



Department of Information Technology

II B. Tech II Semester

SUBJECT: DISCRETE MATHEMATICS (C211)

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

S. No.	COURSE OUTCOMES	BT Level
C211.1	Understand the foundations of mathematical logic and set theory	2-Understand
C211.2	Apply relations and functions to model computational problems	3-Apply
C211.3	Use combinatorics and recurrence relations for algorithm analysis	3-Apply
C211.4	Analyze graphs and trees for data organization and network modeling	4-Analyze
C211.5	Apply algebraic structures in designing and understanding computational systems	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C211.1	3	3	2	2				2	-			2	2		3
C211.2	3	3	3	2				2	-			3	3		3
C211.3	3	3	3	3				2	3			2	3		2
C211.4	3	3	3	3				2	2			3	3		2
C211.5	3	3	3	3				2	2			2	3		2
Average	3	3	2.8	2.6				2	2.3			2.4	2.8		2.4



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II B. Tech II Semester

SUBJECT: Data Communication & Computer Networks (C212)

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

S. No.	COURSE OUTCOMES	BT Level
C212.1	Understand the basic concepts of computer networks and reference models	2-Understand
C212.2	Analyze data link layer protocols and error detection techniques	4-Analyze
C212.3	Evaluate medium access control and LAN technologies	5-Evaluate
C212.4	Understand network layer protocols and routing algorithms	2-Understand
C212.5	Explore transport and application layer protocols and services	2-Understand

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C212.1	3	3	2	2	2				2			3	2	3	
C212.2	3	3	2	2	3				2			2	1	3	
C212.3	2	2	3	3	3				3			3	3	3	
C212.4	3	3	3	3	3				3			3	3	3	
C212.5	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	



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II B. Tech II Semester

SUBJECT: DATABASE MANAGEMENT SYSTEMS (C203)

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

S. No.	COURSE OUTCOMES	BT Level
C213.1	Understand database concepts, architecture, and data models	2-Understand
C213.2	Design ER models and convert them into relational schemas	6-Create
C213.3	Apply relational algebra and SQL for data manipulation and retrieval	3-Apply
C213.4	Understand normalization techniques and apply them to optimize database design	3-Apply
C213.5	Analyze transaction management, concurrency control, and recovery techniques	4-Analyze

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C213.1	3	2	2											2	1
C213.2	3	3	3	2	2									2	2
C213.3	2	3	3	2	2									3	2
C213.4	3	3	3	3	2									3	3
C213.5	3	3	3		3									3	3
Average	2.8	2.8	2.8	2.3	2.25									2.6	2.2



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SUBJECT: FORMAL LANGUAGES AND AUTOMATA THEORY (C214)

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

S. No.	COURSE OUTCOMES	BT Level
C214.1	Understand basic concepts of formal languages, grammars, and automata	2-Understand
C214.2	Design finite automata and regular expressions for pattern recognition	6-Create
C214.3	Construct context-free grammars and pushdown automata for language processing	6-Create
C214.4	Analyze Turing machines and decidability issues in computation	4-Analyze
C214.5	Apply theoretical foundations to solve problems in compiler design and software engineering	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	3	3	2										3		
C214.2	3	3	3										3		
C214.3	3	2	3										3		
C214.4	3	3	2										2		
C214.5	2	3	3										3		
Average	2.8	2.8	2.6										2.8		



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SUBJECT: Web Programming (C215)

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

S. No.	COURSE OUTCOMES	BT Level
C215.1	Understand the fundamentals of web technologies including HTML, CSS, and XML	2-Understand
C215.2	Develop dynamic web pages using JavaScript and client-side scripting	6-Create
C215.3	Build server-side applications using PHP and database connectivity	6-Create
C215.4	Apply session management, cookies, and file handling in web applications	3-Apply
C215.5	Demonstrate debugging, teamwork, and documentation skills in web development projects	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C215.1	3	3	2	2	2								3	3	
C215.2	3	2	3	2	3								3	2	
C215.3	3	3	3	2	3								2	3	
C215.4	2	3	3	3	3								3	2	
C215.5	3	3	3	3	3								3	3	
Average	2.8	2.8	2.8	2.4	2.8								2.8	2.6	



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II B. Tech II Semester

SUBJECT: C216: Innovation and Entrepreneurship

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

S. No.	COURSE OUTCOMES	BT Level
C216.1	Understand the entrepreneurship and the entrepreneurial process and its significance in economic development.	2-Understand
C216.2	Assess the problem from an industry perspective and generate solutions using the design thinking principles.	5-Evaluate
C216.3	Assess market competition, estimate market size, and develop a prototype.	6-Create
C216.4	Analyze Business and financial planning models and Go-to-Market strategies.	4-Analyze
C216.5	Able to build a start-up, register IP and identify funding opportunities.	6-Create

