



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 II Semester : Course Outcomes & CO-PO/PSO Mapping

DS401PC: DISCRETE MATHEMATICS

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Ability to understand and construct precise mathematical proofs and construct precise mathematical proofs .	3
CO2	Ability to analyze and solve counting problems on finite and discrete structures.	4
CO3	Ability to describe and manipulate sequences.	3
CO4	Describe and manipulate sequences.	3
CO5	Ability to apply graph theory in solving computing problems.	3

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	1	1	-	-	-	-	-	1	2	2	1
CO2	3	3	3	2	2	-	-	-	1	-	1	3	2	1
CO3	3	3	3	3	2	1	-	1	1	-	2	3	2	2
CO4	3	3	3	3	3	1	1	2	1	1	2	3	3	2
CO5	3	3	3	3	3	1	1	2	2	1	2	3	3	2
Average	3	3	2.8	2.4	2.2	1	1	1.667	1.25	1	1.6	2.8	2.4	1.6



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SM402MS: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Various Forms of Business and the impact of economic variables on the Business.	2
CO2	Problem-solving skills by applying demand and supply theories to real-world situations.	3
CO3	How production, costs and market structures influence pricing decisions and business profitability.	4
CO4	To prepare, analyze, and interpret financial statements.	4
CO5	To analyze financial position by analyzing the Financial Statements of a Company	4

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	2	2	1	2	2	2	1	1	2
CO2	2	2	2	2	1	2	2	2	2	2	2	2	1	2
CO3	2	1	2	2	1	2	2	2	2	2	3	2	1	3
CO4	2	2	2	3	2	2	2	2	2	2	3	2	1	3
CO5	2	2	2	3	3	3	3	3	3	3	3	3	1	3
Average	1.8	1.6	1.8	2.2	1.6	2.2	2.2	2	2.2	2.2	2.6	2	1	2.6



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DS403PC: OPERATING SYSTEMS

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Will be able to control access to a computer and the files that may be shared.	3
CO2	Demonstrate the knowledge of the components of computers and their respective roles in computing.	2
CO3	Ability to recognize and resolve user problems with standard operating environments.	4
CO4	Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.	3
CO5	Will be able to control access to File System Interface and Operations	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	-	-	2	3	3	2
CO3	3	3	3	3	2	1	-	1	1	-	2	3	3	2
CO4	3	3	3	2	2	1	-	1	1	-	2	3	3	2
CO5	3	3	3	3	3	2	2	2	2	2	3	3	3	3
Average	3	2.8	2.8	2.2	2	1.333	2	1.25	1.333	2	2	2.8	3	2



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DS404PC: DATABASE MANAGEMENT SYSTEMS

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Gain knowledge of fundamentals of DBMS, database design and normal forms.	2
CO2	Master the basics of SQL for retrieval and management of data.	3
CO3	Be acquainted with the basics of transaction processing and concurrency control.	2
CO4	Familiarity with database storage structures and access techniques.	2
CO5	Analyze and implement transaction processing concurrency control and database recovery protocols in database.	4

MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	1	1	-	-	-	-	-	1	2	2	1
CO2	3	3	3	2	2	-	-	1	1	-	2	3	2	2
CO3	3	3	3	2	2	1	-	1	1	1	2	3	3	2
CO4	3	3	3	3	2	1	1	2	1	1	2	3	3	3
CO5	3	3	3	3	3	2	2	2	2	2	3	3	3	3
Average	3	2.8	2.8	2.2	2	1.333	1.5	1.5	1.25	1.333	2	2.8	2.6	2.2



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DS405PC: SOFTWARE ENGINEERING

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Ability to translate end-user requirements into system and software requirements, using e.g., UML, and structure the requirements in a Software Requirements Document (SRD) .	3
CO2	Identify and apply appropriate software architectures and patterns to carry out high level design of a system and be able to critically compare alternative choices.	4
CO3	Will have experience and/or awareness of testing problems and will be able to develop a simple testing report.	3
CO4	Ability to recognize and understand the adopt the design models such as waterfall model, Spiral model.	2
CO5	Will able to understand the concepts such as quality management with Industrial Standards.	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



