



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Department of Electronics and Communication Engineering

Regulation: VR25

II B. Tech I Semester

COURSE TITLE: Probability Theory and Stochastic Processes

COURSE CODE: 25EC301PC

Upon completing this course, the student will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Perform operations on single and multiple Random variables.	3
CO2	Determine the Spectral and temporal characteristics of Random Signals.	2
CO3	Characterize LTI systems driven by stationary random process by using ACFs and PSDs.	4
CO4	Understand the concepts of Noise and Information theory in Communication systems.	2
CO5	Analyze the properties of stochastic processes, such as correlation, covariance, and spectral density	4

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3		3	1	1			1			3	1	
CO2	3	1		3	1	1			1			3	1	
CO3	3	3	3	2	1	2			1			3	2	
CO4	3	2	3	2	2	1			2			2	1	1
CO5	3	2	3	3	2	1			2			3	2	1
Average	3	2.2	3	2.6	1.4	1.2	-	-	1.4	-	-	2.8	1.4	1



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Department of Electronics and Communication Engineering

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II B. Tech I Semester

COURSE TITLE: Signals and Systems

COURSE CODE: 25EC302PC

Upon completing this course, the student will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Characterize various signals, systems and their time and frequency domain analysis, using transform techniques.	4
CO2	Identify the conditions for transmission of signals through systems and conditions for physical realization of systems.	2
CO3	Use sampling theorem for baseband and band pass signals for various types of sampling and for different duty cycles	3
CO4	Apply the correlation and PSD functions for various applications.	3
CO5	Study the concepts of distortion less transmission through LTI systems, convolution and correlation properties	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3	2	1		1			1			3	1	
CO2	3	3	2	1		1			1			3	1	
CO3	3	3	2	1		1			1			3	1	
CO4	3	3	3	2		1			2			3	2	1
CO5	3	3	3	2		1			2			3	2	1
Average	3	3	2.4	1.4	-	1	-	-	1.4	-	-	3	1.4	1



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Department of Electronics and Communication Engineering

Regulation: VR25

II B. Tech I Semester

COURSE TITLE: Electronic Devices and Circuits

COURSE CODE: 25EC303PC

By the end of this course, students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	CO1: Understand the characteristics and operation of semiconductor devices such as diodes and transistors.	2
CO2	CO2: Analyze and design basic electronic circuits including rectifiers, amplifiers, and voltage regulators.	4
CO3	CO3: Apply biasing techniques and small signal models to evaluate transistor performance in analog circuits.	3
CO4	CO4: Use simulation tools to model and analyze electronic circuits for performance and reliability.	3
CO5	CO5: Demonstrate teamwork, documentation, and ethical responsibility in electronic circuit design projects.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	2	2	1							1	3	2	
CO2	3	3	3	2				1			1	3	3	
CO3	3	3	3	2				1			2	3	3	
CO4	3	3	3	3				1			2	2	3	1
CO5	3	2	3	2				2			2	2	2	2
Average	3	2.6	2.8	2	-	-	-	1.25	-	-	1.6	2.6	2.6	1.5



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Department of Electronics and Communication Engineering

Regulation: VR25

II B. Tech I Semester

COURSE TITLE: Digital Logic Design

COURSE CODE: 25EC304PC

Upon completion, students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Acquire the knowledge on numerical information in different forms and Boolean Algebra theorems.	2
CO2	Define Postulates of Boolean algebra and to minimize combinational functions, and design the combinational circuits.	2
CO3	Design and analyse sequential circuits for various cyclic functions	6
CO4	Characterize logic families and analyze them for the purpose of AC and DC parameters.	4
CO5	Basic techniques for the design of digital circuits and fundamental concepts used in the design of digital systems.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3	2	2	2						1	2	3	
CO2	3	3	3	2	2						1	2	3	
CO3	3	3	3	2	3						2	3	3	
CO4	2	2	2	3	3						2	3	3	
CO5	3	3	3	2	3						2	2	3	1
Average	2.8	2.8	2.6	2.2	2.6	-	-	-	-	-	1.6	2.4	3	1



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II B. Tech I Semester

COURSE TITLE: Control Systems

COURSE CODE: 25EC305PC

Upon completion of this Course, the students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Model the linear-time-invariant systems using transfer function and state-space representations.	3
CO2	Understand the concept of stability and its assessment for linear-time invariant systems.	2
CO3	Design simple feedback controllers.	6
CO4	Estimate the system performance using time domain analysis and methods for improving it	4
CO5	Estimate the system performance using frequency domain analysis and techniques for improving the performance	4

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3	3	3	3	1	1		2		2	3	2	
CO2	2	3	3	2	3	1	1		2		2	3	2	
CO3	3	2	3	2	3	1	1		2		2	3	3	
CO4	3	3	2	1	3	1	2		2		1	3	3	
CO5	3	3	3	2	3	1	1		2		2	2	3	1
Average	2.8	2.8	2.8	2	3	1	1.2	-	2	-	1.8	2.8	2.6	1



