Shree Santkrupa Institute of Engineering and Technology

Department of Civil Engineering

Academic Year: 2019-20

Semester: III

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTBSC301	Mathematics – III	3	1	-	4
2	BTCVC302	Mechanics of Solids	3	1	-	4
3	BTCVC303	Hydraulics I	2	1	-	3
4	BTCVC304	Surveying I	2	1	-	3
5	BTCVC305	Building Construction	2	-	-	2
6	BTCVC306	Engineering Geology	2	-	-	2
7	BTHM303	Soft Skills Development	2	-	-	AU
8	BTCVL307	Hydraulics Laboratory I	-	-	2	1
9	BTCVL308	Surveying Laboratory I	-	-	2	1
10	BTCVL309	Building Construction - Drawings Laboratory	-	-	2	1
11	BTCVL310	Engineering Geology Lab	-	-	2	1
12	BTCVS311	Seminar on Topic of Field Visit to Foundation Work	-	-	1	AU
13	BTCVF312	Field Training / Internship/Industrial Training Evaluation (from semester II)	-	-	-	1

Semester: IV

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCVC401	Hydraulics II	2	1	-	3
2	BTCVC402	Surveying – II	2	1	-	3
3	BTCVC403	Structural Mechanics-I	3	1	-	4
4	BTID405	Product Design Engineering	1	2	-	3
5	BTCVE404A	Numerical Methods in Engineering	3	-	-	3
6	BTCVC406	Engineering Management	1	-	-	AU
7	BTHM3401	Basic Human Rights	2	-	-	AU
8	BTCVL407	Hydraulics Laboratory II	-	-	2	1

9	BTCVL408	Surveying Laboratory II	-	-	4	2
10	BTCVL409	Mechanics of Solids Laboratory	-	-	2	1
11	BTCVM410	Mini Project	-	-	2	1
12	BTCVF411	Seminar on Topic of Field Visit to works involving Superstructure Construction	-	-	1	1

Semester: V

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCVC 501	Design of Steel Structures	2	2	-	4
2	BTCVC 502	Structural Mechanics-II	2	1	-	3
3	BTCVC 503	Soil Mechanics	3	1	-	4
4	BTCVC 504	Environmental Engineering	2	-	-	2
5	BTCVC 505	Transportation Engineering	2	-	-	2
6	BTCVE506D	Business Communication & Presentation Skills	3	-	-	3
7	BTHM507	Essence of Indian Traditional Knowledge	1	-	-	AU
8	BTCVL508	Soil Mechanics Laboratory	-	-	2	1
9	BTCVL509	Environmental Engineering Laboratory	-	-	2	1
10	BTCVL510	Transportation Engineering Laboratory	-	-	2	1
11	BTCVS511	Seminar on Topic of Field Visit to works related to Building Service	-	-	1	AU

Semester: VI

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCVC601	Design of Concrete Structures I	3	1	-	3
2	BTCVC602	Foundation Engineering	2	1	-	3
3	BTCVC603	Concrete Technology	2	1	-	3
4	BTCVC604	Project Management	2	1	-	2
5	BTCVE605E	Advanced Soil Mechanics	3	-	-	3
6	BTCVC606	Building Planning and Design	2	-	-	2
7	BTCVL607	Concrete Technology Laboratory	-	-	2	1
8	BTCVL608	Building Planning, Design and Drawing Laboratory	-	-	4	2
9	BTCVM609	Community Project (Mini Project)	-	-	2	1
10	BTCVS610	Seminar on Topic of Field Visit Road Construction	-	-	1	AU
11	BTCVF611	Industrial Training $	-	-	2	-

