



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

[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: R22

II B. Tech II Semester

COURSE TITLE: PROBABILITY THEORY AND STOCHASTIC PROCESSES

COURSE CODE: EC401PC

Upon completing this course, the students 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.	3
CO3	Characterize LTI systems driven by stationary random process by using ACFs and PSDs.	4
CO4	Analyze the properties of stochastic processes, such as correlation, covariance, and spectral density	2
CO5	Understand the concepts of Noise and Information theory in Communication systems.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	-	3	1	1	-	-	-	1	-	-	2	2	-
CO2	3	1	-	3	1	1	-	-	-	1	-	-	2	2	-
CO3	3	3	3	2	1	2	-	-	-	1	-	-	3	1	-
CO4	3	2	3	2	2	1	-	-	-	2	-	-	2	1	-
CO5	3	2	3	3	2	1	-	-	-	2	-	-	3	1	1
Average	3	2.2	3	2.6	1.4	1.2	-	-	-	1.4	-	-	2.4	1.4	1



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II B. Tech II Semester

**COURSE TITLE: ELECTROMAGNETIC FIELDS
AND TRANSMISSION LINES**

COURSE CODE: EC402PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Acquire the knowledge of Basic Laws, Concept and proofs related to Electrostatic Fields and Magneto static Fields.	2
CO2	Characterize the static and time-varying fields, establish the corresponding sets of Maxwell's Equations and Boundary Conditions.	4
CO3	Analyze the Wave Equations and classify conductors, dielectrics and evaluate the UPW Characteristics for several practical media of interest.	4
CO4	Analyze the Design aspect of transmission line parameters and configurations.	4
CO5	Analyze transmission line characteristics including using the Smith Chart.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	2	1	2	-	2	-	-	-	-	2	3	2	-
CO2	3	3	2	2	2	2	-	-	-	-	-	2	3	2	-
CO3	3	3	2	2	2	-	-	-	-	-	-	2	3	3	-
CO4	3	3	2	3	2	-	2	-	-	-	-	2	3	3	-
CO5	3	3	3	2	3	2	2	-	-	-	-	3	3	3	1
Average	3	2.8	2.2	2	2.2	2	2	-	-	-	-	2.2	3	2.6	1



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II B. Tech II Semester

COURSE TITLE: ANALOG AND DIGITAL COMMUNICATIONS

COURSE CODE: EC403PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Design and analyze various Analog and Digital Modulation and Demodulation techniques.	6
CO2	Model the noise present in continuous wave Modulation techniques.	3
CO3	Implement the Super heterodyne Receiver concept and Pulse Modulation Techniques in various applications	3
CO4	Analyze and design the base band Transmission	6
CO5	Acquire the knowledge of each block in AM, FM transmitters and receivers.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	3	1	-	-	1	-	-	1	-	-	3	1	-
CO2	3	3	3	1	-	-	2	-	-	1	-	-	3	1	-
CO3	3	3	3	1	-	-	1	-	-	1	-	-	3	1	-
CO4	3	3	3	2	-	2	2	-	-	2	-	-	3	2	-
CO5	3	3	3	2	-	2	2	-	-	2	-	-	3	2	-
Average	3	3	3	1.4	-	2	1.6	-	-	1.4	-	-	3	1.4	-



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II B. Tech II Semester

COURSE TITLE: LINEAR AND DIGITAL IC APPLICATIONS

COURSE CODE: EC404PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	A thorough understanding of operational amplifiers with linear integrated circuits.	2
CO2	Attain the knowledge of functional diagrams and design applications of IC555 and IC565.	2
CO3	Acquire the knowledge and design the Data converters.	6
CO4	Choose the proper digital integrated circuits by knowing their characteristics.	3
CO5	Understand the theory and applications of Analog multipliers and PLL.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	2	1	1	-	1	-	-	1	-	-	3	1	-
CO2	3	3	2	1	1	-	2	-	-	1	-	-	3	1	-
CO3	3	3	2	1	1	-	1	-	-	1	-	-	3	1	-
CO4	3	3	3	2	2	-	2	-	-	2	-	-	3	2	-
CO5	3	3	3	2	2	-	2	-	-	2	-	-	3	2	-
Average	3	3	2.4	1.4	1.4	-	1.6	-	-	1.4	-	-	3	1.4	-



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II B. Tech II Semester

COURSE TITLE: ELECTRONIC CIRCUIT ANALYSIS

COURSE CODE: EC405PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Design and analysis of the DC bias circuitry of BJT	6
CO2	Design the power amplifiers	6
CO3	Design the tuned amplifiers and analyse its frequency response	6
CO4	Design Multivibrators and sweep circuits for various applications.	6
CO5	Utilize the concepts of synchronization, frequency division and sampling gates	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	2	1	1	-	1	-	-	1	-	-	3	1	-
CO2	3	3	2	1	1	-	2	-	-	1	-	-	3	1	-
CO3	3	3	2	1	1	-	1	-	-	1	-	-	3	1	-
CO4	3	3	3	2	2	2	2	-	-	2	-	-	3	2	-
CO5	3	3	3	2	2	2	2	-	-	2	-	-	3	2	-
Average	3	3	2.4	1.4	1.4	2	1.6	-	-	1.4	-	-	3	1.4	-



