

Shiksha Mandal's
Bajaj Institute of Technology, Wardha
Mapping of COs with POs and PSOs (Department of Civil Engineering)

2018-19, 2019-20, 2020-21

Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Mathematics – III	1	Understand The Concept Of Laplace Transform And Inverse Laplace Transform Of Elementary Functions And Apply It To Solve The Linear Differential Equations With Constant Coefficients Having Their Applications In Mechanical, Electrical, Chemical, Communication Etc. Systems.	3	2											2		
	2	Apply The Concept Of Fourier Transform To Solve The Boundary Value Problems, Problems In Signal Processing And Communication System.	2	1											1		
	3	Apply Partial Differential Equations To Solve Heat Equation, Wave Equation And Laplace Equation Etc.	3	2											3		
	4	Analyze Conformal Mapping, Transformation And Perform Contour Integration Of Complex Function In The Study Of Electromagnetics And Signal Processing.	3	2											1		

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
MECHANICS OF SOLIDS (BTCVC302)	1	PERFORM THE STRESS-STRAIN ANALYSIS.	2			2	2	1	1	1					1	2	1
	2	DRAW FORCE DISTRIBUTION DIAGRAMS FOR MEMBERS AND DETERMINATE BEAMS	1		1	1									1	2	1
	3	FIND DEFLECTIONS IN DETERMINANT BEAMS	3	2		3	3	2	2	2					1	1	1
	4	VISUALIZE FORCE DEFORMATION BEHAVIOR OF BODIES.	3	2		3	3	2	2	2					1	1	1

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
HYDRAULICS I (BTCVC303)	1	CALIBRATE THE VARIOUS FLOW MEASURING DEVICES.	3	2	3	1	1	2	1	-	-	-	-	2	1	2	3
	2	DETERMINE THE PROPERTIES OF FLUID AND PRESSURE AND THEIR MEASUREMENT.	3	2	3	1	1	2	-	-	-	-	1	2	2	2	3
	3	UNDERSTAND FUNDAMENTALS OF PIPE FLOW, LOSSES IN PIPE AND ANALYSIS OF PIPE NETWORK.	3	2	3	1	-	1	1	-	-	-	-	1	2	1	2
	4	VISUALIZE FLUID FLOW PHENOMENA OBSERVED IN CIVIL ENGINEERING SYSTEMS	2	-	-	2	-	-	-	-	-	1	-	-	3	1	2

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Building Construction	1	Understand Types Of Masonry Structures.	3	2		2		1	3		3				1		3
	2	Understand Composition Of Concrete And Effect Of Various Parameters Affecting Strength.				3			2			2			2		2
	3	Comprehend Components Of Building And There Purposes.			2		2		3	1	2					2	
	4	Comprehend The Precast And Pre-Engineered Building Construction Techniques.	1			2		2		2							

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)										PSOs				
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Engineering Geology	1	Recognize The Different Land Forms Which Are Formed By Various Geological Agents.		3		3				2			1			
	2	Identify The Origin, Texture And Structure Of Various Rocks And Physical Properties Of Mineral.	2		1	2	2					3				
	3	Emphasize Distinct Geological Structures Which Have Influence On The Civil Engineering Structure.		2	1		2		1		2					
	4	Understand How The Various Geological Conditions Affect The Design Parameters Of Structures.	2				1					1				
Soft Skills Development	1	Acquire Interpersonal Communication Skills									2	3				1
	2	Develop The Ability To Work Independently.									2					
	3	Develop The Qualities Like Self-Discipline, Self-Criticism And Self-Management							2	2			1			1
	4	Have The Qualities Of Time Management And Discipline								1						1
	5	Present Themselves As An Inspiration For Others											1			
Hydraulics Laboratory I	1	Analyze The Properties Of Fluids And Their Verification.	3	2	2	1							3	2	1	1
	2	Predict Empirical Behavior Of Fluids	3	2	3	1							3	2	1	1
	3	Apply Principles Of Hydraulics While Working In Field.	3	2	3	1							3	2	1	1
Surveying Laboratory I BTCVL308	1	Use The Theodolite Along With Chain/Tape, Compass On The Field.	2	1	1	1									1	1
	2	Apply Geometric And Trigonometric Principles Of Basic Surveying Calculations.	3	2	3	1									2	2
	3	Plan A Survey, Taking Accurate Measurements, Field Booking, And Adjustment Of Errors.	1	1	2									2		1
	4	Apply Field Procedures In Basic Types Of Surveys, As Part Of A Surveying Team.	2	2	2						2					
	5	Employ Drawing Techniques In The Development Of A Topographic Map.	2	1	2	2									1	1
Building Construction - Drawings Laboratory	1	Draw Plan, Elevation And Section Of Various Structures.			1	1			2	2	2				2	1
	2	Apply The Principles Of Planning And By Laws Used For Building Planning.	2	2					3						2	2
	3	Prepare Detailed Working Drawing For Doors And Windows.			3				2	3		1			2	1
Engineering Geology Lab	1	Calculate The Linear Measurement On Surface.			2				3	2						
	2	Find Out Engineering Properties Of Various Geological Materials.	2						3		1					
	3	Draw Subsurface Lithologs.			2		1		3		1					
	4	Identify Minerals And Rocks By Studying Physical Properties.	3	2		1			2		1					
Hydraulics II	1	Design Open Channel Sections In A Most Economical Way.	3	3	2	1									3	3
	2	Know About The Non-Uniform Flows In Open Channel And The Characteristics Of Hydraulic Jump.	3	3		2							2		3	2
	3	Understand Application Of Momentum Principle Of Impact Of Jets On Plane.	3	3	3	1							3		2	3

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		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Surveying – II BTCVC402	1	Understand Basics Different Types Of Curves On Roads And Their Preliminary Survey.	2	1	2		2								2		1
	2	Perform Setting Of Curves, Buildings, Culverts And Tunnels.	3	2	2										1		1
	3	Comprehend Different Geodetic Methods Of Survey Such As Triangulation, Trigonometric Leveling.	2	2	1	2	2								3		1
	4	Comprehend Modern Advanced Surveying Techniques.	3	2	1	2	2								1	1	1

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		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Structural Mechanics-I	1	Describe The Concept Of Structural Analysis, Degree Of Indeterminacy	1					2	3						2	2	2
	2	Calculate Slopes And Deflection At Various Locations For Different Types Of Beams		2		2			3						2	2	2
	3	Identify Determinate And Indeterminate Trusses And Calculate Forces In The Members Of Trusses	2	2	3	2	2	2	2						2	2	2

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		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Product Design Engineering BTID405	1	Create Simple Design Of Components Or A System As Whole.	1	1	2		2								2	2	2
	2	Create Design Documents For Knowledge Sharing.	1	1	1		2				2	2			2	1	
	3	Manage Own Work To Meet Design Requirements.							1				3		1	1	1
	4	Work Effectively In A Team.	1				1			1	3		2		1		

