



**Karnatak Law Society's**  
**Vishwanathrao Deshpande Institute of Technology**

Approved by AICTE, New Delhi, Affiliated to VTU, Belagavi  
Recognized under Section 2(f) of the UGC Act, 1956  
Udyog Vidyanagar, Dandeli Road, HALIYAL – 581329 District- Uttara Kannada  
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**DEPARTMENT OF CIVIL ENGINEERING**

**CO PO Statement 2017-21**

CO's	CO Statement
<b>17CV101</b>	<b>Engineering Mathematics-I</b>
CO1	To apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve
CO2	To determine partial derivatives and Jacobians of functions
CO3	To analyze position, velocity, and acceleration in two or three dimensions using the calculus of vector valued functions
CO4	To apply first order differential equations to various physical problems
CO5	To determine solutions of system of linear equations, Quadratic and canonical forms
<b>17CV102</b>	<b>Engineering Chemistry</b>
CO1	Knowledge on the types of electrodes, electrochemical and concentration cells, classical and modern batteries and fuel cells
CO2	Knowledge on the causes and effects of corrosion of metals and control of corrosion. Modification of the surface properties of metals to develop resistance to corrosion, wear, tear, impact, etc. by electroplating and electroless plating.
CO3	Knowledge on the importance of energy conservation in the context of energy crisis, fuel properties and importance of solar energy as sustainable source and PV cells for solar energy conversion.
CO4	Knowledge on the unique properties of polymers and correlation of properties with polymer structure and versatility of polymers for various applications
CO5	Knowledge on the boiler troubles, sewage treatment and desalination of sea water and overviewing of synthesis, properties and applications of nanomaterials.
<b>17CV103</b>	<b>Programming in C and Data Structures</b>
CO1	Achieve knowledge of design and development of problem solving skills.
CO2	Understand the basic principles of programming in C language.
CO3	Design and develop modular programming skills.
CO4	Effective utilization of memory using pointer technology,
CO5	Understand the basic concepts of preprocessor directives, data structures & file operations
<b>17CV104</b>	<b>Computer Aided Engineering Drawing</b>
CO1	Student will able to demonstrate using CAD software
CO2	Student will able to visualize and draw orthographic projections , sections of solids and isometric views of solids
<b>17CV105</b>	<b>Basic Electronics</b>
CO1	Understand the characteristics of PN Junction diode
CO2	Understand the biasing and applications of BJT
CO3	Understand and apply the various digital Boolean Logic to build the combinational logics circuit
CO4	Understand the applications of flip flop and microcontroller
CO5	To study the various types of modulation schemes and transducer applications
<b>17CV106</b>	<b>Computer Programming Lab.</b>
CO1	Gaining knowledg of varioursparts of computers
CO2	Able to draw flowchart and write algorithms
CO3	Able design and development of C problem solving skills
CO4	Able design and develop module programming skills
CO5	Able tto trace and debug the program
<b>17CV107</b>	<b>Engineering Chemistry Lab.</b>
CO1	Students will have the knowledge in handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results
CO2	Students will have the knowledge in carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results
<b>17CV109</b>	<b>Engineering Mathematics-II</b>
CO1	To solve differential equations of electrical circuits, forced oscillation of mass spring and elementary heat transfer
CO2	To solve partial differential equations fluid mechanics, electromagnetic theory and heat transfer
CO3	To evaluate double and triple integrals to find area , volume, mass and moment of inertia of plane and solid region
CO4	To use curl and divergence of a vector valued functions in various applications of electricity, magnetism and fluid flows
CO5	To use Laplace transforms to determine general or complete solutions to linear ODE



  
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<b>17CV110</b>	<b>Engineering Physics</b>
CO1	Gain Knowledge about Modern physics and quantum mechanics will update the basic concepts to implement the skills.
CO2	Learn the niceties of technologically important material such as conductor, semiconductor and superconductor, their potential properties in understanding there use in engineering applications,
CO3	Understand the physics of lasers and optical fibers and to appreciate their role in modern instruments.
CO4	Understand the basics of crystal structure and apply to engineering field.
CO5	Understand basic concepts of nano science and technology and recognize the significance of shock waves and its applications in aerodynamics and aero space engineering.