Course Outcomes

1	**Semster : III**		
	Course Name		**Engineering Mathematics – III**
	Course Code		**BTBSC301**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
	CO 1	Explain the application of the Laplace Transform to find solutions of system of linear equations arising in many engineering problem	
	CO 2	Demonstarte and apply the concept Laplace Transform	
	CO 3	Interpret Computation of Fourier Transform and their applications to engineering problems	
	CO 4	Identify Partial Differential Equations and Their Applications.	
	CO 5	Evaluate Functions of Complex Variables.	
	Semster : III		
2	**Course Name**		**Mechanics of Solids**
	Course Code		**BTCVC302**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Explain the mechanical behaviour of engineering materials subjected to various types of stresses and compute the resulting strain and strain energy.	
	CO 2	Analyze the bending of various types of beams under static loading conditions and compute the shear stress distribution for different cross sections of beams.	
	CO 3	Show knowledge of principal planes, stresses and strains and analyse the elastic deformation of members and apply different theories of elsatic failures	
	CO 4	Determine torsion for the circular shaft and analyse the crippling load and equivalent length for various types of columns of different end conditions.	
	CO 5	Adapt failure analysis	
	Semster : III		
3	**Course Name**		**Hydraulics I**
	Course Code		**BTCVC303**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Illustrate the various flow measuring devices	
	CO 2	Determine the properties of fluid and pressure and their measurement	
	CO 3	Make use of different fluid kinematic and laminar flow equations to solve problems.	
	CO 4	Estimate the friction losses in laminar and turbulent flows	
	CO 5	Explain fundamentals of pipe flow, losses in pipe and analysis of pipe network	

	Semster : III		
4	**Course Name**		**Surveying -I**
	Course Code		**BTCVC304**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Classify measurements in linear/angular methods.	
	CO 2	Apply plane table surveying in general terrain.	
	CO 3	Demonstrate the basics of leveling and Theodolite survey in elevation and angular measurements.	
	CO 4	Justify field procedures in basic types of surveys, as part of a surveying team.	
	CO 5	Examine drawing techniques in the development of a topographic map.	
	Semster : III		
5	**Course Name**		**Building Construction**
	Course Code		**BTCVC305**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
	CO 1	Classify different types of masonry structures.	
	CO 2	Explain the composition of concrete and effect of various parameters affecting strength.	
	CO 3	Identify the components of building and there purposes.	
	CO 4	Compare the types of flooring roofs.	
	CO 5	Illustrate the precast & pre-engineered building construction techniques.	
	Semster : III		
6	**Course Name**		**Engineering Geology**
	Course Code		**BTCVC 306**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Identify the different land forms which are formed by various geological agents.	
	CO 2	Identify the origin ,texture and structure of various rocks and physical properties of minerals.	
	CO 3	Illustrate distinct geological structures which have influence on the civil engineering structure.	
	CO 4	Demonstrate how the various geological conditions affect the design parameters of structures.	
	CO 5	Explain geological hazards, geohydrological characters of thr rocks, mass wasting process and good building stones.	
7	**Semster : III**		
	Course Name		**Soft Skill Development**
	Course Code		**BTHM303**

Course Outcome No	Course Outcome Statement	By the end of the course, student will be able to:
CO 1	Demonstrates the skills to manage and express their emotions, thoughts, impulses and stress in effective ways.	
CO 2	Apply various time management techniques in productive manner.	
CO 3	Improve performance, personal growth, or a sense of purpose	
CO 4	Employ interpersonal communication skills to establish and enhance personal and work-based relationships.	
CO 5	Design an effective presentation and prepare participants to speak with greater control in front of others.	
	Semster : III	
8 **Course Name**		**Hydraulics Laboratory I**
Course Code		**BTCVL307**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Illustrate the various flow measuring devices	
CO 2	Determine the properties of fluid and pressure and their measurement	
CO 3	Explain Bernoulli's principles through simple illustrations.	
CO 4	Interpret hydrostatic law, principle of buoyancy and stability of a floating body	
CO 5	Illustrate of pipe flow, losses in pipe and analysis of pipe network	
	Semster : III	
9 **Course Name**		**Surveying Laboratory I**
Course Code		**BTCVL308**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Classify measurements in linear/angular methods.	
CO 2	Apply plane table surveying in general terrain.	
CO 3	Demonstrate the basics of leveling and Theodolite survey in elevation and angular measurements.	
CO 4	Justify field procedures in basic types of surveys, as part of a surveying team.	
CO 5	Examine drawing techniques in the development of a topographic map.	
	Semster : III	
10 **Course Name**		**Building Construction - Drawings Laboratory**
Course Code		**BTCVL309**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Classify different types of masonry structures.	
CO 2	Identify the components of building and there purposes.	

