

TENTATIVE SYLLABUS FOR OVERSEER CIVIL

SURVEYING AND LEVELLING

Introduction, Chain Surveying: Instruments used, errors, obstacles in chaining. Plane table surveying: Accessories, methods (radiation, intersection, resection, 3 & 2 point). Compass surveying: Prismatic & surveyor's compass, types of bearings, conversion, local attraction, declination, dip, isogonic & agonic lines, meridian. Theodolite surveying: Parts of theodolite, definitions & terms, fundamental lines. Levelling: Definitions, instrument used, methods of levelling. Tacheometric surveying: instrument, systems. Contours: Basic definitions, characteristics of contours, Different methods of contouring. Traverse computations: checks in traverse, latitude & departure. Curves: basic definition, types of curve. Area and volume calculation: different methods.

ADVANCED SURVEYING

Electronic Distance Measurements, types. Total Station: component parts, errors. Global Positioning Systems, Remote Sensing, Geographical Information System. Field astronomy: technical terms.

BUILDING MATERIALS AND CONSTRUCTIONS

Brick and Brick Masonry, Stone and Stone Masonry, Paint, Arch and Lintel, Doors and windows, Foundation, Stair, Roof, Timber, Lime, Cement, Floors, Tiles, Plastering and Pointing, DPC, Metals and Alloys, Carpentry and Joinery, Temporary structural treatment for building construction.

WATER RESOURCE AND IRRIGATION ENGINEERING

Types and Methods of Irrigation, Water requirement of crop, Crop season, Classification of crops, Consumptive use, Efficiencies, Duty, Delta, terms in irrigations. Canals: Classification of canals, cross sectional elements of canals. Cross Drainage work, types of CDW. Diversion Head works, Component parts. Dams and classification. Reservoirs and Classification, storage zones of reservoirs, Yield. Spillways, Types, River training works.

HYDROLOGY

Hydrologic cycle, components parts of hydrologic cycle and its measurement. Geologic formations: aquifer, aquitard, aquiclude, aquitard etc.

FLUID MECHANICS AND HYDRAULICS

Properties of fluids, Pressure and its measurements, Buoyancy and floatation, Bernoulli's Equation and its application, Types of fluid flow, Dimensionless Numbers, Path line, streamline and streak line (definition), OCH, Pipe flow.

WATER SUPPLY AND SANITARY ENGINEERING

Water supply engineering: water treatment method, drinking water standards of various physical, chemical and biologic matters. Sanitary engineering: Types of wastewater, sewage treatment methods, Sewer appurtenances: house drainage and system of plumbing, Sanitary fittings.

ENGINEERING MECHANICS

Simple machines: Load and effort, Mechanical advantage, Velocity ratio, efficiency, Fundamental laws of mechanics, Friction, Work power and energy, Speed and velocity, Units: Metric and non-metric, conversion.

STRENGTH OF MATERIALS

Properties of material, Simple stress and strain, Shear force and bending moment, Bending Equation, Torsion Equation, Euler's Equation (Long column and short column).

ESTIMATION AND VALUATION

Estimation & Costing: Types of estimate, Sanctions, General specifications and terminologies, Methods of Quantity Surveying, Rules and methods of measurements of work, Data Book, Bar bending schedule.

Rate analysis and Valuation: Methods of valuation, Life of various building components, General specifications.

Building rules and byelaws: Based on KMBR and NBC.

CONCRETE TECHNOLOGY

Grades of concrete, Types of mix, Proportions in concrete, Minimum grade of concrete, Workability: Factors affecting, Test for workability (Slump, Compaction factor, Vee bee Consistometer)

RCC

Basic concepts of rectangular beams, shear reinforcement, Bond and development length, torsion, One way slab, Two way slabs, Columns: effective length, axially loaded short columns with rectangular ties and helical reinforcement, footing, retaining wall : IS code recommendations

STEEL STRUCTURES

Bolted and welded connections, Tension members, Compression members, Beams, Roof trusses, Purlins (basic concepts) : IS code recommendations

TRANSPORTATION ENGINEERING

Highway Engineering: History of roads, Alignment of highway, Geometric design and construction, Super-elevation, Curves, gradient, Highway materials, Types of pavement, Joints in cement concrete road, failure in pavements, Traffic Engineering

Railway Engineering: Introduction to railway, permanent way, type of rail sections, rail joints, coning of wheels, defects in rail, sleepers and its types, sleeper density, Ballast, Gradient, super elevation, cant deficiency, curves, Rail fixtures and fastenings, Plate laying methods, Railway yards, Triangle, turntable, traverser, buffer stop, points and crossings, Interlocking of signals, railway zones

Docks and harbor Engineering: water transportation systems, types of harbours, layout of harbour, wet dock and dry dock.

Airport Engineering: Runway, Taxiway, Apron, hanger, markings in airport, lighting in airport

BRIDGE ENGINEERING

Introduction –Types, basic components and terms

BASIC ENGINEERING DRAWING

Drawing instruments, uses, equipment and materials , type and layout of drawing sheet, lines. Lettering, dimensioning and scale Plane geometrical construction Conic section and projection

AUTOCAD

Introduction to AutoCAD Basic ,commands, Drawing toolbar and modifying toolbar, Plotting and printing, function keys, short cut keys etc.

UNITS AND MENSURATION

Units of measurements Measurement of Perimeter and Area of triangles Polygons and circles Volume of Solids, Volume & Area calculations Simpson's rule, Trapezoidal rule.

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.



Long term batch for
CIVIL OVERSEER
(Various departments)

CLASSES STARTING ON
OCTOBER 15

- ★ BE A FRONT-RUNNER IN THE HIGHLY COMPETITIVE KPSC OVERSEER EXAMINATIONS
- ★ ALSO WITH FLEXIBLE SCHEDULES FOR WORKING PROFESSIONALS TO CHASE THEIR DREAM

FEATURES

- ▶ Live & interactive classes
- ▶ Classes after 7p.m (Ideal for working professionals)
- ▶ Batch coordinators to manage feedbacks
- ▶ Guaranteed individual attention
- ▶ Subject-wise online tests including mock tests
- ▶ Familiarizing previous years' question papers



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For Admission:

Website: www.earnestacademy.com, email id: eafortech@gmail.com, Contact: 9061941160, 8157969006