Yashoda Shikshan Prsarak Mandal's
Yashoda Technical Campus
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Faculty of Engineering

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	SY Civil semester III
Course Code and Course Title	BTCVC303, Building Construction & Drawing
Prerequisite/s	Basic Civil Engineering
Teaching Scheme: Lecture/Tutorial/Practical	02/01/00
Credits	3
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs):		**Blooms**
BTCVC303_1	**Understand** types of masonry structures	L2
BTCVC303_2	**Comprehend** components of building and there purposes.	L2
BTCVC303_3	**Draw** plan, elevation and section of various structures.	L3
BTCVC303_4	**Apply** the principles of planning and by laws used for building planning.	L3
BTCVC303_5	**Prepare** detailed working drawing for doors and windows.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO2**	**PSO3**
BTCVC303_1	2								2			2	2	2	2
BTCVC303_2	3									2		3	2	2	
BTCVC303_3	3	2							2	2		2	2	2	2
BTCVC303_4	2	2						1		2		3	3	2	
BTCVC303_5	2								2	2				1	
Total	12	4						1	6	8		10	9	9	4
Average	2.4	2						1	2	2		2.5	2.25	1.8	2
BTCVC303	**2**	**2**						**1**	**2**	**2**		**3**	**2**	**2**	**2**

CO Attainment Targets:

CO	**303_1**	**303_2**	**303_3**	**303_4**	**303_5**
Previous Attainment					
Target for CAY					

Prepared by
Course Coordinator

Verified by
Academic Coordinator

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Department of Civil Engineering

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	S.Y. Sem. –III
Course Code and Course Title	**Hydraulics I (BTCVC304)**
Prerequisite/s	Physics, Mathematics
Teaching Scheme: Lecture/Tutorial/Practical	03/01/02
Credits	04
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC304 _1	**Calibrate** the various flow measuring devices.	**L3**
BTCVC304 _2	**Determine** the properties of fluid and pressure and their measurement.	**L3**
BTCVC304 _3	**Understand** fundamentals of pipe flow, losses in pipe and analysis of pipe network.	**L2**
BTCVC304_4	**Visualize** fluid flow phenomena observed in Civil Engineering systems.	**L3**
BTCVC304_5	**Use** dimensional analysis for solving problems of fluid flow	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVC304 _1	**2**												**2**	**2**	**2**
BTCVC304 _2	**3**											**2**	**2**	**2**	**2**
BTCVC304 _3	**3**	**2**										**2**	**2**	**2**	**2**
BTCVC304_4	**3**	**2**										**2**	**2**	**2**	**2**
BTCVC304_5	3	2												2	2
Total	14	2										6	8	10	10
Average	2.8	2										2	2	2	2
BTCVC304	**3**	**2**										**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	**304_1**	**304_2**	**304_3**	**304_4**	**304_5**
Previous Attainment					
Target for CAY					

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	SY. Sem. – III
Course Code and Course Title	BTCVC305, Surveying
Prerequisite/s	Basic Civil Engineering, Mathematics
Teaching Scheme: Lecture/Tutorial/Practical	02/01/02
Credits	3
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC305_1	**Apply** chain surveying techniques for accurate measurement and mapping of land areas.	L3
BTCVC305_2	**Apply** compass and plane table surveying techniques for measuring bearings and areas in field surveys.	L3
BTCVC305_3	**Measure** accurately the ground elevations and areas using levelling techniques and planimeter tools.	L3
BTCVC305_4	**Interpret** angular measurements using a theodolite for precise surveying applications.	L2
BTCVC305_5	**Understand** the procedures in basic types of surveys for engineering projects.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO**	**PSO**	**PSO**
BTCVC305_1	3	2	2	2	2				2	2		2	3	2	
BTCVC305_2	3	3	2	2	2				2	2		2	3	2	2
BTCVC305_3	3	2	3	2	2				2	2		2	3	3	2
BTCVC305_4	3	2	2	3	2				2	2		2	3	3	2
BTCVC305_5	2	2	2	2	2				2	2		2	2	3	2
Total	14	11	11	11	10				10	10		10	14	13	08
Average	2.8	2.2	2.2	2.2	2				2	2		2	2.8	2.6	2
BTCVC305	**3**	**2**	**2**	**2**	**2**				**2**	**2**		**2**	**3**	**3**	**2**