<b>17CV111</b>	<b>Elements of Civil Engg. and Mechanics</b>
CO1	Know the basics of Civil Engineering, its scope of study, knowledge about roads,bridges and dams
CO2	Comprehend the action of Forces, Moments and other loads on systems of rigid bodies.
CO3	Compute the reactive forces and the effects that develop as a result of the external loads
CO4	Locate the Centroid and compute the Moment of Inertia of regular cross sections
CO5	Express the relationship between the motion of bodies
<b>17CV112</b>	<b>Elements of Mechanical Engineering</b>
CO1	students shall demonstrate knowledge associated with various energy sources, formation of steam
CO2	student shall demonstrate knowledge associated with prime movers such as turbines and IC engines
CO3	students shall demonstrate knowledge associated with various metal removing process and robotics automation
CO4	students shall understanding of application and usage of various engineering materials
CO5	students shall demonstrate knowledge associated with refrigeration and air conditioning systems
<b>17CV113</b>	<b>Basic Electrical Engineering</b>
CO1	Students will be able to comprehend the basic concept of AC and DC circuit
CO2	Explain the working principle and construction of AC and DC machines
CO3	Explain the working principle and construction of transformer
CO4	Understand the electrical wiring concepts, earthing, domestic protection devices and electric shock
<b>17CV114</b>	<b>Workshop Practice</b>
CO1	The Metal removal process by fitting practice and preparation of joints using appropriate fitting tools
CO2	Preparation of welded joints
CO3	Development of surfaces and forming models by soldering job.
<b>17CV115</b>	<b>Engineering Physics Laboratory</b>
CO1	To recognize the importance of light by exploring its interaction with matter and in realizing its characteristic properties.
CO2	Understanding of mechanical properties of the material by the application of stress
CO3	Appreciating the significance of elementary electric circuits in the functioning of various electric /electronic devices and gaining understanding of physics of the materials.
CO4	Design and implementation of electronic circuits to gain better understanding of physics of semiconductor devices.
CO5	Appreciating the role of Quantum mechanics in exploring the electrical properties of the materials.

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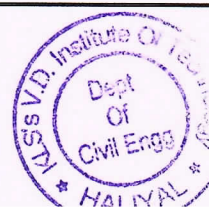
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<b>17CV201</b>	<b>Engineering Mathematics –III 17MAT31</b>
	COURSE OUTCOMES
CO1	To understand the concept of Laplace transform and inverse Laplace transform and its properties.
CO2	To understand the behaviour of periodic functions using Fourier series.
CO3	To illustrate discrete/continuous functions using Fourier transform and Z-transform.
CO4	To determine the solution of ODE by using Numerical techniques
CO5	To determine the extremals of functionals using calculus of variations.
<b>17CV202</b>	<b>Strength of Materials 17CV32</b>
	COURSE OUTCOMES
CO1	To evaluate the basic concepts of the stresses and strains for different materials and strength of structural elements.
CO2	To evaluate the development of internal forces and resistance mechanism for one dimensional and two dimensional structural elements.
CO3	To analyse different internal forces and stresses induced due to representative loads on structural elements
CO4	To evaluate slope and deflections of beams.
CO5	To evaluate the behavior of torsion members, columns and struts.
<b>17CV203</b>	<b>Fluid Mechanics 17CV33</b>
	COURSE OUTCOMES
CO1	The Fundamental properties of fluids and its applications.
CO2	The basic flow rate measurements.
CO3	Apply principles of mathematics to represent kinematic concepts related to fluid flow
CO4	Compute the discharge through venturimeter
CO5	Compute the discharge through pipes and over notches and weirs
<b>17CV204</b>	<b>Building Materials and Construction 17CV36</b>
	COURSE OUTCOMES
CO1	Select suitable materials for buildings and adopt suitable construction techniques.
CO2	In investigation of soil condition, Deciding and design of suitable type of foundation for Stone and Brick Masonry for different structures.
CO3	In selection of materials, design and supervision of suitable type of floor, roof, doors, windows.
CO4	To gain knowledge about plastering, painting, damp proofing, scaffolding, shoring, underpinning and to take suitable engineering measures.