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		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Numerical Methods in Engineering	1	Use Appropriate Numerical Methods To Determine Approximate Solutions Of Systems Of Linear Equations, Non-Linear Equations And Ordinary Differential Equations.	3	2											3		
	2	Demonstrate The Use Of Interpolation Methods To Find Intermediate Values In Given Graphical And/Or Tabulated Data.	2	2		2									2		
	3	Analyze Experimental Data And Apply Regression Analysis In Various Types Of Problems.	2	2		3									1		
	4	Familiar With Programming Languages Like Fortran / C / C++.	1				1									2	

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Planning for Sustainable Development BTC VE-404B	1	To Understand And Evaluate The Concept Of Sustainable Development.	1					3	3			1	1	2	1	1	
	2	Recognize Impact On Environmental And Poverty Sustainable Development	2				2	3				1	1	2	1	1	
	3	Comprehend Strategies And Challenges Of Sustainable Development.	1					2	3			1	2	2	1	1	
	5	Familiar With Governance And Policies Of Sustainable Development At Societal Level.	1				2	3	3	2		2	2	2	1	1	

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		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Engineering Management BTCVC406	1	Demonstrate The Nuances Of Management Functions.	1								1	1	3		2	1	
	2	Analyze The Framework Of A Business Organization.								2		2		2	2	2	
	3	Adopt An Empirical Approach Toward Business Situations.								1		3		2	2	2	1
	4	Apply Various Management Techniques.									2		3		3	2	1

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Basic Human Rights	1	Understand The History Of Human Rights						1									
	2	Learn To Respect Others Caste, Religion, Region And Culture.															
	3	Be Aware Of Their Rights As Indian Citizen															
	4	Understand The Importance Of Groups And Communities In The Society									3						
	5	Realize The Philosophical And Cultural Basis And Historical Perspectives Of Humanrights.								2		2					
	6	Make Them Aware Of Their Responsibilities Towards The Nation												1			1

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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Hydraulics Laboratory II	1	Understand Various Properties Of Fluids And Measurement Techniques.	3	2	2	1									3	2	1	1
	2	Carry Out Calibrations Of Various Flow Measuring Devices.	3	2	3	1									3	2	1	1
	3	Understand Mechanism Of Hydraulic Jump, Various Jets And Pumps.	3	2	3	1									3	2	1	1
	4																	

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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
Surveying Laboratory II BTCVL408	1	Determine Contour Level Of Field.	2	2	2	3	1										2	2	1
	2	Determine The Tachometric Constants And Grade Of A Line.	1	1	1	1											1	1	1
	3	Use Sub Tense Bar For Distance Measurement.	1			1											1		

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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Mechanics of Solids Laboratory	1	Evaluate Young Modulus, Torsional Strength, Hardness And Tensile Strength Of Given Specimens.	2	1	1	2	2	2	1				1		1	2	1	1
	2	Determine The Strength Of Coarse Aggregates.	1	3	1	2	2	2							1	1	1	1
	3	Find The Compressive Strength Of Concrete Cubes And Bricks.	2	1	2	1	2	2	1				2		1	1	1	1
	4	Determine Physical Properties Of Given Coarse Aggregates, Fine Aggregates And Cement Samples.	2	2	1	2	1	2	1				1		1	1	1	1

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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Design of Steel Structures BTCVC 501	1	Identify And Compute The Design Loads And The Stresses Developed In The Steel Member.	2	2	2	1	-	-	-	-	-	-	-	-	-	-	2	-
	2	Analyze And Design The Various Connections And Identify The Potential Failure Modes.	3	3	3	2	-	-	-	3	-	-	-	-	-	3	2	3
	3	Analyze And Design Various Tension, Compression And Flexural Members.	3	3	3	2	-	-	-	3	-	-	-	-	-	2	3	3
	4	Understand Provisions In Relevant Bis Codes.	2	-	-	-	-	-	-	1	2	-	-	-	-	3	3	2

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Course/Subject with course code	Course Outcomes (COs)		Program Outcomes (POs)												PSOs				
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
Structural Mechanics-II	1	Have A Basic Understanding Of Matrix Method Of Analysis And Will Be Able To Analyze The Determinant Structure.	1						2	3							3	2	1
	2	Have A Basic Understanding Of The Principles And Concepts Related To Finite Difference And Finite Element Methods			2	2				3							3	2	1
	3	Have A Basic Understanding Of Concept Of Influence Line	2	2	3	2	2	2	2							2	2	1	

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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Soil Mechanics	1	Understand Different Soil Properties And Behavior	-	2	-	3	2	-	-	-	-	-	-	1	3	2	2
	2	Understand Stresses In Soil And Permeability And Seepage Aspects.	3	-	-	2	2	1	-	-	-	-	-	1	3	2	2
	3	Develop Ability To Take Up Soil Design Of Various Foundations.	3	-	3	2	3	3	-	-	-	-	-	1	2	2	1

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Course/Subject with course code	Course Outcomes (COs)		Program Outcomes (POs)												PSOs		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Environmental Engineering BTCVC 501	1	Apply The Water Treatment Concept And Methods.	3	2	-	2	1	-	3	-	-	1	1	3	2	3	-
	2	Prepare Basic Process Designs Of Water And Wastewater Treatment Plants.	-	-	-	-	-	-	-	-	-	2	2	-	-	2	1
	3	Apply The Wastewater Treatment Concept And Methods.	1	2	3	-	2	3	3	-	-	-	-	-	3	-	1
	4	Apply The Solid Waste Management Concepts.	1	1	2	-	1	3	3	-	-	-	-	-	2	-	1

