

III B. Tech I Semester

SUBJECT: CS603PC: DESIGN AND ANALYSIS OF ALGORITHMS

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

S.No.	COURSE OUTCOMES	BT Level
C301.1	Analyze the time and space complexity of algorithms	4
C301.2	Apply divide-and-conquer and greedy strategies to solve problems	3
C301.3	Design dynamic programming and backtracking algorithms	5
C301.4	Evaluate NP-completeness and approximation algorithms	6
C301.5	Demonstrate teamwork and documentation in algorithmic problem solving	3

[illegible]

SUBJECT: CS601PC: MACHINE LEARNING

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

S.No.	COURSE OUTCOMES	BT Level
C302.1	Understand the foundations of machine learning and well-posed learning problems	2
C302.2	Apply decision tree learning and concept learning algorithms	3
C302.3	Implement neural networks and backpropagation techniques	4
C302.4	Analyze Bayesian learning and instance-based learning methods	3
C302.5	Demonstrate teamwork, documentation, and communication in ML-based projects	3

[illegible]



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SUBJECT: CS503PC: COMPUTER NETWORKS

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

S.No.	COURSE OUTCOMES	BT Level
C303.1	Understand the basic concepts of computer networks and reference models	2
C303.2	Analyze data link layer protocols and error detection techniques	4
C303.3	Evaluate medium access control and LAN technologies	5
C303.4	Understand network layer protocols and routing algorithms	2
C303.5	Explore transport and application layer protocols and services	2

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C303.1	3	3	2	2	2				2			3	2	3	
C303.2	3	3	2	2	3				2			2	1	3	
C303.3	2	2	3	3	3				3			3	3	3	
C303.4	3	3	3	3	3				3			3	3	3	
C303.5	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	

SUBJECT: CS602PC: COMPILER DESIGN

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

S.No.	COURSE OUTCOMES	BT Level
C304.1	Understand the structure and phases of a compiler	2
C304.2	Apply lexical analysis techniques using finite automata and regular expressions	3
C304.3	Implement syntax analysis using top-down and bottom-up parsing methods	3
C304.4	Analyze syntax-directed translation and intermediate code generation	4
C304.5	Evaluate code optimization and target code generation strategies	5

[illegible]



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SUBJECT: CS711PE: GRAPH THEORY (PE-I)

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

S.No.	COURSE OUTCOMES	BT Level
C305.1	Understand basic concepts of graphs, types, and representations	2
C305.2	Apply graph traversal techniques like BFS and DFS	3
C305.3	Analyze connectivity, shortest paths, and spanning trees	4
C305.4	Solve problems using graph coloring, matching, and planarity	3
C305.5	Demonstrate mathematical reasoning and teamwork in graph-based problem solving	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	2	2	2						2		3	3		
C305.2	2	2	2	2						2		2	3		
C305.3	3	3	3	2						2		2	3		
C305.4	3	3	3	3						2		2	3		2
C305.5										3		2	2		3
Average	2.7	2.5	2.5	2.3						2.2		2.2	2.8		2.5



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SUBJECT: Introduction to Data Science (PE-I)

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

S.No.	COURSE OUTCOMES	BT Level
C305.1	Understand basic terms of Statistical Inference	2
C305.2	Identify probability distributions for statistical modeling	3
C305.3	Describe data using various statistical measures	2
C305.4	Utilize R elements for data handling	3
C305.5	Perform data reduction and apply visualization techniques	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	2	2	2	2							2	3	2	
C305.2	3	2	2	3	2							3	3	2	
C305.3	3	3	2	3	2							2	2	2	
C305.4	2	3	3	3	3							2	3	3	
C305.5	2	3	3	3	3							2	3	3	
Average	2.6	2.6	2.4	2.8	2.4							2.2	2.8	2.4	

SUBJECT: Web Programming (PE-I)

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

S.No.	COURSE OUTCOMES	BT Level
C305.1	Design web pages	6
C305.2	Use technologies of Web Programming	3
C305.3	Apply object-oriented aspects to Scripting	3
C305.4	Create databases with connectivity using JDBC	6
C305.5	Build web-based applications using sockets	6

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SUBJECT: Image Processing (PE-I)