CO5	Adopt suitable repair and maintenance work to enhance durability of building
<b>17CV205</b>	<b>Basic Surveying 17CV34</b>
	COURSE OUTCOMES
CO1	Understand the basic principles of Surveying
CO2	Learn Linear and Angular measurements to arrive at solutions to basic surveying problems
CO3	Employ conventional surveying data capturing techniques and process the data for computations.
CO4	Analyze the obtained spatial data to compute areas and volumes and
<b>17CV206</b>	<b>Engineering Geology 17CV35</b>
	COURSE OUTCOMES
CO1	Apply geological knowledge in different civil engineering practice.
CO2	Students will acquire knowledge on durability and competence of foundation rocks, and confidence enough to use the best building materials.
CO3	Civil Engineers are competent enough for the safety, stability, economy and life of the structures that they construct.
CO4	Able to solve various issues related to ground water exploration, build up dams, bridges, tunnels which are often confronted with ground water problems.
CO5	Intelligent enough to apply GIS, GPS and remote sensing as a latest tool in different civil engineering construction.
<b>17CV207</b>	<b>17CVL38 Surveying Practice</b>
	COURSE OUTCOMES
CO1	Apply the basic principles of engineering surveying and for linear and angular measurements.
CO2	Comprehend effectively field procedures required for a professional surveyor.
CO3	Use techniques, skills and conventional surveying instruments necessary for engineering practice.
<b>17CV208</b>	<b>Building Materials Testing Laboratory 17CVL37</b>
	COURSE OUTCOMES
CO1	Reproduce the basic knowledge of mathematics and engineering in finding the strength in tension, compression, shear and torsion.
CO2	Identify, formulate and solve engineering problems of structural elements subjected to flexure
CO3	Evaluate the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to suitable materials.



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<b>17CV209</b>	<b>Engineering Mathematics –IV 17MAT41</b>
	COURSE OUTCOMES
CO1	To understand the concept of complex functions.
CO2	To understand the concept of complex integration.
CO3	To apply discrete and continuous probability distributions in analyzing the probability models.
CO4	To make use of the correlation and regression concept to fit a suitable mathematical model for the statistical data.
CO5	To construct the joint probability distributions and analyze samples by using various sampling techniques.
<b>17CV210</b>	<b>Analysis of Determinate Structures 17CV42</b>
	COURSE OUTCOMES
CO1	Evaluate the forces in determinate trusses by method of joints and sections.
CO2	Evaluate the deflection of cantilever, simply supported and overhanging beams by different methods
CO3	Understand the energy principles and energy theorems and its applications to determine the deflections of trusses and bent frames.
CO4	Determine the stress resultants in arches and cables.
CO5	Understand the concept of influence lines and construct the ILD diagram for the moving loads.
<b>17CV211</b>	<b>Applied Hydraulics 17CV43</b>
	COURSE OUTCOMES
CO1	To learn the fundamentals of Uniform and Non-Uniform flow in open channels.
CO2	To understand about the concepts of specific energy, critical flow and their applications.
CO3	To study open channel flow through Chezy's, Manning's, Kutter's formulae; economical channel sections,
CO4	To understand the components, function, and uses of centrifugal and reciprocating pumps.
CO5	To understand the components, function, and uses of Pelton wheel, Kaplan and Francis turbines.
<b>17CV212</b>	<b>Concrete Technology 17CV44</b>
	COURSE OUTCOMES
CO1	Relate material characteristics and their influence on microstructure of concrete.
CO2	Distinguish concrete behaviour based on its fresh and hardened properties.
CO3	Illustrate proportioning of different types of concrete mixes for required fresh and hardened properties using professional codes.
CO4	Recognize the importance of material characteristics of special concrete and their influence on microstructure of concrete
<b>17CV213</b>	<b>18CV45 Basic Geotechnical Engineering</b>
	COURSE OUTCOMES
CO1	Will acquire an understanding of the procedures to determine index properties of any type of soil, classify the soil based on its index properties
CO2	Will be able to determine compaction characteristics of soil and apply that knowledge to assess field compaction procedures
CO3	Will be able to determine permeability property of soils and acquires conceptual knowledge about stresses due to seepage and effective stress; Also acquire ability to estimate seepage losses across hydraulic structure
CO4	Will be able to estimate shear strength parameters of different types of soils using the data of different shear tests and comprehend Mohr-Coulomb failure theory.