2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Transportation Engineering	1	Comprehend Various Types Of Transportation Systems And Their History Of The Development						2	2				2	2	3	1				
		2	Comprehend To Various Types Of Pavements				3		3	3				2		1	3				
		3	Design The Pavements By Considering Various Aspects Associated With Traffic Safety Measures.				3	2						2	3	2	2	1			
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Materials, Testing & Evaluation	1	To Develop Skill Among Students To Construct Strong And Durable Structures By Applying Knowledge Of Material Science.				3	3	2	3						2	2	1			
		2	To Make The Students Aware Of Quality Assurance And Control In Their Real Life As A Professional.				3	3		3	3	3		2		2	2	1			
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Development Engineering	1	To Develop Multi Scaled Perspective About Decisions In The Built Environment,				1	-	2	1	-	1	3	2	2	2	2	1	1	2	-
		2	To Expose The Students To The Analysis And Evaluation Of Real World Problems Aiming To Bring Desired Change In The Society.				2	2	2	2	2	3	2	2	1	3	2	2	2	1	-
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Business Communication & Presentation Skills	1	Inculcate Basics Of Business Communication Skills & Relevant Tools.											2	3					1	
		2	Understand Business Sops And Essentials Of The Same											2							
		3	Adapt Modern Skills Regarding Communication, Presentation & Team Working											2	3		2			1	
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE	1	UNDERSTANDING THE FOUNDATIONS OF INDIAN TRADITIONAL KNOWLEDGE								3			1		1				1	
		2	APPRECIATING THE DIVERSITY OF INDIAN TRADITIONAL KNOWLEDGE SYSTEMS									2									
		3	APPLYING INDIAN TRADITIONAL KNOWLEDGE TO CONTEMPORARY CONTEXTS								2			1		1				1	
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Soil Mechanics Laboratory	1	Determine different engineering properties of soil.				3	3	-	2	-	-	-	-	1	-	-	1	1	2	1
		2	Identify And Classify Soils Based On Standard Geotechnical Engineering Practices.				3	3	-	2	-	-	-	-	1	-	-	1	1	2	1
		3	Perform Laboratory compaction and in-place density tests.				3	3	-	2	-	-	-	-	1	-	-	1	1	1	1
		4	Perform and interpret direct shear tests and estimate shear strength parameters.				3	3	-	2	-	-	-	-	1	-	-	1	1	2	1
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1		3					
	Environmental Engineering Laboratory	1	Quantify The Pollutant Concentration In Water, Wastewater And Ambient Air.				2	2	1		3	1	3			3		2			
		2	Recommend The Degree Of Treatment Required For The Water And Wastewater.				2	2	3		1	3	3			3		2			
		3	Analyze The Survival Conditions For The Microorganism And Its Growth Rate				2	1	2		1	3	3			3		2			
2018-19, 2019-20, 2020-21	Course/Subject	Course Outcomes (COs)				Program Outcomes (POs)												PSOs			
	with course code	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3					
	Transportation Engineering Laboratory	1	Perform Tests On Various Road Construction Materials.							2		3	2		2			2	1	1	
		2	Perform Cbr Tests On Local Soils To Determine Subgrade Properties Needed For Roadways.				2					3		1					1	1	1

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2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Comprehend To The Various Design Philosophies Used For Design Of Reinforced Concrete.	1	2	2	2	-	-	-	-	-	-	-	1	-	1	
		2	Analyze And Design The Reinforced Concrete Slab Using Limit State And Working State Method.	3	-	3	1	-	-	-	-	-	2	-	2	1	-	1
		3	Analyze And Design The Reinforced Concrete Beam Using Limit State And Working State Method.	3	-	3	1	-	-	-	-	-	3	-	2	1	-	1
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	To Predict Soil Behavior Under The Application Of Loads And Come Up With Appropriate Solutions To Foundation Design Queries.	3	3	2	-	-	-	-	-	-	-	2	3	1	1	
		2	Analyze The Stability Of Slope By Theoretical And Graphical Methods.	3	3	-	2	-	-	-	-	-	-	1	3	2	1	
		3	Analyze The Results Of In-Situ Tests And Transform Measurements And Associated Uncertainties Into Relevant Design Parameters.	3	3	-	2	2	-	-	-	-	-	1	3	2	1	
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Understand The Various Types And Properties Of Ingredients Of Concrete.	2					2	3			2	2	2			
		2	Understand Effect Of Admixtures On The Behavior Of The Fresh And Hardened Concrete.		3		3			3			2	2	2			
		3	Formulate Concrete Design Mix For Various Grades Of Concrete.	2	2	3	2	3	2	2			2	2	2			
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Understand Various Steps In Project Management, Different Types Of Charts.	1	2		1						3			1	2	
		2	Construct Network By Using Cpm And Pert Method.	2	3		3	2				1		1		1	2	2
		3	Determine The Optimum Duration Of Project With The Help Of Various Time Estimates.	2	3		3	2			2		1		3	1	2	
		4	Know The Concept Of Engineering Economics, Economic Comparisons, And Linear Break Even Analysis Problems.	2	2		1	1					2		2	2	2	
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	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Determine The Sewage Characteristics And Design Various Sewage Treatment Plants.	3	3	3	2			3						2	2	1
		2	Understand Municipal Water And Wastewater Treatment System Design And Operation.	3	3	3				3						2	2	1
		3	Apply Environmental Treatment Technologies And Design Processes For Treatment Of Industrial Waste Water.	3	3	3				3			2			2	2	2
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Understand Geological Time Scale And Physiographic Division Of India And Their Geological Characteristics And Different Geological Formation In India.	2	3	2	2	1	-	-	-	-	-	-	1	2	-	-
		2	Perform Sub Surface Exploration And Interpret Core Log.	3	2	2	2	2	2	1	-	-	1	-	1	2	1	-
		3	Solve Numerical Problem Based On Core Drilling And Seismic Data.	3	-	-	-	-	2	-	-	-	-	-	-	3	-	-
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Behavior Of Soil Based On Its Particle Size And Mineral Content	3	-	-	-	-	-	-	-	-	-	-	1	1	2	-
		2	Ability To Understand The Earth Work Equipment	3	-	-	-	-	1	2	-	-	-	-	1	3	1	3
		3	Ability To Understand The Necessity Of Ground Improvement And Potential Of A Ground For Improvement	3	-	2	-	-	2	2	-	-	-	-	1	3	2	2
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		1	Understand The Concepts Of Allowable Stress Design, Appropriate Factors Of Safety, Margin Of Safety, And Reliability.	3	3	-	-	-	2	-	-	-	-	-	1	3	1	1
		2	Understand The Soil Reinforcement Mechanisms	2	-	2	-	-	2	2	-	-	-	-	1	2	2	2
		3	Understand The Grouting And Injection Methods.	3	-	2	-	-	2	2	-	-	-	-	1	3	2	2

