

## புதுமை CIVIL SSC JE 2025

### Civil Engineering - Recorded Classes

#### GEO TECH:

Soil origin & its properties
Index properties of Soil
Classifications of Soil
Clay Mineral, Soil Structure & Soil Compaction
Compressibility and Consolidation
Effective Stress , Capillarity and Permeability
Seepage Through Soil & Shear Strength of Soil
Earth Pressure and Retaining Walls
Shallow Foundation -1
Shallow Foundation -2
Deep Foundation
Vertical Stress & Slope Stability
Soil Exploration, Expansive Soil & Soil Stabilization

#### STRUCTURAL ANALYSIS / THEORY OF STRUCTURE:

Determinacy , Indeterminacy & Stability of Structure
Force Method of Analysis
Slope - Deflection Method
Moment - Distribution Method
Trusses

#### HIGHWAY ENGINEERING:

Introduction and Geometric Design
Horizontal Alignment
Vertical Alignment
Traffic Engineering Studies
Traffic Control Regulation
Highway Material
Pavement Design

Flexible Pavement
Rigid Pavement
Highway Maintenance
Basics of Railway & Railway Joints
Sleepers and Track Fasteners
<b>SURVEYING:</b>
Fundamentals of Surveying
Linear Measurement
Compass - Surveying
Theodolite & Tacheometry
Levelling
Traversing & Plane Table Surveying
Contouring & Curve
Measurement of Area and Volume & Theory of Errors
<b>Environmental Engineering:</b>
Water Demand , Source & Conveyance - 1
Water Demand , Source & Conveyance - 2
Quality Parameters of Water - 1
Quality Parameters of Water - 2
Treatment of Water - 1
Treatment of Water - 2
Fundamentals of Surveying
Distribution System
Waste Water Characteristics
Design of Sewerage System & Sewer Appurtenances
Sewage Treatment - 1
Sewage Treatment - 2
Solid Waste Management & Noise Pollution
Air Pollution
<b>Fluid Mechanics:</b>
Properties of Fluids

Pressure Measurement & Hydrostatic Forces
Buoyancy & Floatation , Liquid in Relative Equilibrium
Fluid Kinematics
Fluid Dynamics
Momentum Equation and Application
Weirs and Notches
Laminar & Turbulent Flow
Boundary Layer Theory
Dimensional Analysis and Model Studies
Flow Through Pipes
<b>Hydraulic Machines:</b>
Turbine - 1
Turbine - 2
Hydraulic Pumps
<b>Open Channel Flow:</b>
Open Channel Flow 1
Open Channel Flow 2
<b>Irrigation:</b>
Irrigation and Its Method
Soil Moisture Plant Relationship
Water Requirement of Crops
Canal Design and Earthen Dams
Canal Irrigation and Water Logging
Gravity Dam and Spillway
<b>Hydrology:</b>
Introduction , Precipitation and Measurement
Abstractions from Precipitation
Stream Flow Measurement , Runoff & Drought
Hydrograph
Floods and Flood Routing

<b>BMC:</b>
Cement - 1
Cement - 2
Concrete - 1
Concrete - 2
Timber
Brick & Brick Masonry
Lime & Mortar
Aggregates
Stone
Door, Window & Roof
Floor & Stairs
Metal & Glass
Paint & Varnish
Building Maintenance Engineering
Building Laws
Bitumen, Scaffolding, Shoring & Miscellaneous Topics - 1
Bitumen, Scaffolding, Shoring & Miscellaneous Topics - 2
<b>Railway Engineering:</b>
Ballast , Track Alignment , Track Stresses & Creep
Geometric Design of the Track
Points and Crossing
Railway Station , Station Yard , Signalling , Control Systems , Traction and Tracting Resistance
<b>Bridge Engineering:</b>
Bridge Engineering - 1
Bridge Engineering - 2
Tunnel Engineering:
Tunnel Engineering - 1
Tunnel Engineering - 2
Estimation and Costing:
Basic Measurement & Work

Valuation
Estimation and Area Types
Material Calculation & Miscellaneous Topics
<b>CPM &amp; PERT:</b>
CPM & PERT - 1
CPM & PERT - 2
<b>Applied Mechanics:</b>
Basic Fundamental , Velocity & Projectile Motion
Friction , Force , Work , Power & Energy
Centroid and Centre of Gravity
<b>Auto CAD:</b>
Auto CAD - 1
Auto CAD - 2
Auto CAD - 3
<b>Mechanics Of Solids:</b>
Properties of Material - 1
Properties of Material - 2
Shear Force & Bending Moment Diagram
Deflection of Beams
Principle Stress - Strain
Theories of Failure
Shear Stress & Bending Stress
Combined Stress & Columns
Strain Energy
<b>Reinforced Cement Concrete:</b>
Fundamental of RCC
Design of RCC Beam (WSM)
Design of RCC Beam (LSM)
Advantage & Disadvantages of WSM & LSM
Design of Column
"Limit State of Collapse - Shear"

"Limit State of Collapse - Bond & Anchorage"
"Limit State of Collapse - Torsion"
Design of Slab
Design of Footing
Limit State of Serviceability
<b>Prestressed Cement Concrete:</b>
Fundamental of Prestressed Concrete
Analysis of Prestressed Concrete - 1
Analysis of Prestressed Concrete - 2
Losses of Prestressed Concrete
<b>Steel Structures:</b>
Introduction of Steel Structures
Bolted Connection
Welded Connection
Tension Members
Compression Members
Plastic Analysis
Plate & Gantry Griders
Roof Stress