

(Approved by AICTE, New Delhi & Affiliated to JNTUK, Kakinada & SBTET, Amaravati)

(An ISO 9001:2015 Certified Institution)

Kethanakonda (V), Ibrahimpatnam (M), Vijayawada, AMARAVATI - AP - 521456





DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOMES (COs)

Course Outcomes (COs) describe what students can able to do after completion of the course.

S.No	Year- Sem	Course Code	Course Name	Course Outcomes
	Jeili	Code		After completion of the course student can able to
				CO1: Develop the Verilog HDL to design a digital circuit.
				CO2: Appreciate the analysis of finite state machine of a controlling circuit
1	1-1	PC	RTL Simulation	CO3: Verify the functionality of the ASIC Design Flow
			and Synthesis with PLDs	CO4: Understand the Static Timing Analysis and clock issues in digital circuits
				CO5: Verify the functionality of the digital designs using PLDs.
				CO1: Compare and select ARM processor core based SOC with several features/peripherals based
				on requirements of embedded applications. CO2: Select ARM processor core peripherals based on requirements of embedded applications.
2	1-1	PC	Microcontrollers and	CO3: Develop small applications by utilizing the ARM processor core and DSP processor based
			Programmable Digital Signal	platform. CO4: Identify and characterize architecture of Programmable DSP Processors
			Processors	CO5: Develop small applications by utilizing the ARM processor core and DSP processor based platform.
				CO1: Ability to modify the existing or new DSP architectures suitable for VLSI.
				CO2: Understand the concepts of folding and unfolding algorithms and applications.
3	1-1	PE	VLSI signal processing	CO3: Develop Systolic Array Design Methodology and Systolic Design for Space Representations contain Delays
100	EOF			CO4: Ability to implement fast convolution

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CO5: Low power design aspects of processors for signal processing and wireless applications. CO1: Write an embedded C application of moderate complexity. CO2: Develop Object Oriented Programming and generic programming techniques. CO3: Develop object Oriented Programming and generic programming techniques. CO3: Develop and analyze algorithms in C++. CO4: Able to write the needs of Overloading and types of Inheritance CO5: Differentiate interpreted languages from compiled languages CO1: Understand research problem formulation. CO2: Analyze research ethics CO4: it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular. CO5: Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits. CO1: Identify, formulate, solve and implement problems in signal processing, communication Systems etc using RTL design tools. CO2: Use EDA tools like Cadence, Mentor Graphics and Xilinx. CO1: Install, configure and utilize tool sets for developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO3: Developing the overall personality.		1	1		
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6 I-I Lab 1 RTL Simulation and Synthesis with PLDs Lab Microcontrollers and Programmable Digital Signal Processors Lab Value Education (Audit Course - 8 I-I Aud 1 RTL Simulation and Synthesis with PLDs Lab RTL Simulation and Synthesis with PLDs Lab Graphics and Xilinx. CO1: Identify, formulate, solve and implement problems in signal processing, communication Systems etc using RTL design tools. CO2: Use EDA tools like Cadence, Mentor developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO1: Knowledge of Self-development. CO2: Learn the importance of Human values. CO3: Developing the overall personality.					inconting to investigate the investigation provides an
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6 I-I Lab 1 RTL Simulation and Synthesis with PLDs Lab Microcontrollers and Processors Lab 7 I-I Lab 2 RTL Simulation and Synthesis with PLDs Lab Microcontrollers and Programmable Digital Signal Processors Lab Value Education (Audit Course - 8 I-I Aud 1 Aud 1 RTL Simulation systems etc using RTL design tools. CO2: Use EDA tools like Cadence, Mentor Graphics and Xilinx. CO1: Install, configure and utilize tool sets for developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO3: Developing the overall personality.					and investment in R & D, which leads to creation
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7 I-I Lab 2 Microcontrollers and Processors Lab Value Education (Audit Course - Value Internal Processors Lab Aud 1 Aud 1 Systems etc using RTL design tools. CO2: Use EDA tools like Cadence, Mentor Graphics and Xilinx. CO1: Install, configure and utilize tool sets for developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO3: Learn the importance of Human values. CO3: Developing the overall personality.	6	1.1	lab 1	DTI Cimalati	problems in signal processing, communication
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7 I-I Lab 2 Microcontrollers and Programmable Digital Signal Processors Lab Value Education (Audit Course - Aud 1 CO1: Install, configure and utilize tool sets for developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO1: Install, configure and utilize tool sets for developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO3: Learn the importance of Human values. CO3: Developing the overall personality.					CO2: Use EDA tools like Cadence, Mentor
7 I-I Lab 2 Programmable Digital Signal Processors Lab Value Education (Audit Course - 8 I-I Aud 1 Microcontrollers and Programmable Digital Signal Processors Lab Cortex M3 and DSP development boards. CO1: Knowledge of Self-development. CO2: Learn the importance of Human values. CO3: Developing applications based on ARM processor core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development. CO2: Learn the importance of Human values. CO3: Developing the overall personality.				With PLDs Lab	
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7 I-I Lab 2 Programmable Digital Signal Processors Lab Value Education (Audit Course - 8 I-I Aud 1 Core SOC and DSP processor. CO2: Develop prototype codes using commonly available on and off chip peripherals on the Cortex M3 and DSP development boards. CO1: Knowledge of Self-development. CO2: Learn the importance of Human values. CO3: Developing the overall personality.					developing applications based on ARM processor
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8 I-I Aud 1 CO1: Knowledge of Self-development. CO2: Learn the importance of Human values. CO3: Developing the overall personality.					Cortex M3 and DSP development boards.
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CO3: Developing the overall personality.	0			(Audit Course -	CO2: Learn the importance of Human values
COL: Appropriate the trade official	8	The same of the sa	Aud 1		CO3: Developing the overall personality
Appreciate the trade-offs involved in analog		EGE	E		CO1: Appreciate the trade-offs involved in analog