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2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To Plan Buildings Considering Various Principles Of Planning And Bye Laws Of Governing Body.	2					2	3		2	3		2	2	1	1
	2	To Comprehend Various Utility Requirements In Buildings			3			2				2			3	2	
	3	Students Are Able To Understand Various Techniques For Good Acoustics.	3		2				2						2		2
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand The Various Types And Properties Of Ingredients Of Concrete.	3					2	2						1	1	1
	2	Understand Effect Of Admixtures On The Behavior Of The Fresh And Hardened Concrete.		2		2			3						1	1	2
	3	Formulate Concrete Design Mix For Various Grades Of Concrete.	2	3	2	3	2		2						3	2	1
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Draw Plan, Elevation And Section Of Load Bearing And Framed Structures.	1		1			1	3	2			3	1		2	3
	2	Draw Plan, Elevation And Section Of Public Structures.	2	2				2	2		1				1		1
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Able To Identify The Behavior, Analyze And Design Of The Beam Sections Subjected To Torsion.	2	-	2	2	-	-	-	-	-	2	-	2	2	-	1
	2	Able To Analyze And Design Of Axially And Eccentrically Loaded Column And Construct The Interaction Diagram For Them.	2	-	2	2	-	-	-	-	-	2	-	2	2	-	1
	3	Understand Various Concepts, Systems And Losses In Pre-Stressing.	2	2	2	2	1	-	-	-	-	-	-	2	2	-	1
	4	Able To Analyze And Design The Rectangular And Symmetrical I-Section Pre-Stressed Beam/Girders.	3	2	3	3	-	-	-	-	-	3	-	2	2	-	1
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Know About The Basics And Design Of Various Components Of Railway Engineering			2		1	3	1		1				3	2	
	2	Understand The Types And Functions Of Tracks, Junctions And Railway Stations.	2		1			2			2				1		1
	3	Know About The Aircraft Characteristics, Planning And Components Of Airport	1		2	2							3		2	1	1
	4	Understand The Types And Components Of Docks And Harbors.	2	2		2		1		1					1	2	
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand Need Of Irrigation In India And Water Requirement As Per Farming Practice In India.	2	3		1	3							2	2	2	3
	2	Understand Various Irrigation Structures And Schemes. Water Hydrology.	3	3	3	2	-							2	2	3	3
	3	Develop Basis For Design Of Irrigation Schemes.	3	2	3		-							2	2	2	3
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand The Importance Of Preparing The Types Of Estimates Under Different Conditions For Various Structures.	2	2	1	1	2				2				1	3	1
	2	Know About The Rate Analysis And Bill Preparations And To Study About The Specification Writing.	2	1	1	2	2								2	3	1
	3	Know The Various Types Of Contract, Accounts In Pwd, Methods For Initiating The Works In Pwd And Tendering.	1	3	1		1		2		1				1	2	2
	4	Understand The Valuation Of Land And Buildings, Various Methods And Factors Affecting Valuation.	2	2		2									1	1	2
2018-19, 2019-20, 2020-21	Course/Subject		Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand The Planning Of New Project With Site Accessibility And Services Required	3		2	2		1	2	1				3			3
	2	Comprehend The Various Civil Construction Equipments.	3	3			3							3			2
	3	Familiar With Layout Of Rmc Plant, Production, Capacity And Operation Process.	3	2	3	2	1							3			2
	4	Recognize Various Aspect Of Road Construction, Construction Of Diaphragm Walls, Railway Track Construction Etc.	3	2	2		2	2						3			3

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs						
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3				
Engineering Economics	1	Adopt As Per Principles Of Economics And Financing																		
	2	Analyze Available Alternatives And Propose Best Suitable Among Them																		
	3	Apply Various Models Of Financial Management And Accounting											1			1			2	

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs														
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3												
Finite Element Method	1	Understand The Different Energy Methods In Structural Analysis And Basic Concepts Of Finite Element Method.																										
	2	Analyze 1-D Problems Related To Structural Analysis Like Bars, Trusses, Beams And Frames Using Finite Element Approach.																			2			2	1	1	1	
	3	Find Solution To Problems Using Direct Approach Methods Like Rayleigh – Ritz Or Galerkin'S Method.																					2		1	1	1	1
	4	Solve 2-D Problems Using Knowledge Of Theory Of Elasticity.																					2		1	1	1	1
	5	Students Will Be Able To Implement The Knowledge Of Numerical Methods In Fem To Find The Solution To The Various Problems In Statics And Dynamics.																					2		2	1	1	1
	6	Analyze 1D, 2D, And 3D Structures Using Different Software Packages Based On Fem.																					2		2	1	1	1

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs														
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3												
Limit State Design of Steel Structures	1	Identify And Compute The Design Loads And The Stresses Developed In The Steel Member.																										
	3	Analyze And Design The Various Connections And Identify The Potential Failure Modes.																								3	2	3
	3	Analyze And Design Various Tension, Compression And Flexural Members.																								2	3	2
	4	Understand Provisions In Relevant Bis Codes.																								1	2	3

2018-19, 2019-20, 2020-21

Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Plastic Analysis and Design	1	Understand Modes Of Structural Collapse																					2		1	1	2	1	
	2	Perform The Plastic Analysis And Design Of Various Determinant And In-Determinant Structures.																								1	1	1	1
	3	Adapt Plastic Theory Of Design For Various Structures																								1	1	1	1

2018-19, 2019-20, 2020-21

Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Water Power Engineering	1	Understand Need Of Irrigation In India And Water Requirement As Per Farming Practice In India.																								3	2	2	3
	2	Understand Various Irrigation Structures And Schemes.																								3	2	2	2
	3	Develop Basis For Design Of Irrigation Schemes.																								2	1	1	1

2018-19, 2019-20, 2020-21

Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Air Pollution Control	1	Identify The Sources Of Air Pollutants And Their Effect On Human, Plants And Materials.																								2	2	2	2
	2	Apply Knowledge Of Meteorology For Controlling Air Pollution																								2	3	3	3
	3	Design Air Pollution Controlling Equipment.																								3	3	2	2
	4	Apply Knowledge Of Legislation For Prevention And Control Of Air Pollution.																								2			

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Bridge Engineering	1	Understand Components Of Bridges And Its Various Types.																								1	1		
	2	Understand Site Selection Criteria And Comprehend Various Forces Acting On Bridges.																								2			
	3	Analyze Bridge Structures Using Different Analysis Techniques.																								1			
	4	Understand The Importance Of Different Types Of Bridge Bearings.																								3	1		

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Introduction to Earthquake Engineering	1	Capture Complexities In Earthquake Resistant Design Of Structures																								1	1	1	1
	2	Grasp Nature Of Earthquake Vibration And Associated Forces On Structures																								2	1	1	1
	3	Understand Importance Of Designing The Building To Targeted Seismic Performance.																								2	1	1	1

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Course/Subject with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs															
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3													
Town and Urban Planning	1	Understand Town And Urban Planning And Their Essential Attributes.																								-	-	-	-
	2	Identify Elements Of Planning And Regulations Of The Same.																								-	-	-	-
	3	Implement Guidelines Provided By Standard Authorities.																								-	-	-	-

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Mathematics – III	1	Understand The Concept Of Laplace Transform And Inverse Laplace Transform Of Elementary Functions And Apply It To Solve The Linear Differential Equations With Constant Coefficients Having Their Applications In Mechanical, Electrical, Chemical, Communication Etc. Systems.	3	2											2		
	2	Apply The Concept Of Fourier Transform To Solve The Boundary Value Problems, Problems In Signal Processing And Communication System.	2	1											1		
	3	Apply Partial Differential Equations To Solve Heat Equation, Wave Equation And Laplace Equation Etc.	3	2											3		
	4	Analyze Conformal Mapping, Transformation And Perform Contour Integration Of Complex Function In The Study Of Electromagnetics And Signal Processing.	3	2											1		

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Mechanics of Solids	1	Perform The Stress-Strain Analysis	2			2	2	1	1	1					1	2	1
	2	Draw Force Distribution Diagrams For Members And Determinate Beams	1		1	1									1	2	1
	3	Visualize Force Deformation Behavior Of Bodies	3	2		3	3	2	2	2					1	1	1
	4	Perform Failure Analysis	3	2		3	3	2	2	2					1	1	1

