Department of Civil Engineering

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

Structure of Course

Class	B. Tech. Sem. –III
Course Code and Course Title	**BTBS301** Engineering Mathematics - III
Prerequisite/s	
Teaching Scheme: Lecture/Tutorial/Practical	03/01/00
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**
BTBS301 _1	Apply the concepts and properties of Laplace transformation	**L3**
BTBS301 _2	Apply the concepts of inverse Laplace Transform with its property to solve Linear Differential Equation with given initial conditions.	**L3**
BTBS301 _3	Solve problems related to Fourier transform, Laplace transform and applications to Communication systems and Signal processing.	**L3**
BTBS301 _4	Explain the concepts of PDE and their application	**L3**
BTBS301 _5	Analyze conformal mappings, transformations and perform contour integration of complex functions in the study of electrostatics and signal processing.	**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**
BTBS301 _1	3	2			2							3		3	
BTBS301 _2	3	2			2							3		3	
BTBS301 _3	3	2			3							3		3	
BTBS301 _4	3	2		2	2					2		3		3	
BTBS301 _5	3	3		2	3					2		3		3	
Total	15	11		4	12					4		15		15	
Average	3	2.2		2	2.4					2		3		3	
BTBS301	**3**	**2**		**2**	**2**					**2**		**3**		**3**	

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DEPARTMENT OF CIVIL ENGINEERING

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

Structure of Course

Class	SY Civil semester III
Course Code and Course Title	BTCVES302, Mechanics of Solids
Prerequisite/s	Basic Civil Engineering, Engineering Mechanics
Teaching Scheme: Lecture/Tutorial	03/01
Credits	4
Evaluation Scheme: CA/MSE/ESE	20/20/60

Course Outcomes:

Course Outcomes (COs):		**Blooms**
BTCVES 302_1	Explain the stress-strain analysis.	**L3**
BTCVES 302_2	Draw force distribution diagrams for members and determinate beams.	**L2**
BTCVES 302_3	Examine force deformation behaviour of bodies.	**L3**
BTCVES 302_4	Explain failure of principle stress and strain.	**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
BTCVES 302_1	2	2								1	2	2		2	2
BTCVES 302_2	2	2	1							2		2		2	2
BTCVES 302_3	2	2								2		2		2	2
BTCVES 302_4	2	2	1							2		1		2	2
Total	8	8	2							7	2	7		8	8
Average	2	2	1							1.75	2	1.75		2	2
BTCES302	**2**	**2**	**1**							**2**	**2**	**2**		**2**	**2**

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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	02/01
Credits	3
Evaluation Scheme: CA/MSE/ESE	20/20/60

Course Outcomes:

Course Outcomes (COs):		**Blooms**
BTCVC303_1	Describe types of masonry structures	**L2**
BTCVC303_2	Explain components of building and their purposes.	**L3**
BTCVC303_3	Prepare plan, elevation and section of various structures.	**L3**
BTCVC303_4	Apply the principles of planning and by laws used for building	**L3**
BTCVC303_5	Prepare detailed working drawing for doors and windows.	**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
BTCVC303_1	2								2			2		2	2
BTCVC303_2	2									2		2		2	2
BTCVC303_3	2	2							2	2		2		2	2
BTCVC303_4	2	2						1		2		2		2	2
BTCVC303_5	2								2	2				1	2
Total	10	4						1	6	8		8		9	10
Average	2	2						1	2	2		2		1.80	2.00
BTCVC303	**2**	**2**						**1**	**2**	**2**		**2**		**2**	**2**

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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	03/01
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	Examine the various flow measuring devices.	**L4**
BTCVC304 _2	Determine the properties of fluid and pressure and their measurement.	**L3**
BTCVC304 _3	Explain fundamentals of pipe flow, losses in pipe and analysis of pipe network.	**L3**
BTCVC304_4	Analyse fluid flow phenomena observed in Civil Engineering systems.	**L4**
BTCVC304_5	Apply dimensional analysis for solving problems of fluid flow	**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**
BTCVC304 _1	2												1	3	2
BTCVC304 _2	3											2	1	3	2
BTCVC304 _3	3	2										2	1	3	2
BTCVC304_4	3	2										2	1	3	2
BTCVC304_5	3	2											1	3	2
Total	14	2										6	6	15	10
Average	2.8	2										2	1.2	3	2
BTCVC304	**3**	**2**										**2**	**2**	**3**	**2**

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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	02/01
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**
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	Compute 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.	**L3**
BTCVC305_5	Explain the procedures in basic types of surveys for engineering 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	PSO1	PSO2	PSO3
BTCVC305_1	3	3			3					2				2	
BTCVC305_2	3	3			3					2				2	
BTCVC305_3	3	3			3					2				2	
BTCVC305_4	3	3			3					2				2	
BTCVC305_5	3	3			3					2				2	2
Total	15	15			15					10				10	2
Average	3	3			3					2				2	2
BTCVC305	**3**	**3**			**3**					**2**				**2**	**2**

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Department of Civil Engineering

Academic Year 2024-25 Semester- ODD

Structure of Course

Class	SY B. Tech. Sem. – 1
Course Code and Course Title	BTHM306 Soft Skill Development
Prerequisite/s	Basic Communication Skills, General Awareness, teamwork
Teaching Scheme: Lecture	2
Credits	Audit
Evaluation Scheme: CA	50