CO Attainment Targets:

CO	**305_1**	**305_2**	**305_3**	**305_4**	**305_5**
Previous Attainment					
Target for CAY					

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Department of Civil Engineering

Academic Year 2023-24 **Semester- ODD**

Structure of Course

Class	SY. Sem. –III
Course Code and Course Title	**BTCVL308 Hydraulics I LAB**
Prerequisite/s	BTCVL308
Teaching Scheme: Lecture/Tutorial/Practical	02/01/02
Credits	01
Evaluation Scheme: CA / MSE / ESE	20/30

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL308_1	Analyze the properties of fluids and their verification.	**L4**
BTCVL308_2	Predict empirical behavior of fluids.	**L3**
BTCVL308_3	Apply principles of hydraulics while working in field.	**L3**
BTCVL308_4	Work effectively in team to perform and finding result	**L2**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO 2**	**PSO 3**
BTCVL 308.1	3	2	2									2	3	2	2
BTCVL 308.2	3	2	2									2	2	2	2
BTCVL 308.3	3	3	2									3	2	2	2
BTCVL 308.4								3	3			3	2	2	2
Total	9	7	6					3	3			10	9	8	8
Average	3	2.3	2					3	3			2.5	2.25	2	2
BTCVC405	**3**	**2.5**	**2**					**3**	**3**			**2.5**	**2.5**	**2**	**2**

CO Attainment Targets:

CO	**308_1**	**308_2**	**308_3**	**308_4**
Previous Attainment				
Target for CAY				

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Department of Civil Engineering

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	SY. Sem. – I
Course Code and Course Title	BTCVL309, Surveying Laboratory
Prerequisite/s	Basic Civil Engineering, Mathematics
Teaching Scheme: Lecture/Tutorial/Practical	02/01/02
Credits	1
Evaluation Scheme: CA/ESE	20/30

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL309_1	Use the theodolite along with chain/tape, compass on the field	L3
BTCVL309_2	Apply geometric and trigonometric principles of basic surveying calculations	L3
BTCVL309_3	Plan a survey, taking accurate measurements, field booking, and adjustment of errors	L3
BTCVL309_4	Apply field procedures in basic types of surveys, as part of a surveying team	L3
BTCVL309_5	Employ drawing techniques in the development of a topographic map	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PS O3**
BTCVL309_1	3	2	2	2	2				3	2		2	3	2	2
BTCVL309_2	3	3	2	2	2				2	2		2	3	2	3
BTCVL309_3	3	3	3	2	3				3	2		2	3	3	2
BTCVL309_4	3	2	2	2	2				3	3		2	3	2	2
BTCVL309_5	2	2	2	2	3				3	3		2	3	3	2
Total	14	12	11	10	12				14	12		10	15	12	11
Average	2.8	2.4	2.2	2	2.4				2.8	2.4		2	3	2.4	2.2
BTCVC305	**3**	**2**	**2**	**2**	**2**				**3**	**2**		**2**	**3**	**2**	**2**

CO Attainment Targets:

CO	**309_1**	**309_2**	**309_3**	**309_4**	**309_5**
Previous Attainment					
Target for CAY					