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II B. Tech I Semester

COURSE TITLE: Innovation and Entrepreneurship

COURSE CODE: 25MS306BS

Upon completing this course, the student will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Understand the entrepreneurship and the entrepreneurial process and its significance in economic development.	2
CO2	Assess the problem from an industry perspective and generate solutions using the design thinking principles.	5
CO3	Assess market competition, estimate market size, and develop a prototype.	5
CO4	Analyze Business and financial planning models and Go-to-Market strategies.	4
CO5	Able to build a start-up, register IP and identify funding opportunities.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1		2		3	3		3				3	1	2	3
CO2	2			2							2	1	3	2
CO3	3	2			3		2					1	3	2
CO4	2	1		2			2				3	1	2	2
CO5	3			2			2					1	2	3
Average	2.5	1.67	-	2.25	3	-	2.25	-	-	-	2.67	1	2.4	2.4



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II B. Tech I Semester

COURSE TITLE: Modelling and Simulation Lab

COURSE CODE: 25EC307PC

Upon completing this course, the student will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Will be able to use a simulation tool for generating, analyzing and performing various operations on Signals / Sequences both in time and Frequency domain	2
CO2	Will be able to use a simulation tool for Analyzing and Characterizing Continuous and Discrete Time Systems both in Time and Frequency domain along with the concept of Sampling	2
CO3	Will be able to use a simulation tool for generating different Random Signals; analyze their Characteristics by finding different higher order Moments and noise removal applications	2
CO4	Will be able to use a simulink for Control System applications	2
CO5	Develop simulation models and interpret results for real-time signal processing and control applications using modern engineering tools.	6

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	2	3	3	3	2			3	1		3	3	
CO2	3	2	3	3	3	2			3	1		3	3	
CO3	3	2	3	3	3	2			3	1		2	3	1
CO4	3	2	3	3	3	2			3	1		2	3	1
CO5	3	3	3	3	3	2			3	2	1	2	3	2
Average	3	2.2	3	3	3	2	-	-	3	1.2	1	2.4	3	1.33



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II B. Tech I Semester

COURSE TITLE: Electronic Devices and Circuits Lab **COURSE CODE:** 25EC308PC

By the end of this course, students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Analyze the I-V characteristics of semiconductor devices such as diodes, BJTs, and FETs.	4
CO2	Design and evaluate basic rectifier, clipper, clamper, and voltage regulation circuits.	6
CO3	Demonstrate biasing techniques for BJTs and determine their operating point using DC load line analysis.	2
CO4	Design and analyze transistor amplifier circuits in various configurations using h-parameter models.	6
CO5	Simulate and interpret electronic circuits using appropriate simulation tools.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3	2	2	1							3	2	
CO2	3	3	3	2	1	1						3	3	
CO3	3	3	2	2	1							3	2	
CO4	3	3	3	2	1							3	3	
CO5	2	2	2	3	3						1	2	3	1
Average	2.8	2.8	2.4	2.2	1.4	1	-	-	-	-	1	2.8	2.6	1



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II B. Tech I Semester

COURSE TITLE: Digital Logic Design Lab

COURSE CODE: 25EC309PC

After completing this course, students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Analyze and simplify Boolean expressions and implement them using logic gates and ICs.	4
CO2	Design and realize combinational and sequential logic circuits using logic gate hardware	6
CO3	Simulate and verify digital designs using industry-standard EDA tools and testbenches.	2
CO4	Build modular and hierarchical designs such as counters, FSMs, and shift registers.	6
CO5	Implement, simulate, and verify combinational and sequential logic circuits using hardware description languages (HDLs) and digital simulation tools	3

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	3	2	2	2						1	3	2	
CO2	3	3	3	2	2						1	3	3	
CO3	3	3	3	2	3						2	3	2	
CO4	2	2	2	3	3						2	3	3	
CO5	3	3	3	2	3						2	2	3	1
Average	2.8	2.8	2.6	2.2	2.6	-	-	-	-	-	1.6	2.8	2.6	1



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II B. Tech I Semester

COURSE TITLE: Linux and Shell Scripting

COURSE CODE: 25CS310SD

By the end of the course, students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Understand Linux system structure, OS architecture,	2
CO2	Perform Linux installation and basic administration including file, user, and permission management.	3
CO3	Develop shell scripts to automate tasks such as backups, monitoring, and data processing.	6
CO4	Use Linux tools for software management, networking, and service configuration.	3
CO5	Implement backup, recovery, and basic troubleshooting techniques through practical labs.	3

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2	PSO 3
CO1	3	2			2							1	3	
CO2	3	2		2	3							2	3	
CO3	2	3	3	2	3						2	2	3	
CO4	3	2		2	3				1	2		2	3	1
CO5	2	3		3	3			1			2	2	2	2
Average	2.6	2.4	3	2.25	2.8	-	-	1	1	2	2	1.8	2.8	1.5