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II B. Tech II Semester

COURSE TITLE: ANALOG AND DIGITAL COMMUNICATIONS LABORATORY

COURSE CODE: EC406PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Design and implement various Analog modulation and demodulation Techniques and observe the time and frequency domain characteristics	6
CO2	Design and implement various Pulse modulation and demodulation Techniques and observe the time and frequency domain characteristics	6
CO3	Apply different types of Sampling with various Sampling rates and duty Cycles	3
CO4	Design and implement various Digital modulation and demodulation Techniques and observe the waveforms of these modulated Signals practically	6
CO5	Apply time division multiplexing concepts in different pulse modulation techniques.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	-	3	-	-	-	-	2	3	1	3	3	3	-
CO2	3	3	-	3	-	-	-	-	2	3	1	3	3	3	-
CO3	3	3	-	3	-	-	-	-	2	3	-	3	3	3	-
CO4	3	3	-	3	-	-	-	-	2	3	-	3	3	3	-
CO5	3	3	-	3	-	-	-	-	2	3	1	3	3	3	-
Average	3	3	-	3	-	-	-	-	2	3	1	3	3	3	-



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COURSE TITLE: LINEAR AND DIGITAL IC APPLICATIONS LABORATORY

COURSE CODE: EC407PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Design and implementation of various analog circuits using 741 ICs.	6
CO2	Design and implementation of various Multivibrators using 555 timer.	6
CO3	Design and implement various circuits using digital ICs	6
CO4	Design and implement ADC, DAC and voltage regulators.	6
CO5	Design a Schmitt Trigger Circuit and find its LTP and UTP.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	3	-	3	3	-	-	3	3	-	3	3	3	1
CO2	3	3	2	-	2	1	-	-	2	1	-	3	2	3	1
CO3	3	3	3	-	2	1	-	-	2	1	-	3	3	3	1
CO4	2	3	3	-	2	1	-	-	2	1	-	2	2	2	2
CO5	3	3	3	-	2	1	-	-	2	1	-	3	3	3	1
Average	2.8	2.8	2.8	-	2.2	1.4	-	-	2.2	1.4	-	2.8	2.6	2.8	1.2



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COURSE TITLE: ELECTRONIC CIRCUIT ANALYSIS LABORATORY

COURSE CODE: EC408PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Design power amplifiers and find its efficiency	6
CO2	Design tuned amplifiers and find its Q-factor	6
CO3	Design various multivibrators and sweep circuits. Understand the necessity of linearity	6
CO4	Design sampling gates and understanding the concepts of frequency division	6
CO5	Design feedback amplifiers and simulate in simulation laboratory using Multi-Sim software	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	1	3	3	3	2	-	-	-	2	1	-	-	3	2	1
CO2	1	3	3	2	2	-	-	-	1	1	-	-	2	3	1
CO3	1	3	2	3	2	-	-	-	1	2	-	-	3	2	-
CO4	1	3	3	3	2	-	-	-	1	1	-	-	2	3	1
CO5	1	2	3	3	2	-	-	-	1	1	-	-	3	3	1
Average	1	2.8	2.8	2.8	2	-	-	-	1.2	1.2	-	-	2.6	2.6	1



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COURSE TITLE: REAL-TIME PROJECT

COURSE CODE: EC409PC

Upon completion of this project, the student will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Identify and analyze real-time system requirements and constraints for a given application.	4
CO2	Design and implement real-time solutions using appropriate hardware and/or software tools.	6
CO3	Apply real-time scheduling, synchronization and resource management techniques in system development.	3
CO4	Test, validate and evaluate the performance of the developed real-time system under practical conditions.	5
CO5	Prepare technical documentation and effectively present the project demonstrating teamwork and professional practices.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	2	3	2	2	3	-	-	1	2	3	2	2	3	3	-
CO2	2	2	-	2	2	1	1	1	2	2	2	2	2	2	-
CO3	2	2	-	-	3	-	-	2	2	3	1	2	2	2	-
CO4	2	-	2	-	2	1	1	2	2	2	-	-	2	2	-
CO5	2	-	2	2	-	1	1	-	2	-	-	-	2	3	2
Average	2	2.3 3	2	2	2.5	1	1	1.5	2	2.5	1.6 7	2	2.2	2.4	2



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COURSE TITLE: GENDER SENSITIZATION LAB COURSE CODE: *MC410

Students will be able to:

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Students will have developed a better understanding of important issues related to gender in contemporary India.	2
CO2	Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film.	2
CO3	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.	4
CO4	Students will acquire insight into the gendered division of labor and its relation to politics and economics.	2
CO5	Men and women students and professionals will be better equipped to work and live together as equals.	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	PO 12	PSO 1	PSO 2	PSO 3
CO1	1	3	2	2	-	-	-	-	1	1	-	-	-	-	3
CO2	1	3	3	3	-	-	-	-	1	1	-	-	-	-	3
CO3	1	3	3	3	-	-	-	-	1	1	-	-	-	-	3
CO4	1	3	3	3	2	-	-	-	1	1	-	-	-	-	3
CO5	1	2	3	3	2	-	-	-	2	2	-	-	-	-	3
Average	1	2.8	2.8	2.8	2	-	-	-	1.2	1.2	-	-	-	-	3