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Building Construction & Drawing	1	Understand Types Of Masonry Structures.	3	2		2		1	3		3				1	1	1
	2	Comprehend Components Of Building And There Purposes.				3			2				2		2		2
	3	Draw Plan, Elevation And Section Of Various Structures.				2	2		3	1	2						
	4	Apply The Principles Of Planning And By Laws Used For Building Planning.		2		2							2				
	5	Prepare Detailed Working Drawing For Doors And Windows.	1			2			2		2						

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Hydraulics - I	1	Calibrate The Various Flow Measuring Devices.	3	2	3	1	1	2	1					2	1	2	3
	2	Determine The Properties Of Fluid And Pressure And Their Measurement.	3	2	3	1	1	2						1	2	2	3
	3	Understand Fundamentals Of Pipe Flow, Losses In Pipe And Analysis Of Pipe Network.	3	2	3	1		1	1					1	2	1	2
	4	Visualize Fluid Flow Phenomena Observed In Civil Engineering Systems	2			2						1			3	1	2

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Surveying BTCVC305	1	Perform Measurements In Linear/Angular Methods.	3	2	2	1	2							1	3	2	1
	2	Perform Plane Table Surveying In General Terrain.	2	2	1	1									1	1	2
	3	Know The Basics Of Leveling And Theodolite Survey In Elevation And Angular Measurements.	3	2	2	2	1							1	3	2	2

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Soft Skills Development	1	Acquire Interpersonal Communication Skills									2	3			1		
	2	Develop The Ability To Work Independently.									2						
	3	Develop The Qualities Like Self-Discipline, Self-Criticism And Self-Management								2	2			1	1		
	4	Have The Qualities Of Time Management And Discipline									1				1		
	4	Present Themselves As An Inspiration For Others											1				

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Solid Mechanics Laboratory	1	Evaluate Young Modulus, Torsional Strength, Hardness And Tensile Strength Of Given Specimens.	2	1	1	2	2	2	1			1		1	2	1	1
	2	Determine The Strength Of Coarse Aggregates.	1	3	1	2	2	2						1	1	1	1
	3	Find The Compressive Strength Of Concrete Cubes And Bricks.	2	1	2	1	2	2	1			2		1	1	1	1
	4	Determine Physical Properties Of Given Coarse Aggregates, Fine Aggregates And Cement Samples.	2	2	1	2	1	2	1			1		1	1	1	1

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Hydraulics-I Laboratory	1	Analyze The Properties Of Fluids And Their Verification.	3	2	2	1								3	2	1	1
	2	Predict Empirical Behavior Of Fluids	3	2	3	1								3	2	1	1
	3	Apply Principles Of Hydraulics While Working In Field.	3	2	3	1								3	2	1	1

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Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3

	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Surveying Laboratory BTCVL309	1 Use The Theodolite Along With Chain/Tape, Compass On The Field.	2	1	1	2	1								3	1	2	
		2 Apply Geometric And Trigonometric Principles Of Basic Surveying Calculations.	3	2	3	2	1									2	1	3
		3 Plan A Survey, Taking Accurate Measurements, Field Booking, And Adjustment Of Errors.	1	1	2	2										2	1	2
		4 Apply Field Procedures In Basic Types Of Surveys, As Part Of A Surveying Team.	2	2	1	2					2					2	1	1
		5 Employ Drawing Techniques In The Development Of A Topographic Map.	2	1	1	2	2									3	1	2
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Building Planning and Drawing	1 To Plan Buildings Considering Various Principles Of Planning And Bye Laws Of Governing Body.	2					2	2		2	3		2	2	1	1	
		2 To Comprehend Various Utility Requirements In Buildings			3			2				2				3	2	
		3 Students Are Able To Understand Various Techniques For Good Acoustics.	2		1				2							1		2
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Environmental Engineering BTCVC402	1 Apply The Water Treatment Concept And Methods.	3		2	3		2	2						1	2	2	
		2 Prepare Basic Process Designs Of Water And Wastewater Treatment Plants.	1	2	3		1	3	3						1	2	2	
		3 Apply The Wastewater Treatment Concept And Methods.	1	1	2		1	3	3						1	2	2	
		4 Apply The Solid Waste Management Concepts.	1	2			1	3	3						1	2	2	
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Structural Mechanics - I	1 Describe The Concept Of Structural Analysis, Degree Of Indeterminacy	1					2	3						2	2	2	
		2 Calculate Slopes And Deflection At Various Locations For Different Types Of Beams		2		2			3						2	2	2	
		3 Identify Determinate And Indeterminate Trusses And Calculate Forces In The Members Of Trusses	2	2	3	2	2	2	2						2	2	2	
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Water Resources Engineering	1 Understand Need Of Irrigation In India And Water Requirement As Per Farming Practice In India.	2	3		2	2							2	2	2	3	
		2 Understand Various Irrigation Structures And Schemes. Water Hydrology.	3	3	3	1	-							3	2	3	3	
		3 Develop Basis For Design Of Irrigation Schemes.	3	2	3		-							1	2	2	3	
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Hydraulics - II	1 Design Open Channel Sections In A Most Economical Way.	3	3	2	1									3	3	3	
		2 Know About The Non-Uniform Flows In Open Channel And The Characteristics Of Hydraulic Jump.	3	3		2									2	3	2	3
		3 Understand Application Of Momentum Principle Of Impact Of Jets On Plane.	3	3	3	1									3	2	3	3
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Engineering Geology BTCVC406	1 Recognize The Different Land Forms Which Are Formed By Various Geological Agents.	2	1	1	1			2						1	2	1	
		2 Identify The Origin, Texture And Structure Of Various Rocks And Physical Properties Of Mineral.	1	1	2	1									1	2		
		3 Emphasize Distinct Geological Structures Which Have Influence On The Civil Engineering Structure.	2	1	3	1			1						2	1	1	
		4 Understand How The Various Geological Conditions Affect The Design Parameters Of Structures.	2	2	1	2	1	1	2						1	2		
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Building Planning and CAD Lab.	1 Draw Plan, Elevation And Section Of Load Bearing And Framed Structures.	1			2	2			2					1			
		2 Draw Plan, Elevation And Section Of Public Structures	1			2	2			2					1			
2021-22, 2022-23	Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Environmental Engg. Lab.	1 Quantify The Pollutant Concentration In Water, Wastewater And Ambient Air.	2	2	1		3	1	3						3	1	2	1
		2 Recommend The Degree Of Treatment Required For The Water And Wastewater.	2	2	3		1	3	3						3	1	2	1
		3 Analyze The Survival Conditions For The Microorganism And Its Growth Rate	2	1	2		1	3	3						3	1	1	