CO5	Ability to solve practical problems related to estimation of consolidation settlement of soil deposits also time required for the same.
<b>17CV214</b>	<b>Advanced Surveying 17CV46</b>
	COURSE OUTCOMES
CO1	Apply geometric principles to arrive at solutions to surveying problems.
CO2	Analyze spatial data using appropriate computational and analytical techniques.
CO3	Design proper types of curves for deviating type of alignments.
CO4	Use the concepts of advanced data capturing methods necessary for engineering practice
<b>17CV215</b>	<b>Engineering Geology Laboratory 17CVL48</b>
	COURSE OUTCOMES
CO1	The students able to identify the minerals, rocks and utilize them effectively in civil engineering practices.
CO2	The students will interpret and understand the geological conditions of the area for implementation of civil engineering projects.
CO3	The students will interpret subsurface information such as thickness of soil, weathered zone, depth of hard rock and saturated zone by using geophysical methods.
CO4	The students will learn the techniques in the interpretation of LANDSAT Imageries to find out the lineaments and other structural features for the given area.
CO5	The students will be able to identify the different structures in the field.
<b>17CV216</b>	<b>Fluid Mechanics and Hydraulic Machines Laboratory 17CVL47</b>
	COURSE OUTCOMES
CO1	To provide practical knowledge in verification of principles of fluid flow
CO2	To impart knowledge in measuring pressure, discharge and velocity of fluid flow
CO3	To understand Major and Minor Losses
CO4	To gain knowledge in performance testing of Hydraulic Turbines and Hydraulic Pumps at constant speed and Head



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<b>17CV301</b>	<b>Design of RC Structural Elements (17CV51)</b>
	COURSE OUTCOMES
CO1	To list and explain the design philosophy and principles
CO2	To describe and analyze engineering problems of rc elements subjected to flexure, shear and torsion
CO3	To explain and analyze rc structural elements such as slabs, columns and footings
<b>17CV302</b>	<b>Analysis of Indeterminate structures (17CV52)</b>
	COURSE OUTCOMES
CO1	Calculate the moment in indeterminate beams and frames having variable moment of inertia and subsidence using slope deflection method
CO2	Calculate the moment in indeterminate beams and frames of no sway and sway using moment distribution method.
CO3	Derive the bending moment diagram for beams and frames by Kani's method.
CO4	Determine the bending moment diagram for beams and frames using flexibility & stiffness matrix method
<b>17CV303</b>	<b>APPLIED GEOTECHNICAL ENGINEERING (18CV54)</b>
	COURSE OUTCOMES
CO1	Ability to plan and execute geotechnical site investigation program for different civil engineering projects
CO2	Understanding of stress distribution and resulting settlement beneath the loaded footings on sand and clayey soils
CO3	Ability to estimate factor of safety against failure of slopes and to compute lateral pressure distribution behind earth retaining structures
CO4	Ability to determine bearing capacity of soil and achieve proficiency in proportioning shallow isolated and combined footings for uniform bearing pressure
CO5	Capable of estimating load carrying capacity of single and group of piles
<b>17CV304</b>	<b>Computer Aided building planning and drawing (17CV54)</b>
	COURSE OUTCOMES
CO1	To explain and gain broad understanding of planning and apply it in the designing a building
CO2	To plan and design a residential or public building as per the requirements
CO3	To prepare, read, interpret the building component drawings in a professional setup
<b>17CV305</b>	<b>DESIGN OF MASONRY STRUCTURES (17CV553)</b>
	COURSE OUTCOMES
CO1	Explain engineering properties and uses of masonry units, defects and crack in masonry and its remedial measures
CO2	Summarize various formulae's for finding compressive strength of masonry units
CO3	Explain permissible stresses and design criteria as per IS: 1905 and SP-20
CO4	Design different types of masonry walls for different load considerations.
<b>17CV306</b>	<b>Remote Sensing and GIS (17CV563)</b>
	COURSE OUTCOMES
CO1	Collect data and delineate various elements from the satellite imagery using their spectral signature.