CO 3	Compare the types of flooring roofs.	
CO 4	Illustrate the precast & pre-engineered building construction techniques.	
CO 5	Compare various building materials & their use.	
Semster : III		
Course Name		**Engineering Geology Laboratory**
Course Code		**BTCVL310**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Illustrate basic concept, common rocks, minerals, their significance and application in civil engineering.	
CO 2	Demonstrate tectonic effects, Geological structures and their significance in Civil Engineering.	
CO 3	Demonstrate topographical features and geological maps.	
CO 4	Illustrate the litholog subsurface.	
CO 5	Interpret Geological Structure Models.	
Semster : III		
Course Name		**Seminar on Topic of Field Visit to Foundation Work**
Course Code		**BTCVS311**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Establish the motive behind any topic of interest and create a technical presentation's methodology.	
CO 2	Comprehend concept of Foundation and methods.	
CO 3	Organize a detailed literature survey and build a document with respect to technical publications	
CO 4	Constructive seminar presentation and improve soft skills.	
Semster : IV		
Course Name		**Hydraulics II**
Course Code		**BTCVC401**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Design open channel sections in a most economical way.	
CO 2	Explain the non-uniform flows in open channel and the characteristics of hydraulic jump.	
CO 3	Illustrate the application of momentum principle of impact of jets on plane.	
CO 4	Solve the problems of gradually and rapidly varied flows in open channels under steady state condition	
CO 5	Illustrate the working principle of pumps and turbines	
Semster : IV		
Course Name		**Surveying – II**
Course Code		**BTCVC402**

Course Outcome No	Course Outcome Statement	By the end of the course, the students will be able to:
CO 1	Clsssify different types of curves on roads and their preliminary survey.	
CO 2	Demonstrate setting of curves, buildings, culverts and tunnels.	
CO 3	Classify different geodetic methods of survey such as triangulation, trigonometric leveling.	
CO 4	Explain modern advanced surveying techniques.	
CO 5	Make use of sub tense bar for distance measurement.	
Semster : IV		
3 **Course Name**		**Structural Mechanics - I**
Course Code		**BTCVC403**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Explain the concept of structural analysis, degree of indeterminacy.	
CO 2	Illustrate slopes and deflection at various locations for different types of beams.	
CO 3	Identify determinate and indeterminate trusses and calculate forces in the members of trusses Perform the distribution of the moments the in continuous beam and frame	
CO 4	Assess the analysis of both sway and no-sway frame structures using the Slope-Deflection equations.	
CO 5	Apply the principle of virtual work to calculate the deflections of truss, beam and frame structures.	
Semster : IV		
4 **Course Name**		**Product Design Engineering**
Course Code		**BTID405**
Course Outcome No	**Course Outcome Statement**	**By the end of the cource, students will be able to:**
CO 1	Explain the product specification.	
CO 2	Classify the computer operation principles.	
CO 3	Utilize self-control to follow design guidelines in one's own work.	
CO 4	Develop design documentation for information exchange.	
CO 5	Design a system as a whole or a simple set of components.	
Semster : IV		
5 **Course Name**		**Numerical Methods in Engineering**
Course Code		**BTCVE404A**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Discuss the concept of Computation	
CO 2	Illustrate the concept of various Numerical Techniques	

CO 3	Evaluate the given Engineering problem using the suitable Numerical Technique	
CO 4	Develop the computer programming based on the Numerical Techniques	
Semster : IV		
6 **Course Name**		**Engineering Management**
Course Code		**BTCVC406**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Demonstrate the nuances of management functions.	
CO 2	Analyze the framework of a business organization.	
CO 3	Adapt an empirical approach toward business situations.	
CO 4	Apply various Management techniques.	
CO 5	Make a use of Material Management , inventary control for any construction site	
Semster : IV		
7 **Course Name**		**Basic Human Rights**
Course Code		**BTHM3401**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Expain the history of human rights.	
CO 2	Recall responsibilities of others caste, religion, region and culture.	
CO 3	Remember the importance of groups and communities in the society.	
CO 4	Analyse the philosophical and cultural basis and historical perspectives of human	
CO 5	Aware of their responsibilities towards the nation.	
Semster : IV		
8 **Course Name**		**Hydraulics Laboratory II**
Course Code		**BTCVL407**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Design open channel sections in a most economical way.	
CO 2	Design the different irrigation structures surplus weir	
CO 3	Explain the non-uniform flows in open channel and the characteristics of hydraulic jump.	
CO 4	Solve the problems of gradually and rapidly varied flows in open channels under steady state condition	
CO 5	Illustrate the working principle of pumps and turbines	
Semster : IV		
9 **Course Name**		**Surveying Laboratory II**
Course Code		**BTCVL408**

