

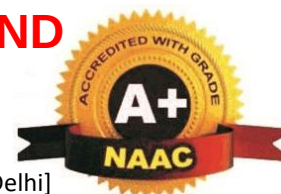


VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(An Autonomous Institution)

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



COMPUTER SCIENCE & ENGINEERING (DATA SCIENCE)

VR25 – II B.Tech II Semester : Course Outcomes & CO-PO/PSO Mapping

25CS401PC: DISCRETE MATHEMATICS

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25CS401PC.1	Understand and construct precise mathematical proofs	3
25CS401PC.2	Apply logic and set theory to formulate precise statements	3
25CS401PC.3	Analyze and solve counting problems on finite and discrete structures	4
25CS401PC.4	Describe and manipulate sequences	2
25CS401PC.5	Apply graph theory in solving computing problems	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25MA301BS.1	3	2	2	2	-	-	-	-	-	2	-	2	2	-
25MA301BS.2	3	3	2	2	-	-	-	-	-	2	-	3	2	-
25MA301BS.3	3	3	3	3	2	-	-	-	-	-	-	3	3	2
25MA301BS.4	3	2	2	2	-	-	-	-	-	2	-	2	2	-
25MA301BS.5	3	3	3	3	2	-	-	-	-	2	-	3	3	3
Average	3.0	2.6	2.4	2.4	0.8	0	0	0	0	1.6	0	2.6	2.4	1.0

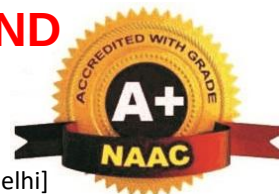


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25CS402PC: OPERATING SYSTEMS

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25CS402PC.1	Will be able to control access to a computer and the files that may be shared.	3
25CS402PC.2	Demonstrate the knowledge of the components of computers and their respective roles in computing	3
25CS402PC.3	Ability to recognize and resolve user problems with standard operating environments.	4
25CS402PC.4	Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.	2
25CS402PC.5	Analyze and apply operating system concepts such as process scheduling, synchronization, memory management, deadlocks, and file systems to evaluate and improve system performance and reliability.	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3	
25CS402PC.1	2	2	2	1	1			3	2	3		1	2	2	1
25CS402PC.2	3	3	3	2	2			2	3	2		2	3	3	2
25CS402PC.3	3	3	3	3	2			1	2	2		2	3	2	2
25CS402PC.4	2	3	3	2	2			2	2	1		2	3	3	2
25CS402PC.5	3	3	3	3	3			2	2	2		3	3	3	3
Average	2.6	2.8	2.8	2.2	2			2	2.2	2.0		2	2.8	2.6	2

25DS403PC: ALGORITHMS DESIGN AND ANALYSIS

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS403PC.1	Able to Apply space and time complexity analysis using asymptotic notations.	3
25CS403PC.2	Able to Design divide-and-conquer algorithms and critically assess their runtime and space trade-offs.	6
25CS403PC.3	Able to Device backtracking and dynamic programming solutions.	6
25CS403PC.4	Able to Apply greedy methods and graph traversal algorithms	3
25CS403PC.5	Able to Analyse and Design branch-and-bound algorithms for NP-hard problems	5

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25CS403PC.1	3	3	3	2								3	3	
25CS403PC.2	3	3	3	3								3	3	2
25CS403PC.3	3	3	3	3								3	3	2
25CS403PC.4	3	3	3	3								3	3	3
25CS403PC.5	3	3	3	3								3	3	3
Average	3	3	3	2.8								3	3	2.5

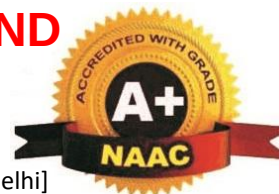


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25CS404PC: COMPUTER NETWORKS

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS404PC.1	Gain the knowledge of the basic computer network technology.	2
25CS404PC.2	Gain the knowledge of the functions of each layer in the ISO-OSI and TCP/IP reference model.	2
25CS404PC.3	Obtain the skills of subnetting and routing mechanisms.	3
25CS404PC.4	Familiarity with the essential protocols of computer networks, and how they can be applied in network design and implementation.	3
25CS404PC.5	Understanding working of the protocols through traces captured by a packet sniffer.	4