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

S.No.	COURSE OUTCOMES	BT Level
C305.1	Understand digital image fundamentals and transformations	2
C305.2	Apply image enhancement techniques in spatial and frequency domains	3
C305.3	Implement image restoration models and filtering methods	3
C305.4	Analyze image segmentation techniques and morphological operations	4
C305.5	Explore image compression and representation for multimedia systems	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	2	2	2	2				2	2		2	3	2	
C305.2	3	2	2	3	3				2	3		3	3	3	
C305.3	2	2	3	3	3					2		3	3	3	
C305.4	3	3	3	3	3				3	2		2	3	3	
C305.5	3	3	3	3	3				2	2		2	2	3	
Average	2.8	2.4	2.6	2.8	2.8				2.3	2.2		2.4	2.8	2.8	



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SUBJECT: CS503PC: COMPUTER NETWORKS

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

S.No.	COURSE OUTCOMES	BT Level
C305.1	Understand the basics of computer graphics and graphics systems	2
C305.2	Apply geometric transformations and viewing in 2D and 3D	3
C305.3	Implement algorithms for clipping, filling, and rendering	3
C305.4	Explore illumination models and surface rendering techniques	2
C305.5	Develop interactive graphics applications using OpenGL or similar tools	6

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	3	2	2	2					2		2	3	2	
C305.2	3	3	3	3	3					2		2	2	3	
C305.3	3	3	3	3	3					2		3	2	3	
C305.4	3	3	2	2						2			3	3	
C305.5	3	3	2	2						3			3	3	
Average	3	3	2.4	2.4	2.7					2.2		2.3 3	2.6	2.8	



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SUBJECT: CS615PE: SOFTWARE TESTING METHODOLOGIES (PE-2)

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

S.No.	COURSE OUTCOMES	BT Level
C306.1	Understand the principles and objectives of software testing	2
C306.2	Apply path testing, transaction flow testing, and data flow testing techniques	3
C306.3	Design test cases using domain testing and logic-based testing strategies	6
C306.4	Evaluate software quality using metrics and test management tools	5
C306.5	Demonstrate teamwork, documentation, and communication in testing projects	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	3	3		2				2	2	2	2		2	2
C306.2	3	3	3		2				2	2	2	2		3	2
C306.3	3	3	3		3				3	3	2	3		3	2
C306.4	3	3	3		3				3	3	3	3		3	2
C306.5	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

SUBJECT: CS523PE: INFORMATION RETRIEVAL SYSTEMS (PE-2)

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

S.No.	COURSE OUTCOMES	BT Level
C306.1	Understand the fundamentals of information retrieval systems and their architecture	2
C306.2	Apply indexing, cataloging, and data structures for efficient retrieval	3
C306.3	Analyze retrieval models, relevance feedback, and evaluation techniques	4
C306.4	Explore web search engines, digital libraries, and multimedia retrieval	2
C306.5	Demonstrate teamwork, documentation, and communication in IR system development	3

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SUBJECT: Pattern Recognition (PE-II)

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

S.No.	COURSE OUTCOMES	BT Level
C306.1	Understand theory and applications of machine learning algorithms	2
C306.2	Employ suitable ML techniques in classification and clustering problems	3
C306.3	Apply feature extraction and selection techniques to represent and reduce dimensionality of pattern data	3
C306.4	Design and implement classification algorithms for pattern recognition applications	6
C306.5	Evaluate pattern recognition systems using appropriate performance metrics and validation techniques	5

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	3	2	2						2		2	3	2	2
C306.2	3	3	3	3						2		2	3	3	3
C306.3	3	3	3	2								2			2
C306.4	3	2	3	3						3	2	2	3	3	2
C306.5	2	3	2	3							3	3	2		2
Average	2.8	2.8	2.6	2.6						2.3 3	2.5	2.2	2.7 5	2.6 7	2.2



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SUBJECT: Computer Vision and Robotics (PE-II)

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

S.No.	COURSE OUTCOMES	BT Level
C306.1	Implement fundamental image processing techniques	3
C306.2	Implement boundary tracking techniques	3
C306.3	Apply chain codes and region descriptors, Hough Transform	3
C306.4	Apply 3D vision techniques and motion related techniques	3
C306.5	Develop applications using computer vision techniques	6

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	3	3	3	3				3	3		2	3	3	
C306.2	2	3	2	3	3				2	3		2	2	3	
C306.3	2	2	2	3	2				3	2		2	3	3	
C306.4	3	3	3	2	3				2	3		3	3	3	
C306.5	3	3	3	3	3				2	2		2	3	3	
Average	2.6	2.8	2.6	2.8	2.8				2.4	2.6		2.2	2.8	3	



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SUBJECT: Data Warehousing and Business Intelligence (PE-II)

