



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



COMPUTER SCIENCE & ENGINEERING (DATA SCIENCE)

VR24 – II B.Tech I Semester : Course Outcomes & CO-PO/PSO Mapping

EC301ES: DIGITAL ELECTRONICS

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

CO.No.	COURSE OUTCOMES	BT Level
CO1	Know the characteristics of various components. Know about the logic families and realization of logic Gates.	1
CO2	Understand the utilization of components.	2
CO3	Design and analyze small signal amplifier circuits.	2
CO4	Learn Postulates of Boolean algebra and to minimize Combinational functions.	4
CO5	Design and analyze combinational and sequential circuits.	4

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	1	1	-	-	-	-	-	1	1	3	1
CO2	3	3	3	2	2	1	-	1	1	-	1	2	3	1
CO3	3	3	3	2	2	1	-	1	1	-	2	2	3	2
CO4	3	3	3	3	2	2	-	1	1	-	2	2	3	2
CO5	3	3	3	3	3	2	1	2	2	1	2	3	3	2
Average	3	2.8	2.8	2.2	2	1.5	1	1.25	1.25	1	1.6	2	3	1.6



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



DS302PC: DATA STRUCTURES

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

CO.No.	COURSE OUTCOMES	BT Level
CO1	Ability to select the data structures that efficiently model the information in a problem.	3
CO2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.	5
CO3	Implement and know the application of algorithms for sorting and pattern matching.	3
CO4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, heaps, graphs, and AVL-trees.	6
CO5	Ability to assess about the application of pattern matching and Different types of Tries.	5

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	1	1	2	2	1	2	3	3	1
CO2	3	3	2	2	2	1	1	2	2	1	2	3	3	1
CO3	3	3	2	2	2	1	2	1	2	2	3	3	3	1
CO4	3	3	2	2	3	2	2	2	2	2	3	3	3	1
CO5	2	3	3	3	2	1	2	2	3	2	3	2	2	3
Average	2.8	2.8	2.4	2.2	2.2	1.2	1.6	1.8	2.2	1.6	2.6	2.8	2.8	1.4



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



MA303BS: COMPUTER ORIENTED STATISTICAL METHODS

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

CO.No.	COURSE OUTCOMES	BT Level
CO1	Apply the concepts of probability and distributions to case studies.	3
CO2	Formulate and solve problems involving random variables and apply statistical methods for analyzing experimental data.	4
CO3	Apply concept of estimation and testing of hypothesis to case studies.	3
CO4	Correlate the concepts of one unit to the concepts in other units.	4

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	2	1	1	-	1	1	-	2	2	2	2
CO2	3	3	3	2	2	1	-	1	1	-	2	2	2	2
CO3	3	3	3	3	2	2	1	2	2	1	2	3	2	2
CO4	3	3	3	3	3	2	1	2	2	1	3	3	2	2
CO5	3	3	3	3	3	3	2	3	3	2	3	3	3	3
Average	3	2.8	2.8	2.6	2.2	1.8	1.333	1.8	1.8	1.333	2.4	2.6	2.2	2.2



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



DS304PC: COMPUTER ORGANIZATION AND ARCHITECTURE

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Understand the basics of instruction sets and their impact on processor design.	2
CO2	Demonstrate an understanding of the design of the functional units of a digital	2
CO3	Computer system. Evaluate cost performance and design trade-offs in designing and constructing.	5
CO4	Computer processor including memory. Design a pipeline for consistent execution of instructions with minimum hazards.	6
CO5	Recognize and manipulate representations of numbers stored in digital computers	3

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	1	1	-	-	-	-	-	1	2	3	1
CO2	3	3	3	2	2	1	-	1	1	-	2	2	3	1
CO3	3	3	3	3	2	2	-	1	1	-	2	3	3	2
CO4	3	3	3	3	3	2	1	2	2	1	2	3	3	2
CO5	3	3	3	3	3	2	1	2	2	1	2	3	3	2
Average	3	2.8	2.8	2.4	2.2	1.75	1	1.5	1.5	1	1.8	2.6	3	1.6



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



DS305PC: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	To Understand the basic object-oriented programming concepts and apply them in problem solving.	3
CO2	To Illustrate inheritance concepts for reusing the program.	2
CO3	To Demonstrate multitasking by using multiple threads and event handling	3
CO4	To Develop data-centric applications using JDBC.	6
CO5	To Understand the basics of java console and GUI based programming.	2