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25

Semester- ODD

Structure of Course

Class	TY Civil semester V
Course Code and Course Title	BTCVC501, Design of Steel Structures
Prerequisite/s	Basic Civil Engineering, Mechanics of Solid
Teaching Scheme: Lecture/Tutorial/Practical	02/01/00
Credits	3
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs): After successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC501_1	**Identify** and compute the design loads and the stresses developed in the steel member.	L2
BTCVC501_2	**Analyze and design** the various connections and identify the potential failure modes.	L3
BTCVC501_3	**Analyze and design** various tension, compression and flexural members.	L3
BTCVC501_4	**Understand** provisions in relevant BIS Codes.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	PSO1	PSO2	PSO3
BTCVC501_1	3	2							2	2		2	2	3	2
BTCVC501_2	3	2	2					2	2	2		2	2	2	2
BTCVC501_3	3	3	3					2	2	2		2	2	2	2
BTCVC501_4	2	2	2					2		2		3	3	2	1
Total	11	9	7					6	6	8		9	9	9	7
Average	2.75	2.25	2.33					2	2	2		2.25	2.25	2.25	1.75
BTCVC501	**3**	**3**	**2**					**2**	**2**	**2**		**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	501_1	501_2	501_3	501_4
Previous Attainment				
Target for CAY				

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	TY. Sem. – V
Course Code and Course Title	BTCVC502 , Geotechnical Engineering
Prerequisite/s	Engineering Geology
Teaching Scheme: Lecture/Tutorial/Practical	03/01/02
Credits	4
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC502_1	Understand different soil properties and behavior.	L2
BTCVC502_2	Understand stresses in soil and permeability and seepage aspects.	L2
BTCVC502_3	Develop ability to take up soil design of various foundations.	L3
BTCVC502_4	Apply Earth Pressure and Consolidation aspects for design of various foundations.	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVC502_1	2	2	2									3	2		2
BTCVC502_2	2	2	2									3	2		2
BTCVC502_3	3	3	3									3	2		2
BTCVC502_4	3	3	3									3	2		2
Total	10	10	10									12	8		8
Average	2.5	2.5	2.5									3	2		2
BTCVC502	**3**	**3**	**3**									**3**	**2**		**2**

CO Attainment Targets:

CO	**502_1**	**502_2**	**502_3**	**502_4**
Previous Attainment				
Target for CAY				

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Academic Year 2024-25

Semester- ODD

Structure of Course

Class	TY. Sem. – V
Course Code and Course Title	**BTCVC503,** Structural mechanics II
Prerequisite/s	Strength of Material and Structural Mechanics I
Teaching Scheme: Lecture/Tutorial/Practical	02/01/00
Credits	3
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC503_1	Have a basic understanding of matrix method of analysis and will be able to analyze the determinant structure	L3
BTCVC503_2	Have a basic understanding of the principles and concepts related to finite difference and finite element methods	L2
BTCVC503_3	Have a basic understanding of concept of influence line and will be able to analyze the determinant structure	L3
BTCVC503_4	Analyze cables, arches and suspension bridges	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO**	**PSO**	**PSO**
BTCVC503_1	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVC503_2	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVC503_3	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVC503_4	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	12	8	0	0	0	0	0	0	0	0	0	0	8	8	8
Average	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVC503	**3**	**2**	0	0	0	0	0	0	0	0	0	0	**2**	**2**	**2**

CO Attainment Targets:

CO	**403_1**	**403_2**	**403_3**	**403_4**	**403_5**
Previous Attainment					
Target for CAY					

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Academic Year 2024-25 Semester- ODD

Structure of Course

Class	T.Y. Sem. – V
Course Code and Course Title	BTCVC504 Concrete Technology
Prerequisite/s	Basic Civil Engineering
Teaching Scheme: Lecture/Tutorial/Practical	02/00/02
Credits	2
Evaluation Scheme: CA/MSE/ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC504_1	Understand the various types and properties of ingredients of concrete.	L1
BTCVC504_2	Understand the effect of admixtures on the behavior of the fresh and hardened concrete.	L1
BTCVC504_3	Formulate concrete design mix for various grades of concrete.	L3
BTCVC504_4	Describe the procedure of determining the properties of fresh and hardened concrete	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVC504_1	2	1							2	2		2	2	2	2
BTCVC504_2	2	2					2		2	2		2	2		1
BTCVC504_3	2	2			2		2		2	2		2	2		2
BTCVC504_4	2		0	0	2				2	2		2	2		2
Total	8	5	0	0	4	0	4	0	8	8	0	8	8	2	7
Average															
BTCVC504															