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Course/Subject	with course code	Course Outcomes (COs)	Program Outcomes (POs)												PSOs					
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
HE-II Lab.	1	Design Open Channel Sections In A Most Economical Way.	3	3	2	1											3	3	3	
	2	Know About The Non-Uniform Flows In Open Channel And The Characteristics Of Hydraulic Jump.	3	3		2								2			3	2	3	
	3	Understand Application Of Momentum Principle Of Impact Of Jets On Plane.	3	3	3	1								3			2	3	3	
2022-23	Design of Steel Structures	1	Identify And Compute The Design Loads And The Stresses Developed In The Steel Member.	2	2	2	2	-	-	-	-	-	-	-	-	-	-	3	-	
		2	Analyze And Design The Various Connections And Identify The Potential Failure Modes.	3	3	3	2	-	-	-	3	-	-	-	-	-	-	3	2	3
		3	Analyze And Design Various Tension, Compression And Flexural Members.	3	3	3	2	-	-	-	3	-	-	-	-	-	-	2	3	3
		4	Understand Provisions In Relevant Bis Codes.	2	-	-	-	-	-	2	2	-	-	-	-	-	-	3	3	2
2022-23	Geotechnical Engineering	1	Understand Different Soil Properties And Behavior	-	2	-	3	2	-	-	-	-	-	-	1	1	1	2	2	
		2	Understand Stresses In Soil And Permeability And Seepage Aspects.	3	-	-	2	2	1	-	-	-	-	-	1	1	2	2	2	
		3	Develop Ability To Take Up Soil Design Of Various Foundations	3	-	3	3	3	3	-	-	-	-	-	1	3	2	1	1	
2022-23	Structural Mechanics –II	1	Have A Basic Understanding Of Matrix Method Of Analysis And Will Be Able To Analyze The Determinant Structure.	1					2	3							3	2	1	
		2	Have A Basic Understanding Of The Principles And Concepts Related To Finite Difference And Finite Element Methods		2		2			3							3	2	1	
		3	Have A Basic Understanding Of Concept Of Influence Line	2	2	3	2	2	2	2							2	2	1	
2022-23	Concrete Technology	1	Understand The Various Types And Properties Of Ingredients Of Concrete.	1					2	3			2	2	2					
		2	Understand Effect Of Admixtures On The Behavior Of The Fresh And Hardened Concrete.		2		2			3				2	2	2				
		3	Formulate Concrete Design Mix For Various Grades Of Concrete.	2	2	3	2	2	2	2				2	2	2				
2022-23	Project Management	1	Understand Various Steps In Project Management, Different Types Of Charts.	2	2									2	2	2	3			
		2	Construct Network By Using Cpm And Pert Method.	3				2						3	3		3	2		
		3	Determine The Optimum Duration Of Project With The Help Of Various Time Estimates.		2		1							2			1	3	2	
		4	Know The Concept Of Engineering Economics, Economic Comparisons, And Linear Break Even Analysis Problems.	2	2									1	2	2			1	
		5	Understand The Concept Of Total Quality Management Including Juran And Deming'S Philosophy.				1											2		2
2022-23	Advanced Environmental Engg.	1	Determine The Sewage Characteristics And Design Various Sewage Treatment Plants.	3	3	2			2	2				1			2	2	1	
		2	Understand Municipal Water And Wastewater Treatment System Design And Operation.	3	3	2			2	2				1			2	2	1	
		3	Apply Environmental Treatment Technologies And Design Processes For Treatment Of Industrial Waste Water.	3	3	2	2			1	1				1			2	2	1
		4	Understand The Rural Sanitation Schemes.	1	1	1	1				2				-	1		1	1	
2022-23	Applied Geology	1	Understand Geological Time Scale And Physiographic Division Of India And Their Geological And Characteristics Different Geological Formation In India.	2	2	-	-	-	-	-	-	-	-	1			3	2	3	
		2	Perform Sub Surface Exploration And Interpret Core Log.	2	2	-	3	1	-	-	-	-	-	1	1		3	2	3	
		3	Solve Numerical Problem Based On Core Drilling And Seismic Data.	3	-	-	-	-	-	-	-	-	-	-	-	1		3	2	2
		4	Familiar With Origin Of Earthquake, Seismic Wave And Landslide In Deccan Trap.	2	2	-	-	-	-	-	-	-	-	-	1			3	2	3

2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Hydraulic Engineering Design	1	Design Open Channel Sections In A Most Economical Way.	3	3	2	1									3	3	3
		2	Know About The Non-Uniform Flows In Open Channel And The Characteristics Of Hydraulic Jump.	3	3		2								2	3	2	3
		3	Understand Application Of Momentum Principle Of Impact Of Jets On Plane.	3	3	3	1								3	2	3	3
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Advanced Water Resources	1	Apply Methods To Recharge Ground Water	2			1			2					3	2	2	2
		2	Ability To Know About Various Surface And Subsurface Geophysical Methods For Groundwater Explorations.	2			1			2					3	2	1	1
		3	Ability To Know About Well Hydraulics	2						2					3	2	2	2
		4	Ability To Know About Design Principles Of Well	1		3				2					3	2	2	2
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Geomatics	1	Understand Basics Different Types Of Curves On Roads And Their Preliminary Survey.	2	1	2			1							2		2
		2	Perform Setting Of Curves, Buildings, Culverts And Tunnels.	2	1	2			1	1						2		2
		3	Comprehend Different Geodetic Methods Of Survey Such As Triangulation, Trigonometric Leveling.	2	1		2									1		2
		4	Comprehend Modern Advanced Surveying Techniques.		1		1	2	1							2	1	1
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Town and Urban Planning	1	Understand Town And Urban Planning And Their Essential Attributes.	-	-	-	1	1	2	2	-	-	2	1	1	1	1	1
		2	Identify Elements Of Planning And Regulations Of The Same.	-	-	-	1	-	2	2	1	-	1	1	1	1	1	1
		3	Implement Guidelines Provided By Standard Authorities.	-	-	-	1	-	2	1	1	-	1	1	1	1	1	1
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Material, Testing and Evaluation	1	To develop skill to construct strong and durable structures by applying knowledge of material science	3	3	2	2									2	2	1
		2	To make the students aware of quality assurance and control in their real life as a professional.	3	3			3	3	3				2		2	2	1
		3	To propose suitable material in adverse condition	3	3	2	3									1	1	
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Construction Economics & Finance	1	Adopt As Per Principles Of Economics And Financing	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
		2	Analyze Available Alternatives And Propose Best Suitable Among Them										1			-	-	-
		3	Apply Various Models Of Financial Management And Accounting											1		-	-	-
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Software applications in	1	Understand & Analyse Civil Engineering Softwares	-	1	1	1	3	-	-	-	-	2	-	1	1	2	2
		2	Use Applications Of Various Softwares In Specialized Works Of Civil Engineering	-	1	1	1	3	-	-	-	-	2	-	1	1	2	2
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	SDD of Steel Structures Lab.	1	Simulate A Practical Design Requirement In To A Theoretical Statement To Solve Mathematically To Arrive At A Safe Economical And Realistic Feasible Solution That Can Be Executed.	3	3	3			2						3	1		1
2022-23	Course/Subject			Program Outcomes (POs)												PSOs		
	with course code	Course Outcomes (COs)		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Geotechnical Engineering Lab.	1	Determine Different Engineering Properties Of Soil.	3	3	-	2	-	-	-	-	1	-	-	1	1	2	1
		2	Identify And Classify Soils Based On Standard Geotechnical Engineering Practices.	3	3	-	2	-	-	-	-	1	-	-	1	1	2	1
		3	Perform Laboratory Oratory Compaction And In-Place Density Tests.	3	3	-	2	-	-	-	-	1	-	-	1	1	1	1
		4	Perform And Interpret Direct Shear Tests And Estimate Shear Strength Parameters.	3	3	-	3	-	-	-	-	1	-	-	1	1	2	1

