



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

[Sponsored by Lavu Educational Society]

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad.)

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301 Phone: +91 96529 10002/3



IV B.Tech I semester

SUBJECT: Neural Networks & Deep Learning

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C401.1	Understand the fundamentals of neural networks and deep learning	3
C401.2	Apply feedforward networks, backpropagation, and optimization techniques	3
C401.3	Implement convolutional and recurrent neural networks for real-world tasks	4
C401.4	Analyze deep learning frameworks and performance metrics	4
C401.5	Demonstrate teamwork, documentation, and ethical responsibility in AI projects	6

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C401.1	2	3	2	2	3					2		2	3	2	3
C401.2	3	3	3	3	2					3		3	3	2	2
C401.3	3	2	3	2	3					2		2	3	3	3
C401.4	2	3	3	3	3					3		2	3	3	3
C401.5	3	3	2	2	3					2		3	2	3	3
Average	2.6	2.8	2.6	2.4	2.8					2.4	C402	2.4	2.8	2.6	2.8



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SUBJECT: Reinforcement Learning

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C402.1	Understand basics of RL, Grasp the basics of reinforcement learning and the framework used to create agents that can solve complex problems.	3
C402.2	Understand the RL framework and the role of Markov Decision Processes (MDPs).	3
C402.3	Analyze learning through the use of Dynamic Programming and Monte Carlo	4
C402.4	Apply Temporal Difference learning, Understand TD(0) algorithm, TD(λ) algorithm	4
C402.5	Comprehend how an agent learns and generalizes from examples, and understand its relationship to dynamic programming.	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	2	3	2	2	3					2		2	3	2	
C402.2	3	3	3	3	2					2		3	3	2	
C402.3	3	2	3	3	3					2		2	3	3	
C402.4	2	3	3	3	3					3		2	3	3	
C402.5	3	3	2	2	2					2		3	2	3	
Average	2.6	2.8	2.6	2.6	2.6					2.2		2.4	2.8	2.6	



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SUBJECT: Quantum Computing (PE-IV)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C403.1	Understand basics of quantum computing	3
C403.2	Understand physical implementation of Qubit	3
C403.3	Understand Quantum algorithms and their implementation	3
C403.4	Understand Impact of Quantum Computing on Cryptography	3
C403.5	Comprehend how an agent learns and generalizes from examples, and understand its relationship to dynamic programming.	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	3		2	2					2		3	3	2	
C403.2	3	3		3	2					2		3	3	2	
C403.3	2	3		3	3					2		2	2	3	
C403.4	2	3		3	3					2		3	3	3	
C403.5	3	2		2	2					2			3	3	
Average	2.6	2.8		2.6	2.4					2		2.7	2.8	2.6	



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SUBJECT: Expert Systems (PE-IV)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C403.1	Apply basic techniques of artificial intelligence	3
C403.2	Discuss architecture of expert system and its tools	2
C403.3	Understand importance of building expert systems	3
C403.4	Understand various problems with expert systems	3
C403.5	Explore intelligent expert systems through structured lifecycle. Analyze intelligent expert systems using fuzzy logic and hybrid models	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	2	3	2	2						3		2	3	2
C403.2	3	3	3	2	3								3	3	2
C403.3	3	3	3	2	3						2		3	2	3
C403.4	3	3	3	2	3								2	3	2
C403.5	3	3	2	3	3								3	3	2
Average	3	2.8	2.8	2.2	2.8						2.5		2.6	2.8	2.2



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SUBJECT: CS714PE: CLOUD COMPUTING

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C314.1	Understand cloud computing fundamentals, architecture, and service models	3
C314.2	Analyze virtualization technologies and cloud infrastructure	4
C314.3	Apply cloud programming models and APIs	3
C314.4	Evaluate cloud resource management and scheduling techniques	5
C314.5	Demonstrate teamwork, documentation, and ethical responsibility in cloud-based projects	6

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C314.1	3	2			2								2	3	2
C314.2	3	3	3	2	3								3	3	2
C314.3	3	3	3	2	3								3	2	3
C314.4	3	3	3	2	3								2	3	2
C314.5	3	3	3	2	3								3	3	2
Average	3	2.8	3	2	2.8								2.6	2.8	2.2