CO Attainment Targets:

CO	BTCVC504_1	BTCVC504_2	CO:504_3	CO:504_4	
Previous Attainment					
Target for CAY					

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Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	T.Y. Sem. –V
Course Code and Course Title	**BTHM 505 Project management**
Prerequisite/s	Mathematics
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	03
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTHM 505 _1	Understand various steps in project Management, different types of charts.	**L2**
BTHM 505 _2	Construct network by using CPM and PERT method	**L3**
BTHM 505 _3	Determine the optimum duration of project with the help of various time estimates	**L3**
BTHM 505 _4	Know the concept of engineering economics, economic comparisons, and linear break even analysis problems	**L2**
BTHM 505_5	Understand the concept of total quality Management including Juran and Deming's philosophy	**L2**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PS**	**PSO**	**PSO**
BTHM 505 _1	**3**	**2**									**3**	**3**	**2**	**2**	**2**
BTHM 505_2	**3**	**2**									**3**	**2**	**2**	**2**	**2**
BTHM 505_3	**3**	**2**									**3**	**2**	**2**	**2**	**2**
BTHM 505_4	**2**										**3**	**2**	**2**	**2**	**2**
BTHM 505_5	**2**										**3**	**3**	**3**	**2**	**2**
Total	13	6									15	12	11	10	10
Average	2.6	2									3	2.4	2.2	2	2
BTHM 505	**3**	**2**									**3**	**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	**505_1**	**505_2**	**505_3**	**505_4**	**505_5**
Previous Attainment	**3.0**	**2.89**	**3.0**	**3.0**	**3.0**
Target for CAY	**3.0**	**3.0**	**3.0**	**3.0**	**3.0**

Prepared by
Course Coordinator

Verified by
Academic Coordinator

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Department of Civil Engineering
Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	TY. Sem. – V
Course Code and Course Title	**BTCVES507,** Software Applications in Civil Engineering
Prerequisite/s	Computer Skills, Engineering graphics
Teaching Scheme: Lecture/Tutorial/Practical	02/00/00
Credits	Audit
Evaluation Scheme: CA/ESE	50/0

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVES507_1	Analyze and design determinant structure	L3
BTCVES507_2	Understand & Analyse civil engineering softwares	L3
BTCVES507_3	Use applications of various softwares in specialized works of	L3
BTCVES507_4	Application of problems in hydraulics	L3
BTCVES507_5	Application of problems in Geotechnical engineering	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PS O3**
BTCVES507_1	3	2	2	0	0	0	0	0	0	0	0	0	2	2	2
BTCVES507_2	3	2	2	0	3	0	0	0	0	0	0	2	2	2	2
BTCVES507_3	3	2	2	0	3	0	0	0	0	0	0	2	2	2	2
BTCVES507_4	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVES507_5	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	15	10	6	0	6	0	0	0	0	0	0	4	10	10	10
Average	3	2	2	0	3	0	0	0	0	0	0	2	2	2	2
BTCVES507	**3**	**3**	**2**	0	**3**	0	0	0	0	0	0	**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	**403_1**	**403_2**	**403_3**	**403_4**	**403_5**
Previous Attainment					
Target for CAY					

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	TY Civil semester V
Course Code and Course Title	BTCVC508, SDD of Steel Structures Lab
Prerequisite/s	Mechanics of Solid, Design of Steel Structures
Teaching Scheme:	00/00/02
Credits	1
Evaluation Scheme: CA/ESE	20/30

