	3	2	2	-	-	-	-	1	1	2	2	2
3	3	3	2	2	2	2	-	-	-	-	1	1	1	2	2
4	3	3	2	2	3	1	-	-	-	-	1	1	2	2	3
5	3	2	2	2	3	2	-	-	-	-	1	1	2	2	1
CO	3	3	2	2	2	2	-	-	-	-	1	1	2	2	2

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T. SENBAGAM

REGULATION - 2021

EC3491 - COMMUNICATION SYSTEMS

COURSE OUTCOMES:

At the end of the course students will be able to

CO1: Gain knowledge in amplitude modulation techniques

CO2: Understand the concepts of Random Process to the design of communication systems

CO3: Gain knowledge in digital techniques

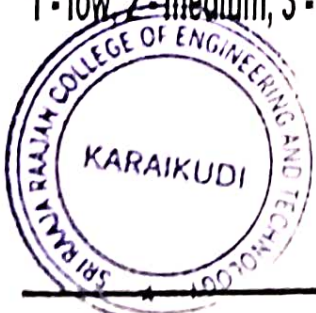
CO4: Gain knowledge in sampling and quantization

CO5: Understand the importance of demodulation techniques

CO's-PO's & PSO's MAPPING

CO	Pos											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	3	3	3	3	2	1	1	-	-	-	1	1
2	3	3	3	3	2	1	1	-	-	-	1	1
3	3	3	3	3	3	1	1	-	-	-	1	1
4	3	3	3	3	3	1	1	-	-	-	1	1
5	3	3	3	3	2	1	1	-	-	-	1	1
Avg	3	3	3	3	2.5	1	1	-	-	-	1	1

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V.MANICKAMUTHU REGULATION - 2021

EC3352 -DIGITAL SYSTEMS DESIGN

COURSE OUTCOMES :

At the end of the course the students will be able to

CO1: Use Boolean algebra and simplification procedures relevant to digital logic.

CO2: Design various combinational digital circuits using logic gates.

CO3: Analyse and design synchronous sequential circuits.

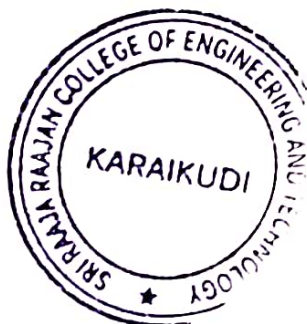
CO4: Analyse and design asynchronous sequential circuits. .

CO5: Build logic gates and use programmable devices

CO's-PO's & PSO's MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	2	-	2	-	-	-	-	3	3	3	3	2
2	-	-	-	-	-	-	-	-	-	-	2	1	2	3	2
3	-	3	3	2	-	2	-	-	-	-	2	2	3	3	2
4	-	-	-	-	-	-	-	-	-	-	3	2	2	3	1
5	-	3	3	3	-	-	-	-	-	-	2	2	3	3	2
CO	3	2.6	2.6	2.3	-	2	-	-	-	-	2	2	3	3	2

1 - low, 2 - medium, 3 - high, '-' - no correlation



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