

DEPARTMENT OF CIVIL ENGINEERING
CO-PO matrices of courses (Theory)
CLASS - B.Tech.

ACADEMIC YEAR 2024-25

SR. NO.	COURSE NAME	COURSE CODE	SEM	COURSE OUTCOMES	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
1	Design of Reinforced & Prestressed Concrete Structures	BTCVC701	VII	To identify the behavior, analyze and design of the beam sections subjected to torsion.	3	2	3			2		2		3		3		2	
				To analyze and design of axially and eccentrically loaded column and construct the interaction diagram for them.	3		3			2		3		2		3		3	
				To understand various concepts, systems and losses in pre-stressing.	2				3					2		2		2	
				To analyze and design the rectangular and symmetrical I-section pre-stressed beam/girder	3	3	3			2		2		3		3		3	
2	Infrastructure Engineering	BTCVC702	VII	To Know about the basics and design of various components of railway engineering	3	2	3				2						3		
				To Understand the types and functions of tracks, junctions and railway stations.	3	2	2										2	2	
				To understand Airport engineering.	3	2	2		2		2			1		1	3		1
				To understand Docks and Harbours.	3	2	2		2		2					1			
3	Construction Techniques	BTCVC703	VII	1. To understand the planning of new project with site accessibility and services required.	2			3	3		2	2	1	3	1	3	2		
				2. To comprehend the various civil construction	3	2			1		2			2					
				3. To familiar with layout of RMC plant, production, capacity and operation process.	2			2				1			2		2		
				4. To recognize various aspect of road construction, construction of diaphragm walls, railway track construction etc.	2		1	2							2				
4	Professional Practices	BTCVC704	VII	1: Understand the importance of preparing the types of estimates under different conditions for various structures.	3	3						2	3		2	3	3	3	3
				2: Know about the rate analysis and bill preparations and to study about the specification writing.	3	3	2	2		1		2	3		2	3	3	3	3
				3: Understand the various types of contract, accounts in PWD, methods for initiating the works in PWD and tendering along with different methods of valuation.	3	1				1		3	3		2	3	3	3	3
5	Bridge Engineering	BTCVE705I	VII	CO1: Understand components of bridges and its various types.	3	2					2								
				CO2: Understand site selection criteria and comprehend various forces acting on bridges.	3	3		2	2										
				CO3: Analyze bridge structures using different analysis techniques	3	2	3		2	2	2				2				
				CO4: Understand the importance of different types of bridge bearings	2	3	3		2		3				2				

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6	Maintenance and Repair of Concrete Structures	BTCVSS801D	VIII	Understand the causes and types of deterioration in concrete structures and the need for maintenance and repair.	3	2					2						3		
				Identify and assess different types of damages in concrete structures using appropriate inspection and testing methods.	3	3		2	2								3	1	
				Select suitable materials and techniques for repair and rehabilitation based on the type and extent of damage.	3	2	3		2	2	2				2		3		
				Design maintenance strategies and repair procedures to extend the service life of concrete structures.	2	3	3		2		3				2		2		1
7	Mechanical Characterization of Bituminous Materials	BTCVSS802D	VIII	1)To understand mechanical response and grading system.	3	2	2	1	1							2	1	1	1
				2)To get knowldge about Rehological and various tests to be carried out and how to use it for design purpose.	3	3	3	2	2	2						3	3	2	3
				3)After studying this course, students must be in a position to join the service involved refineries, modified bituminous manufacturers, state and central Government road services.	3	3	2	1								2	3	1	2