Course Outcomes:

Course Outcomes (COs): After successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL508_1	**calculate** different loads and perform load combination analysis for different Steel Structures as per codal provisions.	L3
BTCVL508_2	**apply** the principles, procedures and current code requirements for the design of Compression, Tension members	L3
BTCVL508_3	**work** in a group for design oriented task related to project.	L2
BTCVL508_4	**develop** skills of technical report writing and comprehension of results etc.	L2

Mapping of CO's with PO's and PSO's:

Course	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO2**	**PSO3**
BTCVL508_1	**3**	**2**	**2**					2				**2**	**2**	**2**	2
BTCVL508_2	**3**	**2**	**2**					**2**				**2**	**2**	**2**	
BTCVL508_3	**3**	**3**							**3**		**2**	**3**	**2**	**2**	2
BTCVL508_4										**3**	**2**	**3**	**2**	**2**	2
Total	9	7	4					4	3	3	4	10	8	8	6
Average	3	2.33	2					2	3	3	2	2.5	2	2	2
BTCVC508	**3**	**2**	**2**					**2**	**3**	**3**	**2**	**3**	**2**	**2**	**2**

CO Attainment Targets:

CO	**508_1**	**508_2**	**508_3**	**508_4**
Previous Attainment				
Target for CAY				

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	TY. Sem. – V
Course Code and Course Title	BTCVL509 , Geotechnical Engineering Lab
Prerequisite/s	Engineering Geology
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	1
Evaluation Scheme: CA/ESE	20/30

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL509_1	Determine different engineering properties of soil.	L2
BTCVL509_2	Identify and classify soils based on standard geotechnical engineering practices.	L3
BTCVL509_3	Perform Laboratory compaction and in-place density tests.	L3
BTCVL509_4	Perform and interpret direct shear tests and estimate shear strength parameters.	L4

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVL509_1	3	2	2	2			2					2	2	2	2
BTCVL509_2	3	2	2	2			2					2	2	2	2
BTCVL509_3	3	2	2	2			2					2	2	2	2
BTCVL509_4	3	2	2	2			2					2	2	2	2
Total	12	8	8	8			8					8	8	8	8
Average	3	2	2	2			2					2	2	2	2
BTCVL509	**3**	**2**	**2**	**2**			**2**					**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	**509_1**	**509_2**	**509_3**	**509_4**
Previous Attainment				
Target for CAY				

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Department of Civil Engineering

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	T.Y. Sem. – V
Course Code and Course Title	BTCVL510 Concrete Technology Lab.
Prerequisite/s	Basic Civil Engineering
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	1
Evaluation Scheme: CA/MSE/ESE	20/00/30

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL510 _1	Perform tests on Cement.	L3
BTCVL510 _2	Perform tests on Aggregates.	L3
BTCVL510 _3	Perform tests on Fresh concrete.	L3
BTCVL510 _4	Perform tests on Hardened Concrete.	L3
BTCVL510 _5	Design trial mixes by various methods	L4
BTCVL510 _6	Understand Non-Destructive Test.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO**	**PSO**	**PSO**
BTCVL510 _1	3	2						2	2	2		2	2	2	2
BTCVL510 _2	2	2			2	2		2	3	2		2	2	2	2
BTCVL510 _3	3	2	2			2	2	2	2	2		2	2	2	2
BTCVL510 _4	2	2			2	2		2	2	2		2	2	2	2
BTCVL510 _5	3	2						2	2	2		2	2	2	2
BTCVL510 _6	2	2			2	2		2	3	2		2	2	2	2
Total															
Average															
BTCVL510															

CO Attainment Targets:

CO	510 _1	510 _2	510 _3	510 _4	510 _5	510 _6
Previous Attainment						
Target for CAY						