2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Concrete Technology Lab.	1	Understand The Various Types And Properties Of Ingredients Of Concrete.	3				2	2						1	1	1
		2	Understand Effect Of Admixtures On The Behavior Of The Fresh And Hardened Concrete.		2	2			3						1	1	2
		3	Formulate Concrete Design Mix For Various Grades Of Concrete.	2	3	2	3	2		2					3	2	1
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Design of RC Structures	1	Comprehend The Various Design Philosophies Used In Design Of Reinforced Concrete.	1	1	2	1	2	-	-	-	-	2	-	-	1	1
		2	Analyze And Design The Reinforced Concrete Sections Using Working Stress Method.	2	2	2	2	2	-	-	-	-	3	-	-	1	1
		3	Analyze And Design The Reinforced Concrete Sections Using Limit State Method.	3	3	3	3	3	-	-	-	-	2	-	-	1	1
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Foundation Engineering	1	To Predict Soil Behavior Under The Application Of Loads And Come Up With Appropriate Solutions To Foundation Design Queries	3	3	3	-	-	-	-	-	-	-	-	1	1	1
		2	Analyze The Stability Of Slope By Theoretical And Graphical Methods.	3	3	-	3	-	-	-	-	-	-	-	1	1	2
		3	Analyze The Results Of In-Situ Tests And Transform Measurements And Associated Uncertainties Into Relevant Design Parameters.	3	3	-	2	-	-	-	-	-	-	2	1	2	1
		4	Synthesize The Concepts Of Allowable Stress Design, Appropriate Factors Of Safety, Margin Of Safety, And Reliability.	3	3	-	-	-	2	-	-	-	-	1	1	1	1
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Transportation Engineering	1	Comprehend Various Types Of Transportation Systems And Their History Of The Development						3	3				3	1	1	2
		2	Comprehend To Various Types Of Pavements	3					3	3				2		2	1
		3	Design The Pavements By Considering Various Aspects Associated With Traffic Safety Measures.	3	3								2	3	2	2	2
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Industrial Waste Treatment	1	Identify And Analyze The Characteristics Of Industrial Wastewater	2	2	2	1		1	2			1	1	1		
		2	Describe Pollution Effects Of Disposal Of Industrial Effluent.	2		1			2	2						1	
		3	Identify And Design Treatment Options For Industrial Handling Industrial Liquid Waste	3	3	3	2		2	2		1	1	1	1	1	
		4	Formulate Environmental Management Plan				2		1	1			1				
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Managerial Techniques	1	Inculcate Various Managerial Techniques In Practices								1	1	3		2	1	
		2	Analyze Process Control Tools And Techniques To Improve The Outcome								2		2		2	2	
		3	Adopt Modern Technological Advancements To Suit The Project Characteristics, At Large.								1		3		2	2	1
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Open Channel Flow	1	Understand Phenomena Of Hydraulic Jump	1					2						1	1	1
		2	Compute Discharge Through Various Open Channel Sections	2	3	3			3	2	1				2	2	3
		3	Discuss Different Applications Of Gradually Varied Flow Profiles.	1			2	2	2						2	1	1
2022-23	Course/Subject		Program Outcomes (POs)										PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Water Power Engineering	1	Understand Need Of Irrigation In India And Water Requirement As Per Farming Practice In India.	3	1	1	1	1						3	2	2	3
		2	Understand Various Irrigation Structures And Schemes.	3	1	3	1	1						3	2	2	2
		3	Develop Basis For Design Of Irrigation Schemes.	2	1	1	1	1						3	2	2	1

2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Ground Improvement Techniques	1	To Identify And Evaluate The Deficiencies If Any In The Deposits Of The Given Project Area Capable Of Providing Alternative Methods To Improve Its Quality So That The Structures Built On It Will Be Stable And Serve The Intended Purpose.	2	2	2	2	-	3	1	-	-	-	-	1	2	2	2
		2	Capable Of Providing Alternative Methods To Improve Its Quality So That The Structures Built On It Will Be Stable And Serve The Intended Purpose.	1	1	2	-	-	3	2	-	-	2	1	3	2	2	2
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Structural Audit	1	Gain The Knowledge Of Bye Laws, Procedure Of Structural Audit And Study The Typical Problems In Structures.	3											1	1	1	
		2	Aware Of Causes And Types Of Deterioration In Structures.	1				2							2	1	1	
		3	Develop Skills For Use Of Various Nondestructive Tests Required During Auditing Of Structures.	2		2	2								1	1	1	
		4	Strength Evaluation Of Existing Structures.	1	2			2							1	1	1	
		5	Acquire Knowledge Of Legal Procedure To Conduct Structural Audits.	2				2							1	1	1	
		6	Prepare A Structural Audit Report.	3	2	2	2	1							1	1	1	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Intelligent Transportation Systems	1	Gain The Knowledge Intelligent Transport Components	3			2			3				2	3	1	2	
		2	Understand Functional Areas Of Its		2				3	2						3	1	
		3	Management Of Its And Correlated Systems	2	1		2		1		2		1			2	2	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Plastic Analysis of Structures	1	Understand Modes Of Structural Collapse	1	1		1						2		1	1	2	1
		2	Perform The Plastic Analysis And Design Of Various Determinant And In-Determinant Structures.	1	1	2	1								1	1	1	1
		3	Adapt Plastic Theory Of Design For Various Structures	1	1	2	1								1	1	1	1
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Numerical Methods in Civil Engg.	1	Use Appropriate Numerical Methods To Determine Approximate Solutions Of Systems Of Linear Equations, Non-Linear Equations And Ordinary Differential Equations.	3	2										3			
		2	Demonstrate The Use Of Interpolation Methods To Find Intermediate Values In Given Graphical And/Or Tabulated Data.	2	2		2								2			
		3	Analyze Experimental Data And Apply Regression Analysis In Various Types Of Problems.	2	2		3								1			
		4	Familiar With Programming Languages Like Fortran / C / C++.	1				1								2		
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Engineering Management	1	Demonstrate The Nuances Of Management Functions.									1	1	3		2	1	
		2	Analyze The Framework Of A Business Organization.									2		2		2	2	
		3	Adopt An Empirical Approach Toward Business Situations.									1		3		2	2	1
		4	Apply Various Management Techniques.									2		3		3	2	1
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Environmental Impact Assessment	1	Identify The Environmental Attributes To Be Considered For The Eia Study				1	1	2	3				1				
		2	Formulate Objectives Of The Eia Studies				1	2	1	2						2		
		3	Identify The Methodology To Prepare Rapid Eia							1								
		4	Prepare Eia Reports And Environmental Management Plans							1				2				
2022-23	Course/Subject		Program Outcomes (POs)												PSOs			
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
	Basic Human Rights	1	Understand The History Of Human Rights						1									
		2	Learn To Respect Others Caste, Religion, Region And Culture.															
		3	Be Aware Of Their Rights As Indian Citizen															
		4	Understand The Importance Of Groups And Communities In The Society										3					
		5	Realize The Philosophical And Cultural Basis And Historical Perspectives Of Humanrights.							2		2						
		6	Make Them Aware Of Their Responsibilities Towards The Nation											1	1			