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SUBJECT: CS711PE: GRAPH THEORY (PE-IV)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C403.1	Understand basic concepts of graphs, types, and representations	
C403.2	Apply graph traversal techniques like BFS and DFS	
C403.3	Analyze connectivity, shortest paths, and spanning trees	
C403.4	Solve problems using graph coloring, matching, and planarity	
C403.5	Demonstrate mathematical reasoning and teamwork in graph-based problem solving	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	3	2	2						2		2	3	3	
C403.2	3	3	2	2						2		2	3	3	
C403.3	3	3	3	2						2		3	3	2	2
C403.4	3	3	3	3						2		2	3	2	2
C403.5	2	2	2	3						3		2	2	2	3
Average	2.8	2.8	2.4	2.4						2.2		2.2	2.8	2.4	2.3



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SUBJECT: Mobile Computing (PE-IV)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C403.1	Understand mobile computing paradigm and limitations	
C403.2	Analyze and develop new mobile applications	
C403.3	Understand protocols and platforms for mobile environment	
C403.4	Classify data delivery mechanisms	
C403.5	Demonstrate teamwork, documentation, and research skills in Mobile computing based projects	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	3	2	2	2	2			1	2		2	2	2	2
C403.2	3	3	3	3	3	2			2	2		2	2	3	2
C403.3	3	3	3	2	3	3			2	2		3	2	3	2
C403.4	3	3	3	3	3	2			2	2		2	2	3	1
C403.5	2	2							3	3		2	2	2	3
Average	2.8	2.8	2.7 5	2.5	2.7 5	2.2 5			2	2.2		2.2	2	2.6	2



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SUBJECT: Social Network Analysis (PE-V)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C404.1	Construct social network maps easily	
C404.2	Track content flow through social media	
C404.3	Use NodeXL to perform social network analysis	
C404.4	Analyze community structures and influential nodes in social networks using centrality measures and clustering algorithms	
C404.5	Evaluate social network dynamics, predict trends, and assess the impact of information diffusion in real-world networks	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	3	2	2			2			2		3	3	2	2
C404.2	3	3	3	3						2		3	3	2	2
C404.3	2	2	3	3						2		3	3	3	1
C404.4	2	3	3	3			3			2		3	3	3	2
C404.5	3	3	3	3						3		2	2	2	3
Average	2.6	2.8	2.8	2.8	### #	### #	2.5	### #	### #	2.2	### ##	2.8	2.8	2.4	2



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SUBJECT: Federated Machine Learning (PE-V)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C404.1	Knowledge of basic concepts, architecture of FL	
C404.2	Understanding of new research and application trends in FL	
C404.3	Analyze horizontal federated learning	
C404.4	Understand significance of FL for Vision, Language, Recommendation	
C404.5	Demonstrate the federated machine learning applications with implementation	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	3	2	2						2		3	3	2	2
C404.2	3	3	3	3						2		3	3	2	2
C404.3	2	2	3	3						2		3	3	3	1
C404.4	2	3	3	3						2		3	3	3	2
C404.5	3	3	3	3						3		2	2	2	3
Average	2.6	2.8	2.8	2.8	### #	### #	### #	### #	### #	2.2	### ##	2.8	2.8	2.4	2



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SUBJECT: Augmented Reality and Virtual Reality (PE-V)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C404.1	Describe how AR systems work and list applications	
C404.2	Understand and analyze hardware requirement of AR	
C404.3	Describe how VR systems work and list applications	
C404.4	Understand design and implementation of VR hardware	
C404.5	Demonstrate the Practical implementation of Augmented virtual reality applications.	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	2	2	2					3				2	3	2	3
C404.2	3	3	2					2				2		3	2
C404.3	3	3	3					3				3	3	3	2
C404.4	3	3	3					2				2	2		3
C404.5	3	3	3										3	3	3
Average	2.8	2.8	2.6	### #	### #	### #	### #	2.5	### #	### ##	### ##	2.2 5	2.7 5	2.7 5	2.6



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SUBJECT: Web Security (PE-V)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C404.1	Understand Web architecture and applications	
C404.2	Understand client side and service side programming	
C404.3	Bypass common mistakes and exploit the application	
C404.4	Identify common application vulnerabilities	
C404.5	Evaluate and implement security mechanisms, penetration testing strategies, and remediation techniques to protect web applications	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	2	2				3		3					3	2	3
C404.2	3	3	2			3		2						3	2
C404.3	3	3	3			2		3					3	3	2
C404.4	3	3	3			2		2					2		3
C404.5	3	3	3			2							3	3	3
Average	2.8	2.8	2.7 5	### #	### #	2.4	### #	2.5	### #	### ##	### ##	### ##	2.7 5	2.7 5	2.6