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

S.No.	COURSE OUTCOMES	BT Level
C306.1	Understand architecture of data warehouse and OLAP operations	2
C306.2	Understand fundamental concepts of BI and Analytics	2
C306.3	Application of BI Key Performance indicators	6
C306.4	Design Dashboards, Implementation of Web Analytics	3
C306.5	Understand Advanced BI Tools and their Implementation	2

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	2	2	2	3				2	2			3	3	
C306.2	3	3	3	3	3				2	2	2		3	3	
C306.3	3	3	3	3	3				3	2	2		3	3	
C306.4	3	3	3	3	3				3	3	3		3	3	
C306.5	2	2	2	2	2				3	3	3		2	2	
Average	2.8	2.6	2.6	2.6	2.8				2.6	2.4	2.5		2.8	2.8	



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SUBJECT: CS604PC: MACHINE LEARNING LAB

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

S.No.	COURSE OUTCOMES	BT Level
C307.1	Understand the complexity and limitations of machine learning algorithms	2
C307.2	Apply modern data analysis techniques using Python	3
C307.3	Implement supervised and unsupervised learning algorithms	3
C307.4	Perform experiments using real-world datasets and evaluate model performance	5
C307.5	Demonstrate teamwork, documentation, and communication in ML projects	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C307.1	3	2	2	2								2	3	3	2
C307.2	3	3	3	3								2	3	3	2
C307.3	3	3	3	3								3	3	3	3
C307.4	3	3	3	3								3	3	3	2
C307.5	2	2	2	2								2	2	2	3
Average	2.8	2.6	2.6	2.6								2.4	2.8	2.8	2.4



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SUBJECT: CS506PC: COMPUTER NETWORKS LAB

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

S.No.	COURSE OUTCOMES	BT Level
C308.1	Implement and analyze basic networking protocols using simulation tools	4
C308.2	Configure and troubleshoot network services and socket programming	3
C308.3	Design and develop static and dynamic web pages using HTML, CSS, and JavaScript	6
C308.4	Build server-side applications using PHP and database connectivity	6
C308.5	Demonstrate teamwork, documentation, and debugging skills in lab-based projects	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C308.1	3			3					2				2	3	2
C308.2	2	2		3	2				3				3	3	2
C308.3	3	2	2	2	2								2	2	2
C308.4	3	3	3	2	3				3				2	2	2
C308.5	2	3	2	3	3				3					2	3
Average	2.6	2.5	2.3	2.6	2.5				2.8				2.2	2.4	2.2



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SUBJECT: EN508HS: ADVANCED COMMUNICATION SKILLS LAB

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

S.No.	COURSE OUTCOMES	BT Level
C309.1	Improve fluency and accuracy in spoken English	4
C309.2	Develop effective listening and comprehension skills	6
C309.3	Enhance presentation and public speaking abilities	6
C309.4	Practice group discussions and interviews for professional settings	5
C309.5	Demonstrate interpersonal communication and teamwork in simulated environments	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C309.1								3	3	2		3		3	1
C309.2								3	3	3		2	1	2	1
C309.3								3	3	3		3	2	3	3
C309.4								2	3	3		3	1	3	1
C309.5								2	3	3		3	3	3	3
Average								2.6	3	2.8		2.8	1.7	2.8	1.8



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SUBJECT: *MC510: INTELLECTUAL PROPERTY RIGHTS

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

S.No.	COURSE OUTCOMES	BT Level
C310.1	Understanding the importance of intellectual property rights in innovation and research	2
C310.2	Identify different types of intellectual property and their legal frameworks	3
C310.3	Analyze the process of patent filing, copyright registration, and trademark protection	4
C310.4	Evaluate the role of IPR in business strategy, entrepreneurship, and technology transfer	5
C310.5	Demonstrate ethical awareness and responsibility in handling intellectual property	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C310.1						3	3	3				2			
C310.2						3	3	3				2			
C310.3						3	3	3				2			
C310.4						3	3	3				2			
C310.5									3	3					
Average						3	3	3	3	3		2			



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SUBJECT: C316: Disaster Preparedness And Planning Management

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

S.No.	COURSE OUTCOMES	BT Level
C320.1	Understand environmental hazards, disasters, and stress factors	2
C320.2	Analyze types of natural and man-made disasters	3
C320.3	Apply ecological approaches to disaster management	3
C320.4	Evaluate disaster preparedness and mitigation strategies	6
C320.5	Demonstrate ethical responsibility and teamwork in disaster response planning	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C320.1	2						2	2	2		2				2
C320.2	2					2		2	2		2				2
C320.3									2		2				2
C320.4									3		2				2
C320.5	3						2		3		2				2
Average	2.3					2	2	2	2.4		2				2