Course Outcome No	Course Outcome Statement	By the end of the course, the students will be able to:
CO 1	Clsssify different types of curves on roads and their preliminary survey.	
CO 2	Demonstrate setting of curves, buildings, culverts and tunnels.	
CO 3	Classify different geodetic methods of survey such as triangulation, trigonometric leveling.	
CO 4	Explain modern advanced surveying techniques.	
CO 5	Make use of sub tense bar for distance measurement.	
Semster : IV		
10 **Course Name**		**Mechanics of Solids Laboratory**
Course Code		**BTCVL409**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Assess the youngs modulus for ductile materials.	
CO 2	Analyze the various points on stress strain diagram.	
CO 3	Analyse the compression strength of different materials	
CO 4	Test the shear stress of different materials. .	
CO 5	Illustrate failure analysis	
Semster : IV		
11 **Course Name**		**MINI PROJECT**
Course Code		**BTCVM410**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Apply newly learned skills in the technical field chosen for project development.	
CO 2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.	
CO 3	Replicate, enhance and refine technical aspects for engineering projects	
CO 4	Develop technological initiatives as an individual or as a team.	
Semster : IV		
12 **Course Name**		**Seminar on Topic of Field Visit to works involving Superstructure Construction**
Course Code		**BTCVF411**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Establish the motive behind any topic of interest and create a technical presentation's methodology.	
CO 2	Comprehend concept of Superstructure Construction	

CO 3	Organize a detailed literature survey and build a document with respect to technical publications	
CO 4	Constructive seminar presentation and improve soft skills.	
Semster : V		
1 **Course Name**	**Design of Steel Structures**	
Course Code	**BTCVC 501**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Identify and compute the design loads and the stresses developed in the steel member.	
CO 2	Analyze and design the various connections and identify the potential failure modes.	
CO 3	Analyze and design various tension, compression and flexural members.	
CO 4	Illustrate provisions in relevant BIS Codes.	
CO 5	Constructive development in the sector of Analysis and Design of Steel Structures.	
Semster : V		
2 **Course Name**	**Structural Mechanics-II**	
Course Code	**BTCVC 502**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Analyze the Truss by Energy Method.	
CO 2	Illustrate the concept of influence line and Moving load.	
CO 3	Analyze the cables, Suspension bridges and Arches.	
CO 4	Analyze the Indeterminant structure by direct flexibility method and direct stiffnes method.	
CO 5	Explain the principles and concepts related to the finite element methods	
Semster : V		
3 **Course Name**	**Soil Mechanics**	
Course Code	**BTCVC503**	
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to:**
CO 1	Classify different soil properties and behaviour.	
CO 2	Summarize stresses in soil, permeability and seepage aspects.	
CO 3	Develop ability to take up soil design of different types of foundation.	
CO 4	Identify the strength of soil.	
CO 5	Explain different tests of soil.	
Semster : V		