CO2	Analyze different features of ground information to create raster or vector data.
CO3	Perform digital classification and create different thematic maps for solving specific problems
CO4	Make decision based on the gis analysis on thematic maps
<b>17CV307</b>	<b>GEOTECHNICAL ENGINEERING LAB (17CVL57)</b>
	COURSE OUTCOMES
CO1	Physical and index properties of the soil
CO2	Classify based on index properties and field identification
CO3	To determine OMC and MDD, plan and assess field compaction program
CO4	Shear strength and consolidation parameters to assess strength and deformation characteristics
<b>17CV308</b>	<b>CONCRETE AND HIGHWAY LAB (17CVL58)</b>
	COURSE OUTCOMES
CO1	Conduct appropriate laboratory experiments and interpret the results
CO2	Determine the quality and suitability of Building Materials.
CO3	Design appropriate concrete mix



  
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<b>17CV309</b>	<b>Construction Management &amp; Entrepreneurship 17CV61</b>
	COURSE OUTCOMES
CO1	Prepare a project plan based on requirements and prepare schedule of a project by understanding the activities and sequence
CO2	Understand labour output, equipment efficiency to allocate resources required for an activity/project to achieve desired quality and safety
CO3	Analyze the economics of alternatives and evaluate benefits and profits of a construction activity based on monetary value and time value and safety
CO4	Establish as an ethical entrepreneur and establish an enterprise utilizing the provisions offered by the federal agencies
<b>17CV310</b>	<b>17CV62 Design of Steel Structural Elements</b>
	COURSE OUTCOMES
CO1	Possess a knowledge of Steel Structures Advantages and Disadvantages of Steel structures, steel code provisions and plastic behaviour of structural steel
CO2	Understand the Concept of Bolted and Welded connections.
CO3	Understand the Concept of Design of compression members, built-up columns and columns splices.
CO4	Understand the Concept of Design of tension members, simple slab base and gusseted base.
CO5	Understand the Concept of Design of laterally supported and un-supported steel beams.
<b>17CV311</b>	<b>17CV63 Highway Engineering</b>
	COURSE OUTCOMES
CO1	Acquire the capability of proposing a new alignment or re-alignment of existing roads, conduct necessary field investigation for generation of required data.
CO2	Evaluate the engineering properties of the materials and suggest the suitability of the same for pavement construction
CO3	Design road geometrics, structural components of pavement and drainage
CO4	Evaluate the highway economics by few select methods and also will have a basic knowledge of various highway financing concepts.
<b>17CV312</b>	<b>Water Supply &amp; Treatment Engineering 17CV64</b>
	COURSE OUTCOMES
CO1	Estimate average and peak water demand for a community.
CO2	Evaluate available sources of water, quantitatively and qualitatively and make appropriate choice for a community
CO3	Evaluate water quality and environmental significance of various parameters and plan suitable treatment system.
CO4	Design a comprehensive water treatment and distribution system to purify and distribute water to the required
<b>17CV313</b>	<b>17CV651 Solid Waste Management</b>
	COURSE OUTCOMES
CO1	Analyse existing solid waste management system and to identify their drawbacks.
CO2	Evaluate different elements of solid waste management system.
CO3	Suggest suitable scientific methods for solid waste management elements.
CO4	Design suitable processing system and evaluate disposal sites.
<b>17CV314</b>	<b>17CV653 Alternate Building Materials</b>
	COURSE OUTCOMES
CO1	Solve the problems of Environmental issues concerned to building materials and cost effective building technologies.
CO2	Suggest appropriate type of masonry unit and mortar for civil engineering constructions; also they are able to Design Structural Masonry Elements under Axial Compression.
CO3	Analyse different alternative building materials which will be suitable for specific climate and in an environmentally sustainable manner. Also capable of suggesting suitable agro and industrial wastes as a building material.
CO4	Recommend various types of alternative building materials and technologies and design a energy efficient building by considering local climatic condition and building material.
<b>17CV315</b>	<b>17CV651 Remote Sensing &amp; GIS</b>
	COURSE OUTCOMES
CO1	Collect data and delineate various elements from the satellite imagery using their spectral signature.
CO2	Analyze different features of ground information to create raster or vector data.
