



Department of Information Technology

II B. Tech II Semester

SUBJECT: DISCRETE MATHEMATICS (C211)

After going through this course, the students 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



Department of Information Technology

II B. Tech II Semester

SUBJECT: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS(C212)

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

S. No.	COURSE OUTCOMES	BT Level
C212.1	The students will understand the various Forms of Business and the impact of economic variables on the Business.	2-Understand
C212.2	Understand the elasticity of the demand of the product, different types, and measurement of elasticity of demand and factors influencing on elasticity of demand and supply	2-Understand
C212.3	Recognize the Production function, features of Iso-Quants and Iso-Costs, Market Structure, Pricing aspects are learnt.	1-Remember
C212.4	The Students can study the firm's financial position by analyzing the Financial Statements of a Company.	4-Analyze
C212.5	Evaluate different types of financial ratios knowing liquidity, solvency and profitability position of business.	5-Evaluate

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C212.1	1					2		2	2			2			2
C212.2	1					2		2	2			2			2
C212.3	2					1		1	2			2			2
C212.4	2					1		1	2			2			2
C212.5	2					1		1	2			2			2
Average	1.5					1.5		1.3	2			2			2

SUBJECT: OPERATING SYSTEMS (C213)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C213.1	Understand the structure and functions of operating systems	2-Understand
C213.2	Analyze process management and CPU scheduling algorithms	4-Analyze
C213.3	Apply synchronization techniques and deadlock handling methods	3-Apply
C213.4	Evaluate memory management strategies and virtual memory concepts	5-Evaluate
C213.5	Understand file systems, I/O systems, and protection mechanisms	2-Understand

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C213.1	2	2	2	1	1			3	2	3		1	2	2	1
C213.2	3	3	3	2	2			2	3	2		2	3	3	2
C213.3	3	3	3	3	2			1	2	2		2	3	2	2
C213.4	2	3	3	2	2			2	2	1		2	3	3	2
C213.5	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

SUBJECT: DATABASE MANAGEMENT SYSTEMS (C214)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C214.1	Understand database concepts, architecture, and data models	2-Understand
C214.2	Design ER models and convert them into relational schemas	6-Create
C214.3	Apply relational algebra and SQL for data manipulation and retrieval	3-Apply
C214.4	Understand normalization techniques and apply them to optimize database design	3-Apply
C214.5	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
C214.1	3	2	2											2	1
C214.2	3	3	3	2	2									2	2
C214.3	2	3	3	2	2									3	2
C214.4	3	3	3	3	2									3	3
C214.5	3	3	3		3									3	3
Average	2.8	2.8	2.8	2.333	2.25									2.6	2.2

SUBJECT: JAVA PROGRAMMING (C215)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C215.1	Understand object-oriented principles and Java language fundamentals	2-Understand
C215.2	Apply inheritance, polymorphism, and exception handling in Java programs	3-Apply
C215.3	Develop GUI applications using AWT and Swing	6-Create
C215.4	Implement multithreading and file I/O operations	3-Apply
C215.5	Demonstrate teamwork, debugging, and communication skills in Java-based 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	
C215.2	3	3	2		2								3	2	
C215.3	3	3	3		2								3	3	
C215.4	3	3	3		2								3	3	
C215.5	3	2	3		3								3	3	
Average	3	2.8	2.6		2.25								2.8	2.6	

SUBJECT: OPERATING SYSTEMS LAB (C216)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C216.1	Understand basic UNIX/Linux commands and shell scripting	2-Understand
C216.2	Implement process management techniques such as scheduling and synchronization	3-Apply
C216.3	Apply memory management and file system operations using system calls	3-Apply
C216.4	Develop shell scripts for automation and system administration tasks	6-Create
C216.5	Demonstrate teamwork, debugging, and documentation skills in lab assignments	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C216.1	3	2	2						2				2	2	2
C216.2	3	3	3						2				3	3	2
C216.3	3	3	3						2				3	3	3
C216.4	3	3	3						2				3	3	2
C216.5	3	3	3						2				3	3	3
Average	3	2.8	2.8						2				2.8	2.8	2.4

SUBJECT: DATABASE MANAGEMENT SYSTEMS LAB (C217)



Department of Information Technology

II B. Tech II Semester

After going through this course, the students 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

SUBJECT: JAVA PROGRAMMING LAB (C218)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C218.1	Apply object-oriented programming concepts using Java	3-Apply
C218.2	Implement inheritance, polymorphism, and exception handling	3-Apply
C218.3	Develop GUI applications using AWT and Swing	6-Create
C218.4	Use multithreading and file I/O for concurrent and persistent applications	3-Apply
C218.5	Demonstrate teamwork, debugging, and documentation skills in Java projects	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C218.1	3	2	2	1	3				2						
C218.2	3	3	3	2	2				2				3		
C218.3	3	3	3	3	2				2				3	3	
C218.4	3	3	3	3	3				3				3	3	
C218.5	3	3	3	3	3				3				3	3	
Average	3	2.8	2.8	2.4	2.6				2.4				3	3	

SUBJECT: Real-time Research Project/ Societal Related Project(C219)



Department of Information Technology

II B. Tech II Semester

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

S. No.	COURSE OUTCOMES	BT Level
C219.1	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-Analyze
C219.2	Design and develop innovative software systems or research solutions that address contemporary societal issues by applying appropriate algorithms, technologies, and methodologies.	6-Create
C219.3	Implement and validate real-time project solutions using current software development tools, platforms, and industry-standard practices while ensuring system functionality and reliability.	3-Apply
C219.4	Evaluate the social, ethical, environmental, and economic impact of proposed computing solutions on society.	5-Evaluate
C219.5	Document, present, and defend project outcomes through comprehensive technical reports, presentations, and demonstrations while exhibiting effective communication and teamwork skills.	3-Apply

CO-PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C219.1	3	3	3							2	2	2	3	2	2
C219.2	3	3	3										3	3	
C219.3	3	3	3										3	3	
C219.4	2	2	2							2	2		2	2	3
C219.5	2	2	2							3	2	2	3	2	3
Average	2.6	2.6	2.6							2.3	2	2	2.8	2.4	2.7

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

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



Department of Information Technology

II B. Tech II Semester

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

SUBJECT: CONSTITUTION OF INDIA (C221)

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



Department of Information Technology

II B. Tech II Semester

S. No.	COURSE OUTCOMES	BT Level
C221.1	Understand the historical background and philosophy of the Indian Constitution	2-Understand
C221.2	Comprehend the fundamental rights, duties, and directive principles	2-Understand
C221.3	Analyze the structure and functions of the legislature, executive, and judiciary	4-Analyze
C221.4	Appreciate the role of constitutional provisions in promoting social justice and equality	2-Understand
C221.5	Demonstrate civic responsibility and ethical awareness in professional and personal contexts	3-Apply

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