2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Business Communication and Presentation Skills	1	Inculcate Basics Of Business Communication Skills & Relevant Tools.									2	3			1			
		2	Understand Business Sops And Essentials Of The Same									2							
		3	Adapt Modern Skills Regarding Communication, Presentation & Team Working									2	3		2	1			
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Composite Materials	1	Understand Fundamental Knowledge In Mechanical Analysis	3	2	1											1	1	1
		2	Understand Design Of Structures Made Of Composite Materials	2	1	2		1	2								1	1	1
		3	Propose Suitable Materials In Relation With The Project	2	2	1	3		1							1	1	1	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Experimental Stress Analysis	1	Apply Principles Of Elasticity Theory To Determine Stresses And Strains.	3	2		1	2	2			2					1		
		2	Apply Theory Of Elasticity And Formulate Plane Stress And Plane Strain Problems	2	2	3												1	
		3	Formulate The Stress Analysis Problems Using Elasticity Theory	2	1		2	2	1			1					1		
		4	Apply Experimental Techniques To Solve Field Problems.	2	2		2	1	2								1		
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Applications of Remote Sensing and Geographic Information	1	Acquire Knowledge Demonstrating Of Earth Resources Management Using Remote Sensing	3	3	-	-	3	-	2	-	-	-	-	2	3	3	3	
		2	Gain Skills In Storing, Managing Digital Data For Planning And Development.	3	2	1	2	3	-	-	-	-	-	-	1	1	3	3	3
		3	Acquire Skills In Advance Software'S Deals With Remote Sensing Data For Utilization.	2	2	-	2	3	-	-	-	-	-	-	1	3	3	3	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Civionics: Instrumentation & Sensor Technologies for Civil Engineering	1	Understand Workings Of Sensors And Transducers.	2	2	1	1	2									1		
		2	Determine The In-Situ Characterization And Various Properties.	2	2	1		2	1									1	
		3	Carry Out Subsurface Measurements And Techniques Of Data Collection.	1	2	1	1										1		
		4	Understand Ongoing Studies On Use Of Sensors In Civil Engineering Practice & Research	1	2	2	2										1		
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Planning for Sustainable Development	1	To Understand And Evaluate The Concept Of Sustainable Development.	1					3	3			1	1	2	1	1		
		2	Recognize Impact On Environmental And Poverty Sustainable Development	1					2	3			1	1	2	1	1		
		3	Comprehend Strategies And Challenges Of Sustainable Development.	1						2	3			1	2	2	1	1	
		4	To Identify Innovations And Its Strategies To Attain Sustainable Development- Environmental Management And Innovation Strategies.	1					3	3	3			1	2	2	1	1	
		5	Familiar With Governance And Policies Of Sustainable Development At Societal Level.	1				2	3	3	2			2	2	2	1	1	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Development Engineering	1	To Develop Multi Scaled Perspective About Decisions In The Built Environment.	1	-	2	1	-	1	3	2	2	2	2	1	3	2	3	
		2	To Expose The Students To The Analysis And Evaluation Of Real World Problems Aiming To Bring Desired Change In The Society.	2	2	2	2	2	3	2	2	1	3	2	2	2	2	3	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	Indian Constitution	1	Understand And Identify The Motives Philosophical Basis Of The Indian Constitution								1	1							
		2	Be Aware Of Their Rights As Indian Citizen								2	1							
		3	Understand The Structure And Classify Functions Of The Executive, The Legislature Of India To Examine The Decentralization Of Power																
		4	Understand The Structure And Functions Of The State Govt. Union Govt. And Local Govt.																
		5	Know The Role And Functioning Of Election Commission																
2022-23	Course/Subject		Program Outcomes (POs)												PSOs				
	with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	SDD of RC Structures Lab.	1	Comprehend The Various Design Philosophies Used In Design Of Reinforced Concrete.	1	1	1	1	1	-	-	-	-	2	-	-	1	1	1	
		2	Analyze And Design The Reinforced Concrete Sections Using Working Stress Method.	2	2	2	2	2	2	-	-	-	2	-	-	1	1	1	
		3	Analyze And Design The Reinforced Concrete Sections Using Limit State Method.	3	3	3	3	3	-	-	-	2	-	-	1	1	1		

2022-23	Course/Subject		Program Outcomes (POs)												PSOs					
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
	Transportation Engineering Lab	1	Perform tests on various road construction materials.			2				2	3	2			2			3	2	
		2	Perform Cbr Tests On Local Soils To Determine Subgrade Properties Needed For Roadways.	2						3			1					1	2	
2022-23	Course/Subject		Program Outcomes (POs)												PSOs					
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
	Mini Project BTCVM609	1	To Do Innovative Thinking And Thereby Prepare Students For The Main Project	-	2	2	1	1	-	-	-	-	1	-	1	3	2	1		
		2	To Provide Students Hands-On Experience In Problem-Solving, Fabrication, Record Keeping, Documentation, And Enhancing Skill And Competency	1	2	2	2	1	-	-	-	2	2	-	2	3	2	1		
		3	To Develop An Industrial Environment And Culture Within The Department.	-	-	-	-	-	-	-	-	1	-	-	1	3	1	3		
2022-23	Course/Subject		Program Outcomes (POs)												PSOs					
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
	Internship BTCVP610	1	Explore Career Alternatives Before Graduation																	
		2	Integrate Theory And Practical Concepts	2	1	2	2	3	2	2	3	-	2	2	2	3	2	3		
		3	To Apply Different Soft Skills Such As Time Management And Communication Skills During The Internship Program.	-	-	-	-	1	2	-	2	-	1	-	1	3	2	2		
		4	To Develop Confidence In Building Employability Skills And Making Students Industry Ready.	1	2	2	2	3	-	1	3	-	1	2	1	3	2	3		
2022-23	Course/Subject		Program Outcomes (POs)												PSOs					
	with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
	Seminar BTCVS710	1	To Identify Problem Statement Based On Literature Survey And Area Of Interest	2	3	-	2	-	-	-	-	-	-	1	3	2	2			
		2	To Develop Competency In Presenting Relevant Topics	1	2	-	2	-	1	-	-	-	3	-	1	3	2	2		
		3	To Develop The Skill Of Delivering The Topics Clearly And Audibly In A Appropriate Manner Relating To The Identified Statement..	-	1	-	2	2	2	-	-	-	-	1	3	2	3			