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS404PC.1	3	3	2	2	2				2			3	2	3
25CS404PC.2	3	3	2	2	3				2			2	1	3
25CS404PC.3	2	2	3	3	3				3			3	3	3
25CS404PC.4	3	3	3	3	3				3			3	3	3
25CS404PC.5	3	2	3	2	3				3			3	3	1
Average	2.8	2.6	2.6	2.4	2.8				2.6			2.8	2.4	2.6

25ML405PC: MACHINE LEARNING

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS405PC.1	Distinguish between, supervised, unsupervised and semi-supervised learning.	4
25CS405PC.2	Understand algorithms for building classifiers applied on datasets of non-linearly separable classes	2
25CS405PC.3	Design an ensemble model to increase the classification accuracy	6
25CS405PC.4	Understand the principles of RL evolutionary computing algorithms	4
25CS405PC.5	Apply appropriate machine learning algorithms, feature engineering techniques, and evaluation metrics to build, compare, and interpret predictive models for real-world datasets.	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS405PC.1	2	3	2	3	2								2	2
25CS405PC.2	3	2	3	2	3								3	2
25CS405PC.3	3	2	3	1	3								3	3
25CS405PC.4	3	3	3	3	3								3	3
25CS405PC.5	3	3	3	3	3								3	3
Average	2.8	2.6	2.8	2.4	2.8								2.8	2.6

25MS404PC: INNOVATION AND ENTREPRENEURSHIP

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS404PC.1	Distinguish between, supervised, unsupervised and semi-supervised learning.	4
25CS404PC.2	Understand algorithms for building classifiers applied on datasets of non-linearly separable classes	2
25CS404PC.3	Design an ensemble model to increase the classification accuracy	6
25CS404PC.4	Understand the principles of RL evolutionary computing algorithms	4
25CS404PC.5	Apply appropriate machine learning algorithms, feature engineering techniques, and evaluation metrics to build, compare, and interpret predictive models for real-world datasets.	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS404PC.1	2	3	2	3	2								2	2
25CS404PC.2	3	2	3	2	3								3	2
25CS404PC.3	3	2	3	1	3								3	3
25CS404PC.4	3	3	3	3	3								3	3
25CS404PC.5	3	3	3	3	3								3	3
Average	2.8	2.6	2.8	2.4	2.8								2.8	2.6

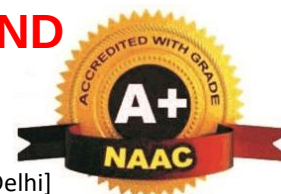


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LABORATORIES

25CS407PC: OPERATING SYSTEMS LAB

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS407PC.1	Simulate and implement operating system concepts such as scheduling, deadlock management, file management and memory management.	1
25CS407PC.2	Able to implement C programs using Unix system calls.	2
25CS407PC.3	Apply inter-process communication and synchronization mechanisms such as semaphores, pipes, message queues, and shared memory in Unix/Linux environments.	3
25CS407PC.4	Analyze and compare operating system algorithms for CPU scheduling, memory management, and page replacement based on performance metrics.	4
25CS407PC.5	Demonstrate teamwork, debugging, and documentation skills in lab assignments	2

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS407PC.1	3	2	2						2			2	2	2
25CS407PC.2	3	3	3						2			3	3	2
25CS407PC.3	3	3	3						2			3	3	3
25CS407PC.4	3	3	3						2			3	3	2
25CS407PC.5	3	3	3						2			3	3	3
Average	3	2.8	2.8						2			2.8	2.8	2.4

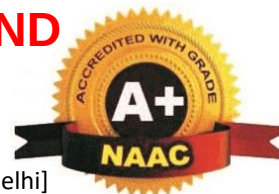


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25CS408PC: COMPUTER NETWORKS LAB

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS408PC.1	Implement data link layer framing methods	3
25CS408PC.2	Analyze error detection and error correction codes.	4
25CS408PC.3	Implement and analyze routing and congestion issues in network design.	2
25CS408PC.4	Implement Encoding and Decoding techniques used in presentation layer	3
25CS408PC.5	To be able to work with different network tool	5