GINEERING *

PRINCIPAL

H K COLLEGE OF ENGINEERING Kethanakonda (V), Ibrahimpatnam (M), Vijayawada, AMARAVATI-521 456.



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Kethanakonda (V), Ibrahimpatnam (M), Vijayawada, AMARAVATI - AP - 521456





	1		T	
				integrated circuit design.
				CO2: Understand and appreciate the importance
				of noise and distortion in analog circuits.
				CO3: Analyze complex engineering problems
				critically in the domain of analog IC design for
				conducting research.
9	1-11	PC	Analog and	CO4: Demonstrate advanced knowledge in Static
			Digital CMOS	and dynamic characteristics of CMOS, Alternative
			VLSI Design	CMOS Logics, Estimation of Delay and Power,
			1 201 2 031811	Adders Design.
				CO5: Solve engineering problems for feasible and
				optimal solutions in the core area of digital ICs.
				CO1: Illustrate real time programming concepts.
				CO2: Apply RTOS functions to implement
			Real Time	embedded applications
				CO3: Analyze the issues in real time operating
				systems
10	1-11	PC		CO4: Understand fundamentals of design
			Operating	consideration for embedded applications
			Systems	CO5: To Understand Applications Control by RT
				Linux System
				CO1: Select architecture and design
				semiconductor memory circuits and subsystems.
				CO2: Identify various fault models, modes and
	1-11	PE	Memory Architectures	mechanisms in semiconductor memories and their
				testing procedures.
				CO3: Identify various fault models in
11				semiconductor memories
				testing procedures.
				CO5: Know how the state-of-the-art memory
				chip design
	1-11	PE	Communication	CO1: Select a particular serial bus suitable for a
				particular application.
12				CO2: Develop APIs for configuration, reading
12	1-11	PE	Buses and	and writing data onto serial bus.
			Interfaces	CO3: Design and develop peripherals that can be
		EOFE		interfaced to desired serial bus.
	1	EAS		CO4: Develop USB Transfer Types and
	1/0/	1		

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				Descriptor to a condition to
				Descriptor types and contents
				CO5: Data streaming Serial Communication
				Protocol - Serial Front Panel Data Port(SFPDP)
				CO1: Analyze VI Characteristics NMOS and PMOS
				Devices.
				CO2: Analyze Voltage transfer characteristics of
			Analog and	CMOS inverter.
13	1-11	Lab 1	Digital CMOS	CO3: Demonstrate transient and ac analysis of
			VLSI Design Lab	CMOS inverter.
				CO4: Calculate small signal voltage gain of CS
				amplifier.
				CO5: Design the layout of a minimum size
				inverter.
				CO1: Analyze basic concepts of operating system
				and their structures.
				CO2: Analyze various issues related to inter
				process communication like process scheduling,
				resource management and deadlocks.
				CO3: Interpret the issues and challenges of
14	1-11	Lab 2	Real Time	memory management.
			Operating	CO4: Synthesize the concept of I/O management,
			Systems Lab	file system implementation and problems related
				to security and protection.
				CO1: Understand of contemporary / emerging
				technology for various processes and systems.
				CO2: Share knowledge effectively in oral and
15	1-11	MP	Mini Project	written form and formulate documents.
			Stress	CO1: Develop healthy mind in a healthy body
16	1-11	Aud 2	Management by	thus improving social health also.
			Yoga	CO2: Improve efficiency.
				CO1: About the Hardware-Software Code sign
				Methodology.
				CO2: How to select a target architecture and how
				a prototype is built and how emulation of a
				prototype is done.
			Hardware	CO3: Brief view about compilation technologies
17	11-1	PE	Software co-	and compiler development environment.
	-	E OF	design	CO4: About Design Specification and Verification
	1/5	EN		CO5: Understand the importance of system level
16 System lever				

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				specification languages and multi-language co- simulation.
18	11-1	OE	Operations Research	CO1: Students should able to apply the dynamic programming to solve problems of discreet and continuous variables. CO2: Students should able to apply the Formulation of a LPP CO3: Students should able to apply the concept of non-linear programming CO4: Students should able to carry out sensitivity analysis CO5: Student should able to model the real
				world problem and simulate it.
				previously gained and applied to an in-depth study and execution of new technical problem. CO2: Capable to select from different methodologies, methods and forms of analysis to produce a suitable research design, and justify
19	11-11	Dissertation	Project / Dissertation Phase- II	their design. CO3: Ability to present the finding of their technical solution in a written report. CO4: Presenting the work in International / National conference or reputed journals

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