4	**Course Name**		**Environmental Engineering**
	Course Code		**BTCVC 504**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Utilize the techniques and concept of water treatment.	
	CO 2	Design the foundational processes for water treatment facilities.	
	CO 3	Utilize the techniques and concept of wastewater treatment.	
	CO 4	Utilize the principles of solid waste management.	
	CO 5	Explain the concept of sanitations and its application.	
	Semster : V		
5	**Course Name**		**Transportation Engineering**
	Course Code		**BTCVC 505**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
	CO 1	Comprehend various types of transportation systems	
	CO 2	Demonstrate geometric designs & different materials used in highway.	
	CO 3	Relate Traffic engineering concepts	
	CO 4	Develop method to be used for Pavement designs	
	CO 5	Interpret others modes of transports & there Advantages & disadvantages	
	Semster : V		
6	**Course Name**		**Business Communication & Presentation Skills**
	Course Code		**BTCVE506D**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, student will be able to:**
	CO 1	Inculcate basics of business communication skills & relevant tools.	
	CO 2	Understand business SOPs and essentials of the same.	
	CO 3	Adapt modern skills regarding communication, presentation & team working.	
	CO 4	Develop leadership skill and team building capacity.	
	CO 5	Demonstrate the use of basic and advanced business communication skills.	
	Semster : V		
7	**Course Name**		**Essence of Indian Traditional Knowledge**
	Course Code		**BTHM507**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**

CO 1	Explain the concept of Ancient various Education System in India	
CO 2	Outline the Indian Linguistic Tradition, Yoga & Holistic Health care.	
CO 3	Explain Philosophical Traditions in ancient India with respect to todays life.	
CO 4	Glance of ancient structural Indian science and technology.	
CO 5	Evaluates the case studies of transportation and environmental systems of ancient India.	
Semster : V		
8 **Course Name**		**Soil Mechanics Lab**
Course Code		**(BTCVC508)**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Interpret basic properties of soil formation and structure.	
CO 2	Classify the index properties of soils.	
CO 3	Analyze the properties and factors of permeability.	
CO 4	Analyze the effective stress and seepage through soil.	
CO 5	Demonstrate the properties of flow net and it's uses.	
Semster : V		
9 **Course Name**		**Environmental Engineering lab**
Course Code		**BTCVL509**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Utilize the techniques and concept of water treatment.	
CO 2	Prepare basic process designs of water and wastewater treatment plants.	
CO 3	Determine the amount of pollutants present in the air, water, and wastewater	
CO 4	Estimate the level of water and wastewater treatment that is necessary.	
CO 5	Evaluate the microorganism's growth rate and survival conditions.	
Semster : V		
10 **Course Name**		**Transportation Engineering Laboratory**
Course Code		**BTCVL510**
Course Outcome No	**Course Outcome Statement**	**By the end of the practial course, students will be able to:**
CO 1	Perform tests on various road construction materials	
CO 2	Demonstration of marshall test.	
CO 3	Analyze different construction equipments used in constructions	
CO 4	Comprehend various types roads with sections.	
CO 5	Prepare basic process of Traffic studies and their calculations.	

	Semster : V		
11	**Course Name**		**Seminar on Topic of Field Visit to works related to Building Services**
	Course Code		**BTCVS511**
	Course Outcome No	**Course Outcome Statement**	**By the end of this course, students will be able to:**
	CO 1	Comprehend various Building Services	
	CO 2	Learn the Electrification planinng and execution.	
	CO 3	Learn the Plumbing system and execution.	
	CO 4	Learn the Furniture layout.	
	Semster : VI		
1	**Course Name**		**Design of Concrete Structures I**
	Course Code		**BTCVC601**
	Course Outcome No	**Course Outcome Statement**	**By the end of this course, students will be able to:**
	CO 1	Illustrate to the various design philosophies used for design of reinforced concrete.	
	CO 2	Analyze and design the reinforced concrete Slabs by working stess method.	
	CO 3	Analyze and design the reinforced concrete Beams by limit state and working stress method.	
	CO 4	Analyze and design the reinforced concrete columns by working stress method.	
	CO 5	Interpret Shear and Bond. Design of Shear reinforcement by limit state.	
	Semster : VI		
2	**Course Name**		**Foundation engg.**
	Course Code		**BTCVC602**
	Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
	CO 1	Explain the principles and methods of Soil Exploration.	
	CO 2	Identify soil behaviour under the applications of loads.	
	CO 3	Analyze and design the shallow foundation.	
	CO 4	Analyze the results of in-situ tests and transform measurements.	
	CO 5	Analyze the stability of slope by theoretical and graphical methods.	
	Semster : VI		
3	**Course Name**		**Concrete Technology**
	Course Code		**BTCVC603**

Course Outcome No	Course Outcome Statement	By the end of the course, students will be able to :
CO 1	Demostrate the various types and properties of ingredients of concrete.	
CO 2	Outline effect of admixtures on the behavior of the fresh and hardened concrete.	
CO 3	Formulate concrete design mix for various grades of concrete.	
CO 4	Analyze various special concrete and their applications.	
CO 5	Show basic knowledge of Nondestructive testing.	