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	2	1	0	0	1	1	0	1	3	2	1
CO2	3	3	3	2	2	0	0	1	1	0	1	3	2	1
CO3	3	2	2	2	1	0	0	1	1	0	1	3	3	1
CO4	2	2	2	2	2	0	0	1	1	0	1	2	3	1
CO5	1	1	1	1	1	1	2	2	2	1	2	1	1	3
Average	2.4	2	2	1.8	1.4	0.2	0.4	1.2	1.2	0.2	1.2	2.4	2.2	1.4



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



LABORATORIES

DS306PC: DATA STRUCTURES LAB

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Ability to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings, and data structures like stacks, queues and linked lists.	6
CO2	Ability to develop C programs for calculating and real-time applications using basic elements like Strings, and Data Structures like Stacks, Queues and Linked Lists.	6
CO3	Ability to Implement searching and sorting algorithms	6
CO4	Ability to Implement the tree traversal methods (Recursive & Non-Recursive)	3
CO5	Ability to Implement a Pattern matching algorithms	3

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	2	1	1	-	1	1	1	2	3	3	2
CO2	3	3	3	3	2	2	-	2	2	1	2	3	3	2
CO3	3	3	3	3	2	2	1	2	2	1	3	3	3	2
CO4	3	3	3	3	3	2	1	2	2	1	3	3	3	2
CO5	3	3	3	3	3	3	2	3	3	2	3	3	3	3
Average	3	3	2.8	2.8	2.2	2	1.333	2	2	1.2	2.6	3	3	2.2



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



DS307PC: OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Demonstrate the behavior of programs involving the basic programming constructs like control structures, constructors, string handling and garbage collection.	3
CO2	Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords	3
CO3	Use multithreading concepts to develop inter process communication.	3
CO4	Understand the process of graphical user interface design and implementation using AWT or swings.	2
CO5	Develop applets that interact abundantly with the client environment and deploy on the server.	6

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	2	1	0	0	1	1	0	1	3	2	1
CO2	3	3	3	2	2	0	0	1	1	0	1	3	2	1
CO3	3	2	2	2	1	0	0	1	1	0	1	3	3	1
CO4	2	2	2	2	2	0	0	1	1	0	1	2	3	1
CO5	1	1	1	1	1	1	2	2	2	1	2	1	1	3
Average	2.4	2	2	1.8	1.4	0.2	0.4	1.2	1.2	0.2	1.2	2.4	2.2	1.4



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



DS308PC: DATA VISUALIZATION - R PROGRAMMING/ POWER BI

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Understand How to import data into Tableau.	2
CO2	Understand Tableau concepts of Dimensions and Measures.	2
CO3	Develop Programs and understand how to map Visual Layouts and Graphical Properties.	3
CO4	Create a Dashboard that links multiple visualizations.	6
CO5	Use graphical user interfaces to create Frames for providing solutions to real world problems.	6

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	2	1	0	0	1	1	0	1	2	3	1
CO2	3	3	3	2	2	0	0	1	1	0	1	3	2	1
CO3	3	2	2	2	1	0	0	1	1	0	1	3	2	1
CO4	2	2	2	2	2	0	0	1	2	0	1	2	3	1
CO5	3	1	1	1	1	1	2	2	2	1	2	1	1	3
Average	2.8	2	2	1.8	1.4	0.2	0.4	1.2	1.4	0.2	1.2	2.2	2.2	1.4



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



MC309: GENDER SENSITIZATION LAB

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

CO. No.	COURSE OUTCOME	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.	4
CO5	Men and women students and professionals will be better equipped to work and live together as equals.	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	1	2	-	-	-	2	-	2	-	1	-	-	-	-
CO2	1	2	-	-	-	2	-	2	-	1	-	-	-	-
CO3	-	3	1	1	-	3	-	3	1	2	-	-	-	-
CO4	1	3	1	1	-	3	-	2	1	1	-	-	-	-
CO5	-	1	1	-	-	2	-	3	3	2	-	-	-	-
Average	0.57	2.14	0.57	0.57	0.00	2.43	0.00	2.57	1.00	1.43	0.00	0.00	0.00	0.00