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C216.1		2		3	3			3				3		3	
C216.2	2			2								2			
C216.3	3	2			3			2						3	
C216.4	2	1		2				2				3		2	
C216.5	3			2				2							
Average	2.5	1.7		2.25	3			2.25				2.7		2.67	



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II B. Tech II Semester

SUBJECT: DATABASE MANAGEMENT SYSTEMS LAB (C217)

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

S. No.	COURSE OUTCOMES	BT Level
C217.1	Design and implement relational databases using SQL	6-Create
C217.2	Apply normalization techniques to optimize database design	3-Apply
C217.3	Develop queries using relational algebra and SQL for data retrieval	6-Create
C217.4	Implement transaction management and concurrency control mechanisms	3-Apply
C217.5	Demonstrate teamwork, documentation, and debugging skills in database projects	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C217.1	2	2	2		1				3				2	2	2
C217.2	3	3	3		2				3				2	2	2
C217.3	3	3	3		2				2				3	3	2
C217.4	3	3	3		3				3				3	3	2
C217.5	2	3	3		3				3				3	3	2
Average	2.6	2.8	2.8		2.2				2.8				2.6	2.6	2



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II B. Tech II Semester

SUBJECT: Computer Networks Lab (C218)

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

S. No.	COURSE OUTCOMES	BT Level
C218.1	Implement data link layer framing methods	3-Apply
C218.2	Analyze error detection and error correction codes.	4-Analyze
C218.3	Implement and analyze routing and congestion issues in network design.	4-Analyze
C218.4	Implement Encoding and Decoding techniques used in presentation layer	3-Apply
C218.5	To be able to work with different network tools	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C218.1	3		3	2				2				3			
C218.2	2		2									2			2
C218.3	2		2	2	2			2							2
C218.4			2		2										2
C218.5	2				2							2			
Average	2.25		2.25	2	2			2				2.3			2



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SUBJECT: C219: Web Programming Lab

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

S. No.	COURSE OUTCOMES	BT Level
C219.1	Design responsive websites using HTML, CSS, and Java Script effectively.	6-Create
C219.2	Develop PHP applications for data input, validation, and storage	6-Create
C219.3	Manipulate and parse XML documents in web-based applications.	3-Apply
C219.4	Connect web applications to databases using PHP or JDBC.	3-Apply
C219.5	Create and manage CMS-based websites using Word Press and Joomla.	6-Create

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C219.1	3	2	3	2	2			2					2		
C219.2			2					2					2		
C219.3	2	2	1	2	2										
C219.4	2	3						2					2		
C219.5	2	2	3	2	2			2					2		
Average	2.25	2.25	2.25	2	2			2					2		



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SUBJECT: NODE JS/ REACT JS/ DJANGO (C220)

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

S. No.	COURSE OUTCOMES	BT Level
C220.1	Understand the architecture and core concepts of Node.js, React.js, and Django frameworks.	2-Understand
C220.2	Develop full-stack web applications using server-side and client-side technologies.	6-Create
C220.3	Implement RESTful APIs, routing, and database integration for dynamic web applications.	3-Apply
C220.4	Use debugging tools, version control, and deployment techniques for web application lifecycle management.	3-Apply
C220.5	Demonstrate teamwork, documentation, and ethical responsibility in full-stack development projects.	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C220.1	3	2	2	2									3	2	
C220.2	3	3	3	2	2								3	2	2
C220.3	3	2	2	2									3	3	2
C220.4	2	2	2	2	2								2	3	
C220.5	1	1		1									1	1	3
Average	2.4	2	2.25	1.8	2								2.4	2.2	2.3



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II B. Tech II Semester

SUBJECT: C221: Indian Knowledge System

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

S. No.	COURSE OUTCOMES	BT Level
C221.1	Understand nature, scope and related fields of Indian knowledge system.	2-Understand
C221.2	Demonstrate the scientific literature available in ancient Indian traditions	3-Apply
C221.3	Understanding the application of Bharatiya Jnana Parampara	2-Understand
C221.4	Understand Indian approach towards Well being	2-Understand
C221.5	Appreciate vast contribution of ancient Indian researchers, engineers, scientists and architects to the modern world	2-Understand

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C221.1						1		3	1	2		2			3
C221.2						2		3	2	3		3			3
C221.3						2		3	2	2		3			3
C221.4						2		3	3	3		3			3
C221.5						3		3	3	3		3			3
Average						2		3	2.2	2.6		2.8			3