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25
Semester- ODD

Structure of Course

Class	Final Year Civil semester VII
Course Code and Course Title	BTCVC701, Design of RC & PSC Structures
Prerequisite/s	Mechanics of Solid, Design of RC Structures
Teaching Scheme:	03/01/00
Credits	3
Evaluation Scheme: CA/ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): After successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC701_1	Identify the behavior, analyze and design of the beam sections subjected to torsion.	L2
BTCVC701_2	**Analyze and design** of axially and eccentrically loaded column and construct the interaction diagram for them.	L3
BTCVC701_3	**Understand** various concepts, systems and losses in pre-stressing.	L2
BTCVC701_4	**Analyze** and design the rectangular and symmetrical I-section pre-stressed beam / girders.	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	PSO1	PSO2	PSO3
BTCVC701_1	3	2	2					2		2		2	2	2	2
BTCVC701_2	3	2	2					2				2	3	2	2
BTCVC701_3	2	2						2		2		2	2	2	2
BTCVC701_4	3	2	2					2				2	2	2	2
Total	11	8	6					8		4		8	9	8	8
Average	2.75	2	2					2		2		2	2.25	2	2
BTCVC701	3	2	2					2		2		2	2	2	2

CO Attainment Targets:

CO	701_1	701_2	701_3	701_4
Previous Attainment				
Target for CAY				

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Department of Civil Engineering

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	Final Year Sem. – VII
Course Code and Course Title	BTCVC702 Infrastructure Engineering
Prerequisite/s	Basic Civil Engineering
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	3
Evaluation Scheme: CA/MSE/ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC702_1	Know about the basics and design of various components of railway	L2
BTCVC702_2	Understand the types and functions of tracks, junctions and railway stations.	L2
BTCVC 702_3	Understand Airport engineering.	L1
BTCVC 702_4	Understand Docks and Harbors.	L1
BTCVC 702_5	Know about the aircraft characteristics, planning and components of airport	L1
BTCVC 702_6	Understand the types and components of docks and harbors.	L1
BTCVC 702_7	Understand the Tunnel Engineering.	L1
BTCVC 702_8	Understand Mass rapid transit system.	L1

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO**	**PSO**	**PSO**
CO: 702_1	2								2	2		2	2	2	2
CO: 702_2	2	2	2						2	2		2	2	2	2
CO: 702_3	1												1		1
CO: 702_4	1											1	1		1
CO: 702_5	2		2				2					1	1		1
CO: 702_6	1											1	1		1
CO: 702_7	2												2	2	2
CO: 702_8	2												2		2
Total															
Average															
BTCVC702															

CO Attainment Targets:

CO	702_1	702_2	702_3	702_4	702_5	702_6	702_7	702_8
Previous Attainment								
Target for CAY								

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	B. Tech. Sem. –VI
Course Code and Course Title	**BTCVC703 Construction Techniques**
Prerequisite/s	BTCVC406, BTCVC502, BTCVC504
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	03
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVC703 _1	**Understand** the planning of new project with site accessibility and services required.	**L2**
BTCVC703 _2	**Comprehend** the various civil construction equipment's.	**L3**
BTCVC703 _3	**Familiar** with layout of RMC plant, production, capacity and operation process..	**L2**
BTCVC703_4	**Recognize** various aspect of road construction, construction of diaphragm walls, railway track construction etc.	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVC703 _1	2							2			2	2	2		
BTCVC703 _2	3							2			2	2	2		
BTCVC703 _3	2							2				2	2		
BTCVC703_4	3							2					2		
Total	10							8			4	6	8		
Average	2.5							2			2	2	2		
BTCVC703	**3**							**2**			**2**	**2**	**2**		

CO Attainment Targets:

CO	**703_1**	**703_2**	**703_3**	**703_4**
Previous Attainment				
Target for CAY				