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTHM306 _1	Explain the fundamentals of effective communication, including speaking skills, feedback, questioning techniques, and non-verbal communication to improve interpersonal proficiency.	**L3**
BTHM306 _2	Analyze self-management techniques by recognizing personal strengths and weaknesses, setting goals, and managing emotions to enhance self-awareness and leadership qualities.	**L4**
BTHM306 _3	Describe time management techniques through practical exercises, such as game-playing, to enhance productivity, punctuality, and the ability to meet targets effectively.	**L2**
BTHM306 _4	Explain intrinsic motivation by adopting self-driven strategies, identifying needs, and shaping work methods to complete tasks independently and with inspiration.	**L3**
BTHM306_5	Evaluate interpersonal and computing skills to build positive relationships, demonstrate empathy, and design impactful presentations using effective tools and techniques.	**L5**

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**
BTHM306_1	1	1	2		2	1			2	3	1	1		2	2
BTHM306_2	2	3	2	1	1	1		2	3	2	2	2		2	3
BTHM306_3	1	1	2		2	1			2	3	1	2			2
BTHM306_4	1	1	2		2	1			2	2	1	2		2	3
BTHM306_5	2	2	3	2	3	1	1	1	3	3	2	2	2	3	3
Total	7	8	11	3	10	5	1	3	12	13	7	9	2	9	13
Average	1.4	1.6	2.2	1.5	2	1	1	1.5	2.4	2.6	1.4	1.8	2	2.25	2.6
BTBS306	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**2**	**2**	**3**	**1**	**2**	**2**	**2**	**3**

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2024-25

Semester- ODD

Structure of Course

Class	SY Civil semester III
Course Code and Course Title	BTCVLS307, Mechanics of Solids Lab
Prerequisite/s	Engineering Mechanics, Mathematics
Teaching Scheme: Practical	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**
BTCVL307_1	Evaluate Young's Modulus, tensile strength, compressive strength, shear strength, torsional strength of given specimen	**L3**
BTCVL307_2	Evaluate Flexural strength of given specimen	**L3**
BTCVL307_3	Apply graphical method to find principal stress parameters	**L3**
BTCVL307_4	Communicate effectively subject concern knowledge.	**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
BTCVL307_1	2	2						2	2	2		2		2	2
BTCVL307_2	2									2		2		2	2
BTCVL307_3	2	2							2	2		2		2	2
BTCVL307_4	2	2						1		2		2		2	2
Total	10	4						1	6	8		8		9	10
Average	2	2						1	2	2		2		1.80	2
BTCVC307	**2**	**2**						**1**	**2**	**2**		**2**		**2**	**2**

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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	BTCVL308 Hydraulics I LAB
Prerequisite/s	BTCVL308
Teaching Scheme: Practical	02
Credits	01
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**
BTCVL308_1	Analyze the properties of fluids and their verification.	**L4**
BTCVL308_2	Explain empirical behavior of fluids.	**L3**
BTCVL308_3	Apply principles of hydraulics while working in field.	**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**	**PSO1**	**PSO 2**	**PSO 3**
BTCVL 308.1	3	2	2					2	2			2		3	2
BTCVL 308.2	3	2	2					2	2			2		3	2
BTCVL 308.3	3	2	2					2	2			2	2	3	2
Total	9	6	6					6	6			6	2	8	2
Average	3	2	2					2	2			2	2	2	2
BTCVL308	**3**	**2**	**2**					**2**	**2**			**2**	**2**	**2**	**2**

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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: Practical	02
Credits	1
Evaluation Scheme: CA/ESE	20/30

Course Outcomes: BTCVL309, Surveying Laboratory

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTCVL309_1	Practice 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	Prepare a survey plan, taking accurate measurements, field data, and adjustment of errors in record book.	**L3**
BTCVL309_4	Experiment field procedures in basic types of surveys, as part of a surveying team.	**L3**
BTCVL309_5	Apply 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	3				2			2		2	
BTCVL309_2	3	3		2	3							2		2	
BTCVL309_3	3	3	3	3	3							2		3	3
BTCVL309_4	3	3	3	3	3				3	3		2		3	3
BTCVL309_5	3	3	3	3	3					3		2		3	3
Total	15	12	9	13	15				5	6		10		13	9
Average	3	3	3	2.6	3				2.5	3		2		2.6	3
BTCVC305	**3**	**3**	**3**	**3**	**3**				**3**	**3**		**2**		**3**	**3**

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Department of Civil Engineering

Academic Year 2024-25

Semester- EVEN

Structure of Course

Class	FY. Sem. – II
Course Code and Course Title	BTES210P , Internship
Prerequisite/s	Site/Industrial Visit
Teaching Scheme: Lecture/Tutorial/Practical	00/00/00
Credits	Audit
Evaluation Scheme: ESE	50

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTES210P_1	Observe the various construction activities and its significance.	**L2**
BTES210P _2	Identify the various construction materials and its properties on construction site.	**L2**
BTES210P _3	Practice as an individual or as a team member to complete the construction projects.	**L3**
BTES210P _4	Analyse essential technical information, working drawings, material quantity and method to complete the construction work.	**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**
BTES210P_1	3	3	2		2			2	2	2	2	2	2	2	2
BTES210P _2	3	3	2		2			2	2	2	2	2	2	2	2
BTES210P _3	3	3	2		2			2	2	2	2	2	2	2	2
BTES210P _4	3	3	2		2			2	2	2	2	2	2	2	2
Total	12	12	8		8			8	8	8	8	8	8	8	8
Average	3	3	2		2			2	2	2	2	2	2	2	2
BTES210P	**3**	**3**	**2**		**2**			**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

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