CO3	Perform digital classification and create different thematic maps for solving specific problems
CO4	Make decision based on the gis analysis on thematic maps
<b>17CV316</b>	<b>17CVL66 Software Application Laboratory</b>
	COURSE OUTCOMES
CO1	Analysis of plane trusses, continuous beams, portal frames using industry standard software
CO2	Project planning and scheduling of a building project using project management software
CO3	Use of GIS applications using open source software and to create shape files
CO4	Create Excel spreadsheet for the design of structural components
<b>17CV317</b>	<b>17CVL67 Environmental Engineering Laboratory</b>
	COURSE OUTCOMES
CO1	Acquire capability to conduct experiments and estimate the concentration of different parameters.
CO2	Compare the result with standards and discuss based on the purpose of analysis.
CO3	Determine type of treatment, degree of treatment for water and waste water.
CO4	Identify the parameter to be analyzed for the student project work in environmental stream.
<b>17CV318</b>	<b>17CVEP68 Extensive Survey project</b>
	COURSE OUTCOMES
CO1	Apply Surveying knowledge and tools effectively for the projects
CO2	Understanding Task environment, Goals, responsibilities, Task focus, working in Teams towards common goals,
CO3	Application of individual effectiveness skills in team and organizational context, goal setting, time management, communication an
CO4	Professional etiquettes at workplace, meeting and general
CO5	Establishing trust based relationships in teams & organizational environment
CO6	Orientation towards conflicts in team and organizational environment, Understanding sources of conflicts, Conflict resolution styles and techniques



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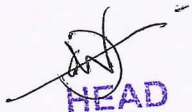
<b>17CV401</b>	<b>Municipal and Industrial Waste Water Engineering 17CV71</b>
	COURSE OUTCOMES
CO1	Acquires capability to design sewer and Sewerage treatment plant.
CO2	Evaluate degree of treatment and type of treatment for disposal, reuse and recycle.
CO3	Identify waste streams and design the industrial waste water treatment plant.
CO4	Manage sewage and industrial effluent issues.
<b>17CV402</b>	<b>Design of RCC and Steel Structures 17CV72</b>
	COURSE OUTCOMES
CO1	Students will acquire the basic knowledge in design of RCC and Steel Structures
CO2	Students will have the ability to follow design procedures as per codal provisions and skills to arrive at structurally safe of RCC structures
	Students will have the ability to follow design procedures as per codal provisions and skills to arrive at structurally safe of Steel members (trusses) and Girders
<b>17CV403</b>	<b>Hydrology and Irrigation Engineering 17CV73</b>
	COURSE OUTCOMES
CO1	Understand the importance of hydrology and its components.
CO2	Measure precipitation and analyze the data and analyze the losses in precipitation.
CO3	Estimate runoff and develop unit hydrographs.
CO4	Find the quantity of irrigation water and frequency of irrigation for various crops.
CO5	Find the canal capacity, design the canal and compute the reservoir capacity.
<b>17CV404</b>	<b>Ground Water &amp; Hydraulics 17CV742</b>
	COURSE OUTCOMES
CO1	Find the characteristics of aquifers.
CO2	Estimate the quantity of ground water by various methods.
CO3	Locate the zones of ground water resources.
CO4	Select particular type of well and augment the ground water storage.
<b>17CV405</b>	<b>Urban Transportation and Planning 17CV751</b>
	COURSE OUTCOMES
CO1	Design, conduct and administer surveys to provide the data required for transportation planning
CO2	Supervise the process of data collection about travel behavior and analyze the data for use in transport planning.
CO3	Develop and calibrate modal split, trip generation rates for specific types of land use developments
CO4	Adopt the steps that are necessary to complete a long-term transportation plan.
<b>17CV406</b>	<b>Environmental Engineering Laboratory 17CVL76</b>
	COURSE OUTCOMES
CO1	Acquire capability to conduct experiments and estimate the concentration of different parameters.
CO2	Compare the result with standards and discuss based on the purpose of analysis.
CO3	Determine type of treatment, degree of treatment for water and waste water.
CO4	Identify the parameter to be analyzed for the student project work in environmental stream.