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Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	Final year . Sem. – VII
Course Code and Course Title	**BTCVE705I**, Bridge Engineering
Prerequisite/s	Steel Structure Design, Design of Reinforced Concrete Structures, Transportation Engineering
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	3
Evaluation Scheme: CA/ESE	20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVE705I_1	Understand components of bridges and its various types..	L2
BTCVE705I_2	Understand site selection criteria	L2
BTCVE705I_3	Comprehend various forces acting on bridges	L2
BTCVE705I_4	Analyze bridge structures using different analysis techniques.	L3
BTCVE705I_5	Understand importance of different types of bridge bearings.	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO**	**PSO**	**PS**
BTCVE705I_1	3	0	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVE705I_2	3	0	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVE705I_3	3	2	0	0	0	0	0	0	0	0	0	0	2	2	2
BTCVE705I_4	3	2	2	0	0	0	0	0	0	0	0	0	2	2	2
BTCVE705I_5	3	2	2	0	0	0	0	0	0	0	0	0	2	2	2
Total	15	6	4	0	0	0	0	0	0	0	0	0	10	10	10
Average	3	2	2	0	0	0	0	0	0	0	0	0	2	2	2
BTCVE705I	**3**	**3**	**2**	0	0	0	0	0	0	0	0	0	**2**	**2**	**2**

CO Attainment Targets:

CO	**403_1**	**403_2**	**403_3**	**403_4**	**403_5**
Previous Attainment					
Target for CAY					

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	TY. Sem. – VII
Course Code and Course Title	BTCVOE706G , Bamboo Construction Technology
Prerequisite/s	Material Testing and Evaluation
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	Audit
Evaluation Scheme: CA/ESE	-

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVOE706G _1	Understand need of Bamboo in construction.	L2
BTCVOE706G _2	Understand bamboo as a construction material	L2
BTCVOE706G _3	Develop construction techniques in bamboo	L3
BTCVOE706G _4	Apply knowledge of Bamboo anatomy and Properties in Practical design of Bamboo Projects.	L3

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTCVOE706G _1	2	2	2	3		3	3		2			3	2	2	
BTCVOE706G _2	2	2	2	3		3	3		2			3	2	2	
BTCVOE706G _3	3	3	3	3		3	3		2		2	3	3	2	
BTCVOE706G _4	3	3	3	3		3	3		2		3	3	2	2	2
Total	10	10	10	12		12	12		8		5	12	9	8	2
Average	2.5	2.5	2.5	3		3	3		2		1.25	3	2.25	2	1
BTCVOE706G	**3**	**3**	**3**	**3**		**3**	**3**		**2**		**1**	**3**	**2**	**2**	**1**

CO Attainment Targets:

CO	**706_1**	**706_2**	**706_3**	**706s_4**
Previous Attainment				
Target for CAY				

Prepared by
Course Coordinator

Verified by
Academic Coordinator

Approved by
HOD

Yashoda Technical Campus Faculty of Engg.(Civil) Satara

Vision: To become centre of excellence by producing Civil engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.

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Yashoda Shikshan Prsarak Mandal's
Yashoda Technical Campus
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Faculty of Engineering

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	Final Year Civil semester VII
Course Code and Course Title	BTCVC708, Design & Drawing of Prestressed Concrete
Prerequisite/s	Mechanics of Solid, Design of RC & PSC Structures
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	1
Evaluation Scheme: CA/ESE	30/20

Course Outcomes:

Course Outcomes (COs): After successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL708_1	**Understand** different types of losses.	L2
BTCVL708_2	**Understand** various concepts, systems and in pre-stressing.	L2
BTCVL708_3	**Identify** the behavior of the beam sections subjected to torsion.	L2
BTCVL708_4	**Design** and drawing of slab and girders.	L3
BTCVL708_5	**Communicate** technical information by means of report and presentation.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO2**	**PSO3**
BTCVL708_1	3								2	2		2	2	2	2
BTCVL708_2	3	2						2	2	2		2	2	2	
BTCVL708_3	3	2	2						2	2		2	2	2	2
BTCVL708_4	2	2	2						2	2		2	2	2	
BTCVL708_5									2	3		2	2	3	
Total	11	6	4					2	10	11		10	10	11	4
Average	2.75	2	2					2	2	2.2		2	2	2.2	2
BTCVC708	**3**	**2**	**2**					**2**	**2**	**2**		**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	**708_1**	**708_2**	**708_3**	**708_4**	**708_5**
Previous Attainment					
Target for CAY					

