



DEPARTMENT OF CIVIL ENGINEERING

GEOTECHNICAL ENGINEERING - II

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

- CO1-** Understand concept of stability of slope and study various method of evaluating stability of slope.
- CO2-** Understand lateral earth pressure theories and method to calculate active and passive earth pressure also able to check stability of retaining structure.
- CO3-** Calculate bearing capacity to design various footing such as square, rectangle etc.
- CO4-** Understand necessity of pile foundation and also able to design and calculate load on pile.
- CO5-** Understand concept of underground conduit and estimation of strut load in braced cut.
- CO6-** Understand application of reinforced soil.

ENVIRONMENTAL ENGINEERING- I

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

- CO1-** Understand the importance of sanitation. They will also learn to estimate water demand using population forecasting methods.
- CO2-** Give layout of distribution system which is suitable for particular location.
- CO3-** Get the idea about whole water treatment process and will be able to design sedimentation tank and rapid sand filter.
- CO4-** Get the idea about different coagulants, disinfectant, iron removal, defluoridation, Reverse osmosis and hardness removing methods.
- CO5-** Get the idea about how to manage the solid waste in the society.
- CO6-** Give plumbing layout and improve the sanitation by providing modern plumbing systems with water efficient fixture.



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APPLIED HYDRAULICS- II

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

- CO1-** Understand the boundary layer theory and boundary layer separation on the submerged bodies.
- CO2-** Understand the impact of engineering solutions for boundary layer theory in the context of submerged bodies.
- CO3-** Develop the understanding of the flow phenomena and parameters in channel section.
- CO4-** Design most efficient channel section.
- CO5-** Understand the different slope profiles and its effect on the flow characteristics.
- CO6-** Apply the specific energy concepts on various channel sections.
- CO7-** Apply Kennedy's and Lacey's theory for designing irrigation channels.

DESIGN & DRAWING OF STEEL STRUCTURES

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

- CO1-** Get the idea of the properties of steel and working stress method & limit state method.
- CO2-** Design of simple connections and bracket connections with bolted & welded.
- CO3-** Get the idea about failures of tension member and design of tension member.
- CO4-** Get the idea about failures of compression member and design of compression member as strut & column.
- CO5-** Design column bases.
- CO6-** Design laterally supported and unsupported beam.
- CO7-** Design a truss.
- CO8-** Design a plate girder using IS code.



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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-** Design the airport elements such as runway orientation, length, gate and taxiway.
- CO3-** Understand elements of water transportation like harbours, ports and breakwater including study of facilities and equipment's used.
- CO4-** Decide the Cross Section of the Permanent way and suggest suitable ballast, sleepers, rail and their fixtures and fasteners.
- CO5-** Understand and design the geometric elements of Railway Line such as Gradient, Curves, Super Elevation, Turnouts etc.
- CO6-** Understand working of yards, signalling systems, maintenance of railway track and its construction and modernization.

THEORY OF REINFORCED AND PRESTRESSED CONCRETE

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

- CO1-** Understand the concept of reinforced concrete & working stress method (WSM).
- CO2-** Analyse & design various types of beams& columns by WSM.
- CO3-** Design slab, footing & shear bonds in structure by WSM.
- CO4-** Understand basic principles, methods, losses & analysis of prestressed concrete.
- CO5-** Learn the general design principles of a prestressed concrete member.