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS408PC.1	3			3					2			2	3	2
25CS408PC.2	2	2		3	2				3			3	3	2
25CS408PC.3	3	2	2	2	2							2	2	2
25CS408PC.4	3	3	3	2	3				3			2	2	2
25CS408PC.5	2	3	2	3	3				3				2	3
Average	2.6	2.5	2.33	2.6	2.5				2.75			2.25	2.4	2.2

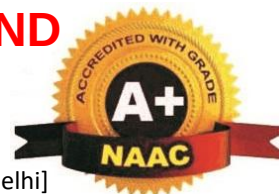


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25ML409PC: MACHINE LEARNING LAB

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS409PC.1	Understand modern notions in predictive data analysis.	2
25CS409PC.2	Select data, model selection, model complexity and identify the trends.	3
25CS409PC.3	Understand a range of machine learning algorithms along with their strengths and weaknesses.	2
25CS409PC.4	Build predictive models from data and analyze their performance.	6
25CS409PC.5	Implement and evaluate machine learning models using Python libraries to solve real-world data analysis problems and interpret the results.	4

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS409PC.1	3	3	3		2				2	2	2	2	2	2
25CS409PC.2	3	3	3		2				2	2	2	2	3	2
25CS409PC.3	3	3	3		3				3	3	2	3	3	2
25CS409PC.4	3	3	3		3				3	3	3	3	3	2
25CS409PC.5	2	2	2		2				3	3	3	2	2	3
Average	2.8	2.8	2.8		2.4				2.6	2.6	2.4	2.4	2.6	2.2

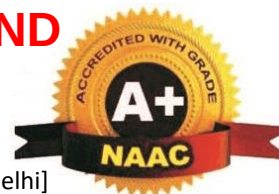


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25DS410SD: DATA VISUALIZATION - R PROGRAMMING/ POWER BI

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25DS410SD.1	Understand How to import data into Tableau.	1
25DS410SD.2	Understand Tableau concepts of Dimensions and Measures.	2
25DS410SD.3	Develop Programs and understand how to map Visual Layouts and Graphical Properties.	3
25DS410SD.4	Create a Dashboard that links multiple visualizations.	5
25DS410SD.5	Use graphical user interfaces to create Frames for providing solutions to real world problems.	4

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS409PC.1	3	3	2	2	2	2		3		2	2	3	3	2
25CS409PC.2	3	3	3	3	2	2		2		3	2	3	3	2
25CS409PC.3	3	3	3	3	2	2		2		3	3	3	3	2
25CS409PC.4	3	3	3	3	3	2		2		2	3	3	3	2
25CS409PC.5	3	3	3	3	3	3		3		2	3	3	3	3
Average	3	3	2.8	2.8	2.4	2.2		2.4		2.4	2.6	3	3	2.2

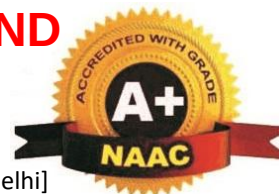


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25MS411BS: INDIAN KNOWLEDGE SYSTEM

COURSE OUTCOME:

CO.No.	COURSE OUTCOMES	BT Level
25MS411BS.1	To provide a tribute of the rich culture and traditions of Indian knowledge system to students of various disciplines.	3
25MS411BS.2	To introduce historical account on the education and scientific literature available in ancient Indian traditions and its connections with ancient Indian Philosophy	3
25MS411BS.3	To give insights about the applications of Bharatiya Jnana Parampara	2
25MS411BS.4	To introduce Indian approach towards health and wellbeing	3
25MS411BS.5	To elaborate vast contribution of ancient Indian researchers, engineers, scientists and architects to the modern world	3

MAPPING:

CO.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
25DS409PC.1	2	-	-	-	-	2	3	3	-	2	-	2	-	-
25CS409PC.2	2	-	-	2	-	3	3	2	-	2	-	2	-	-
25CS409PC.3	2	2	-	-	-	2	3	2	-	2	-	3	2	-
25CS409PC.4	2	-	-	-	-	3	3	3	-	2	-	2	-	-
25CS409PC.5	3	2	-	2	-	3	3	3	-	2	-	3	2	2
Average	2.2	0.8	0	0.8	0	2.6	3.0	2.6	0	2.0	0	2.4	0.8	0.4