<b>17CV407</b>	<b>Computer Aided Detailing of Structures 17CVL77</b>
	COURSE OUTCOMES
CO1	students will be able to prepare detailed working drawings of RCC structures
CO2	students will be able to prepare detailed working drawings of Steel structures
<b>17CV408</b>	<b>Project Work Phase-I + Project work Seminar 17CVL78</b>
	COURSE OUTCOMES
CO1	Describe the project and be able to defend it.
CO2	Develop critical thinking and problem solving skills
CO3	Communicate effectively and to present ideas clearly and coherently both in written and oral forms
CO4	Develop skills of project management and finance
CO5	Develop skills of self learning, evaluate their learning and take appropriate actions to improve it.



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<b>17CV409</b>	<b>Quantity Surveying and Contracts Management 17CV81</b>
	COURSE OUTCOMES
CO1	Students will able to prepare a detailed and abstract estimations for roads and buildings
CO2	Students will able to prepare a rate analysis for all kind of civil works and also write detailed specification as per execution of work
CO3	Students will have the ability to prepare a valuation reports of a building
CO4	Students will have the ability to prepare Tender and Contract documents of domestic and international construction works
<b>17CV410</b>	<b>Design of Pre Stressed Concrete Elements 17CV82</b>
	COURSE OUTCOMES
CO1	Students are able to understand the philosophy of prestress concrete
CO2	Students are able to understand the Materials used in presterss concrete
CO3	This course will enable students to learn Design of Pre Stressed Concrete Elements
<b>17CV411</b>	<b>Earthquake Engineering 17CV831</b>
	COURSE OUTCOMES
CO1	Acquire basic knowledge of engineering seismology and understanding the concept of strong ground motion charecteristics, response spectrum of a structure
CO2	Understanding the seismic performance of the structure and damages to civil engineering structures during different earthquake scenarios.
CO3	Analyze multi-storied structures modeled as shear frames and determine lateral force distribution due to earthquake input motion using is-1893 procedures.
CO4	Comprehend planning and design requirements of earthquake resistant features of rcc and masonry structures thorough exposure to different is-codes of practices.
<b>17CV412</b>	<b>Pavement Design 17CV833</b>
	COURSE OUTCOMES
CO1	Systematically generate and compile required data's for design of pavement (Highway & Airfield).
CO2	Analyze stress, strain and deflection by boussinesq's, bur mister's and westergaard's theory
CO3	Design rigid pavement and flexible pavement conforming to IRC58-2002 and IRC37-2001.
CO4	Evaluate the performance of the pavement and also develops maintenance statement based on site specific requirements
<b>17CV413</b>	<b>Internship/ Professional Practice 17CV84</b>
	COURSE OUTCOMES
CO1	Able to acquire knowledge pertaining to best practices in the field and correlate with the courses learnt
CO2	students will be able to develop valued skills like team work, communication and attention to detail
CO3	students are exposed to the environment and expetations of performance in profession pratice, private /public companies or government entities
<b>17CV414</b>	<b>Project Work-II 17CV85</b>
	COURSE OUTCOMES
CO1	Describe the project and be able to defend it.
CO2	Develop critical thinking and problem solving skills.
CO3	Learn to use modern tools and techniques.
CO4	Communicate effectively and to present ideas clearly and coherently both in written and oral forms.
CO5	Develop skills to work in a team to achieve common goal.
CO6	Develop skills of project management and finance.
CO7	Develop skills of self learning, evaluate their learning and take appropriate actions to improve it.
CO8	Prepare them for life-long learning to face the challenges and support the technological changes to meet the societal needs.
<b>17CV416</b>	<b>Seminar on current trends in Engineering and Technology 17CV86</b>
	COURSE OUTCOMES
CO1	Develop knowledge in the field of Civil Engineering and other disciplines through independent learning and collaborative study.
CO2	Identify and discuss the current, real-time issues and challenges in engineering & technology.
CO3	Develop written and oral communication skills.
CO4	Explore concepts in larger diverse social and academic contexts.
CO5	Apply principles of ethics and respect in interaction with others.
CO6	Develop the skills to enable life-long learning.



  
**HEAD**  
 Dept. of Civil Engg.  
 KLS V.D.I.T., Haliyal