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DS405PC: OPERATING SYSTEMS LAB

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Simulate and implement operating system concepts such as scheduling, deadlock management.	3
CO2	Simulate the memory management techniques.	3
CO3	Able to implement C programs using Unix system calls.	3
CO4	Able to Implement the Producer – Consumer problem using semaphores using UNIX/LINUX system calls.	3
CO5	Ability to Simulate and Implement OS Concept for Page Replacement Policies Such as FCFS, LRU & Optimal.	3

MAPPING:

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



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DS407PC: DATABASE MANAGEMENT SYSTEMS LAB

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Design database schema for a given application and apply normalization.	4
CO2	Acquire skills in using SQL commands for data definition and data manipulation.	3
CO3	Develop solutions for database applications using procedures, cursors and triggers.	3
CO4	Develop query using various operators in different clauses	3
CO5	Implement data integrity constraints.	3

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	3	2	2
CO2	3	3	3	3	2	1	-	2	2	1	2	3	2	2
CO3	3	3	3	3	2	1	1	2	2	1	3	3	3	2
CO4	3	3	3	3	3	1	2	2	2	1	3	3	3	3
CO5	3	3	3	3	3	2	2	3	3	2	3	3	3	3
Average	3	2.8	2.8	2.8	2.2	1.25	1.667	2	2	1.2	2.6	3	2.6	2.4



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DS409PC: NODE JS/ REACT JS/ DJANGO

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Build a custom website with HTML, CSS, and Bootstrap and little JavaScript.	3
CO2	Demonstrate Advanced features of JavaScript and learn about JDBC	3
CO3	Develop Server – side implementation using Java technologies	3
CO4	Develop the server – side implementation using Node JS.	3
CO5	Design a Single Page Application using React.	4

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



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MC410: CONSTITUTION OF INDIA

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

CO. No.	COURSE OUTCOMES	BT Level
CO1	Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.	
CO2	Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.	
CO3	Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.	
CO4	Discuss the passage of the Hindu Code Bill of 1956.	

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	2	1	2	2	2	-	-	3
CO2	-	-	-	-	1	3	3	2	3	3	3	1	-	3
CO3	-	-	-	1	1	2	3	2	2	2	3	1	-	3
CO4	-	-	-	1	1	3	3	3	3	3	3	1	-	3
Average	1	1	1	1	1.25	2.6	2.8	2.2	2.6	2.6	2.8	1.25	-	3



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DS408PC: Real-time Research Project/ Societal Related Project

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

CO.No.	COURSE OUTCOMES	BT Level
CO1	Analyze real-world problems and societal challenges to identify appropriate computing solutions through systematic research and requirement analysis aligned with software development life cycle principles.	4
CO2	Design and develop innovative software systems or research solutions that address contemporary societal issues by applying appropriate algorithms, technologies, and methodologies.	6
CO3	Implement and validate real-time project solutions using current software development tools, platforms, and industry-standard practices while ensuring system functionality and reliability.	5
CO4	Evaluate the social, ethical, environmental, and economic impact of proposed computing solutions on society and demonstrate professional responsibility in project execution.	5
CO5	Document, present, and defend project outcomes through comprehensive technical reports, presentations, and demonstrations while exhibiting effective communication and teamwork skills.	5

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	3	-	-	2	1	2	2	2	2	3	2	2
CO2	3	3	3	2	2	2	2	2	2	2	2	3	3	2
CO3	3	3	3	3	3	1	2	3	2	3	2	3	3	2
CO4	2	2	2	2	2	3	3	2	2	2	2	2	2	3
CO5	2	2	2	1	1	2	2	3	3	2	2	3	2	3
Average	2.6	2.6	2.6	2	2	2	2	2.4	2.2	2.2	2	2.8	2.4	2.4