



**Vidya Vikas Education Trust's
Universal College of Engineering, Kaman Road, Vasai-401212**

DEPARTMENT OF CIVIL ENGINEERING

GEOTECHNICAL ENGINEERING- I

At the end of the course students will be able to:

- CO1-** Understand properties of soil and also able to understand interrelationship between soil properties
- CO2-** Understand and analyse particle size and plasticity characteristic and also able to classify the soil
- CO3-** To calculate phenomenon such as permeability and seepage
- CO4-** To understand principle stress and shear strength developed in soil
- CO5-** To understand phenomenon such as compaction, consolidation of soil
- CO6-** To conduct various methods of investigation and test on soil

BUILDING DESIGN & DRAWING- II

At the end of the course students will be able to:

- CO1-** Understand the planning concepts, rules, regulations, various types of authorities for public building.
- CO2-** Get knowledge and able to draw one point & two point perspective drawings for public buildings.
- CO3-** Understand redevelopment concept and residential planning
- CO4-** Familiar with objective and principles of town planning.
- CO5-** Get knowledge of architecture & modular planning by using computer in building planning & Design.
- CO6-** Understand green building concept and its certification method.



DEPARTMENT OF CIVIL ENGINEERING

APPLIED HYDRAULICS- I

At the end of the course students will be able to

- CO1-** Able understood the momentum principle, moment of momentum equation and applications of hydraulic machines
- CO2-** Able to understand the significance of dimensionless numbers, concept of dimensional homogeneity and different types of model laws and their applications
- CO3-** Able to determine force exerted on stationary flat plates which held normal and vertical to jet and also for curved plate.
- CO4-** Able to understand about the general layout, working procedure of hydro electric plates and calculations of efficiencies for different turbines
- CO5-** Understood the working procedure of centrifugal pumps, series parallel operations involved and reciprocating pumps
- CO6-** Gets the knowledge of applications of different types hydraulics machines like hydraulic rams, hydraulic accumulator, press, hydraulic intensifiers and hydraulic lifts

STRUCTURAL ANALYSIS- II

- CO1-** At the end of the course students will be able to
- CO2-** Identify stable, unstable, determinate and indeterminate structures.
- CO3-** Determine the deflection of determinate structures due to temperatures effect & settlement.
- CO4-** Analyse the indeterminate structures by force methods.
- CO5-** Analyse the indeterminate structures by displacement methods.
- CO6-** Get the idea about plastic analysis and will be able to determine shape factor, plastic moment carrying capacity and collapse load.



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TRANSPORTATION ENGINEERING- I

At the end of the course students will be able to

- CO1-** Understand the elements of Air Transportation such as terminal building, parking facilities, apron, hangars, markings and lightings, airport drainage, ATC etc.
- CO2-** To design the airport elements such as runway orientation, length, gate and taxiway.
- CO3-** To understand elements of water transportation like harbours, ports and breakwater including study of facilities and equipment's used.
- CO4-** To decide the Cross Section of the Permanent way and suggest suitable ballast, sleepers, rail and their fixtures and fasteners.
- CO5-** To understand and design the geometric elements of Railway Line such as Gradient, Curves, Super Elevation, Turnouts etc.
- CO6-** To understand working of yards, signalling systems, maintenance of railway track and its construction and modernization.