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SUBJECT: AD-HOC & SENSOR NETWORKS (V)

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C404.1	Understand the characteristics, challenges, and applications of MANETs and WSNs	3
C404.2	Analyze routing protocols for ad hoc networks including proactive, reactive, and hybrid models	4
C404.3	Evaluate MAC and transport layer protocols for sensor networks	4
C404.4	Apply security mechanisms and energy-efficient strategies in WSNs	3
C404.5	Demonstrate teamwork, documentation, and research skills in ASN-based projects	6

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	2				3	3	3				2	2	3	
C404.2	3	3	2	2									3	3	
C404.3	3	3	2	2									3	3	
C404.4	3	3	2	2									3	3	
C404.5									3	3			2	2	3
Average	3	2.7	2	2		3	3	3	3	3		2	2.6	2.8	3



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SUBJECT: Neural Networks & Deep Learning LAB

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C406.1	Implement basic neural networks and understand fundamentals	4
C406.2	Build feedforward networks with backpropagation and optimization	5
C406.3	Develop CNN and RNN models for real-world tasks	5
C406.4	Implement frameworks and evaluate model performance	4
C406.5	Design and deploy AI projects with teamwork and responsibility	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C406.1	3	2	2	2	3								2	3	2
C406.2	3	3	3	3	2								3	2	3
C406.3	3	3	3	3	2									3	2
C406.4	3	3	3	3	3								3		3
C406.5	3	3	3	3	3								3	2	3
Average	3	2.8	2.8	2.8	2.6								2.7 5	2.5	2.6



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SUBJECT: CS704PC Industrial Oriented Mini Project/ Summer Internship

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C407.1	Apply theoretical knowledge to solve real-world problems in an industrial environment	3
C407.2	Demonstrate technical skills and use of modern tools in a professional setting	5
C407.3	Exhibit professional ethics, teamwork, and communication in an industrial environment	4
C407.4	Document project outcomes and present findings effectively	4
C407.5	Analyze and reflect on the internship experience to identify areas of personal and professional growth	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C407.1	2	2	2	2		3	2	3	3	3	3	3	3	3	3
C407.2	3	3	3	2		2		2	3	2		2	3	2	2
C407.3	3	3	3	2	3	2	2		3	2	3	2	3		2
C407.4	3	3	3	3	3	2		2	2	3	3		3	3	3
C407.5	2	2	2		2	3	2	3	3		3	3	2	3	3
Average	2.6	2.6	2.6	2.2 5	2.6 7	2.4	2	2.5	2.8	2.5	3	2.5	2.8	2.7 5	2.6



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SUBJECT: CS705PC:Seminar

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C408.1	Identify and explore emerging technologies or research topics in computer science	
C408.2	Analyze technical literature and synthesize key findings for presentation	
C408.3	Prepare seminar content using appropriate tools and visual aids	
C408.4	Deliver effective oral presentations and respond to audience queries	
C408.5	Demonstrate professionalism, ethics, and teamwork during seminar activities	

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C408.1	3	3	2			2		2	2	2			3	2	2
C408.2	3	3	2			2		2	2	2			2	2	2
C408.3	2	2	2			2		3	2	3			2	2	2
C408.4	2	2	2			2		2	2	3			2	2	
C408.5	2	3	2			2		2	2	3			2	2	3
Average	2.4	2.6	2			2		2.2	2	2.6			2.2	2	2.2



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SUBJECT: CS706PC:Project Stage - I

After going through this course, the student will be able to

S.No.	COURSE OUTCOMES	BT Level
C409.1	Identify and define a real-world problem suitable for project development	3
C409.2	Conduct literature survey and feasibility analysis to support project planning	4
C409.3	Design system architecture and select appropriate tools and technologies	5
C409.4	Work effectively in teams and demonstrate professional ethics and responsibility	5
C409.5	Document project objectives, methodology, and expected outcomes clearly and professionally	4

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C409.1	3	3	2	3	2			2		2	2	3	3	2	
C409.2	3	3	3	3	2			2		2	3	2	3	3	
C409.3	3	3	3	2	3			2		2	3	2		3	
C409.4	3	3	3	2	3			2			3	2	3		
C409.5	2	2	2	2	2			2	3	3	3	2	3	2	
Average	2.8	2.8	2.6	2.4	2.4			2	3	2.2	2.8	2.2	3	2.5	