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Department of Civil Engineering

Academic Year 2024-25 **Semester- ODD**

Structure of Course

Class	Final year Sem – VII
Course Code and Course Title	**BTCVS710,** Seminar
Prerequisite/s	Transportation Engineering
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	1 (Audit)
Evaluation Scheme: CA/ESE	50/00

Course Outcomes:

Course Outcomes (COs):		Blooms
BTCVS710_1	Understanding Road Components and Materials	L2
BTCVS710_2	Identify and understand Construction Machinery and Their Functions	L2
BTCVS710_3	Understanding Road Construction Phases and Their Purpose	L2
BTCVS710_4	Apply Road Construction Knowledge to Site Visits	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	Programme Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2	PS O3
BTCVS710_1	3	0	0	0	0	0	0	2	3	2	0	2	2	2	2
BTCVS710_2	3	0	0	0	0	0	0	2	3	2	0	2	2	2	2
BTCVS710_3	3	0	0	0	0	0	0	2	3	2	0	2	2	2	2
BTCVS710_4	3	0	0	0	0	0	0	2	3	2	0	2	2	2	2
Total	12	0	0	0	0	0	0	8	12	8	0	8	8	8	8
Average	3	0	0	0	0	0	0	2	3	2	0	2	2	2	2
BTCVS710	**3**	0	0	0	0	0	0	**2**	**3**	**2**	0	**2**	**2**	**2**	**2**

CO Attainment Targets:

CO	403_1	403_2	403_3	403_4	403_5
Previous Attainment					
Target for CAY					

Prepared by
Course Coordinator

Verified by
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Yashoda Technical Campus YSPM's Faculty of Engg.(Civil)

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Faculty of Engineering

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	Final Year Civil semester VII
Course Code and Course Title	BTCVP711, Project Stage I
Prerequisite/s	Basic Civil Engineering, Mini Project, Seminar
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	3
Evaluation Scheme: CA/ESE	50/50

Course Outcomes:

Course Outcomes (COs): After successful completion of this course, the student will be able to:		**Blooms Level**
BTCEP711_1	**Identify** thrust area in civil engineering and finalize problem statement.	L2
BTCEP711_2	**Review** the literature to search for technical information from various	L2
BTCEP711_3	**Work** as an individual or in a team in development of technical projects.	L2
BTCEP711_4	**Apply** project management skills (scheduling work and working within the	L2
BTCEP711_5	**Communicate** technical information by means of report and presentation.	L2

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Program Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO2**	**PSO3**
BTCVP711_1	**3**	**3**	**2**	**2**	**2**	**3**	**2**					**3**	**3**		
BTCVP711_2	**3**	**3**	**2**	**2**								**2**	**2**	**2**	**2**
BTCVP711_3	**3**	**3**	**3**		**2**							**3**	**3**	**2**	**2**
BTCVP711_4								**3**	**3**	**3**	**3**	**3**	**3**		**2**
BTCVP711_5					**2**	**3**		**3**	**3**	**3**	**3**	**3**	**2**		
Total	9	9	7	4	6	6	2	6	6	6	6	14	13	4	6
Average	3	3	2.33	2	2	3	2	3	3	3	3	2.8	2.6	2	2
BTCVP711	**3**	**3**	**2**	**2**	**2**	**3**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**2**	**2**

CO Attainment Targets:

CO	**711_1**	**711_2**	**711_3**	**711_4**	**711_5**
Previous Attainment					
Target for CAY					

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