	Semster : VI	
4	**Course Name**	**Project Management**
	Course Code	**BTCVC604**
	Course Outcome No	**Course Outcome Statement** / **By the end of the course, the students will be able to:**
	CO 1	Explain various steps in project Management, different types of charts.
	CO 2	Construct network by using CPM and PERT method.
	CO 3	Measure the optimum duration of project with the help of various time estimates.
	CO 4	Explain the concept of engineering economics, economic comparisons, and linear break even analysis problems.
	CO 5	Summarize the concept of total quality Management including Juran and Deming's philosophy.
	Semster : VI	
5	**Course Name**	**Advanced Soil Mechanics**
	Course Code	**BTCVE 605E**
	Course Outcome No	**Course Outcome Statement** / **By the end of the course, the students will be able to:**
	CO 1	Interpret the behavior of soil based on its particle size and mineral contents
	CO 2	Explain the Earth work equipments.
	CO 3	Illustrate the soil reinforcement mechanisms s
	CO 4	Identify the necessity of ground improvement and potential of a ground for improvement
	CO 5	Explain the grouting and injection methods.
	Semster : VI	
6	**Course Name**	**Building Planning and Design**
	Course Code	**BTCVC606**
	Course Outcome No	**Course Outcome Statement** / **By the end of the course, the students will be able to:**
	CO 1	Make use of skills to plan buildings by considering various principles of planning and bye laws of governing body
	CO 2	Comprehend various utility requirements in buildings

CO 3	Choose a way of traditional contruction process & plumbing system,electrification used in construction.	
CO 4	Outline knowledge of ventilation & thermal insulations.	
CO 5	Contrast the concept of acoustics	
Semster : VI		
7 **Course Name**		**Concrete Technology Lab**
Course Code		**BTCVL607**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Identify Quality Control tests on concrete making materials and Understand	
CO 2	Identify the functional role of ingredients of concrete and apply this knowledge	
CO 3	Determine workability of concrete in laboratory by Slump test, Compaction	
CO 4	Relate behavior of fresh and hardened concrete to mix design	
CO 5	Interpret and apply Indian Standard test methods and specifications	
Semster : VI		
8 **Course Name**		**Building Planning, Design and Drawing Laboratory**
Course Code		**BTCVL608**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Make use of skills to plan buildings by considering various principles of planning and bye laws of governing body	
CO 2	Comprehend various utility requirements in buildings	
CO 3	Choose a way of traditional contruction process & plumbing system,electrification used in construction.	
CO 4	Outline knowledge of ventilation & thermal insulations.	
CO 5	Contrast the concept of acoustics	
Semster : VI		
9 **Course Name**		**Mini Project**
Course Code		**BTCVM609**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the students will be able to:**
CO 1	Study the literature in the specified area on your own	
CO 2	Apply the identified concepts and engineering tools to arrive at design solutions for the identified engineering problem.	
CO 3	Illustrate how to identify the issues and challenges of industry.	
CO 4	Prepare a detailed report on the application of emerging technologies in the selected industry.	
CO 5	Life Long Learning& Develop leadership skills	
Semster : VI		
10 **Course Name**		**Seminar on Topic of Field Visit Road Construction**

Course Code		BTCVS610
Course Outcome No	**Course Outcome Statement**	**By the end of the course, students will be able to :**
CO 1	Establish the motive behind any topic of interest and create a technical presentation's methodology.	
CO 2	Comprehend concept of geometrical design Road Construction.	
CO 3	Organize a detailed literature survey and build a document with respect to technical publications	
CO 4	Constructive seminar presentation and improve soft skills.	