STAFF SELECTION COMMISSION

JUNIOR ENGINEER(Paper-I) EXAMINATION-2023

Online Test Series

Civil Engineering - Schedule

No.of Tests : 20	
Subject Wise Tests	16
Full Length Mock Tests	4

Note:

❖The Syllabus considered as per Previous Notification of SSC-JE. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final SSC-JE exam. As per previous year Notification of SSC-JE each question carries '1' mark and negative marking of 1/4th (i.e. 0.25 Marks) for each wrong answer.

❖The Dates of above Tests may Change according to the SSC-JE (Paper-I) Exam schedule.

❖ Tests will be activated at 6:00 pm on scheduled day.

❖ All tests will be Active upto SSC-JE-2023 (Paper-I) Examination.

Subject-wise Tests

(No.of Questions: 50, Time duration: 30 Minutes and Marks: 50 M)

Test No	Name of the Test	Date of Activation
Test-01	General Intelligence and Reasoning-1	03-07-2023
Test-02	**Surveying:** Principles of surveying, measurement of distance, chain surveying, working of prismatic compass, compass traversing, bearings, local attraction, plane table surveying, theodolite traversing, adjustment of theodolite, Levelling, Definition of terms used in levelling, contouring, curvature and refraction corrections, temporary and permanent adjustments of dumpy level, methods of contouring, uses of contour map, tachometric survey, curve setting, earth work calculation, advanced surveying equipment.	08-07-2023
Test-03	General Awareness-1	11-07-2023
Test-04	**Building Materials:** Physical and Chemical properties, classification, standard tests, uses and manufacture/quarrying of materials e.g. building stones, silicate based materials, cement (Portland), asbestos products, timber and wood based products, laminates, bituminous materials, paints, varnishes.	15-07-2023
Test-05	General Intelligence and Reasoning-2	18-07-2023
Test-06	**Soil Mechanics + Irrigation Engineering:** Soil Mechanics: Origin of soil, phase diagram, Definitions-void ratio, porosity, degree of saturation, water content, specific gravity of soil grains, unit weights, density index and interrelationship of different parameters, Grain size distribution curves and their uses. Index properties of soils, Atterberg's limits, ISI soil classification and plasticity chart. Permeability of soil, coefficient of permeability, determination of coefficient of permeability, Unconfined and confined aquifers, effective stress, quick sand, consolidation of soils, Principles of consolidation, degree of consolidation, pre-consolidation pressure, normally consolidated soil, e-log p curve, computation of ultimate settlement. Shear strength of soils, direct shear test, Vane shear test, Triaxial test. Soil compaction, Laboratory compaction test, Maximum dry density and optimum moisture content, earth pressure theories, active and passive earth pressures, Bearing capacity of soils, plate load test, standard penetration test. Irrigation Engineering: Definition, necessity, benefits, 2II effects of irrigation, types and methods of irrigation, Hydrology – Measurement of rainfall, run off coefficient, rain gauge, losses from precipitation – evaporation, infiltration, etc. Water requirement of crops, duty, delta and base period, Kharif and Rabi Crops, Command area, Time factor, Crop ratio, Overlap allowance, Irrigation efficiencies. Different type of canals, types of canal irrigation, loss of water in canals. Canal lining – types and advantages. Shallow and deep to wells, yield from a well. Weir and barrage, Failure of weirs and permeable foundation, Slit and Scour, Kennedy's theory of critical velocity. Lacey's theory of uniform flow. Definition of flood, causes and effects, methods of flood control, water logging, preventive measure. Land reclamation, Characteristics of affecting fertility of soils, purposes, methods, description of land and reclamation processes. Major irrigation projects in India.	22-07-2023
Test-07	General Awareness-2	25-07-2023

Test No	Name of the Test	Date of Activation
Test-08	**Estimating, Costing and Valuation + Transportation Engineering:** Estimating, Costing and Valuation: estimate, glossary of technical terms, analysis of rates, methods and unit of measurement, Items of work – earthwork, Brick work (Modular & Traditional bricks), RCC work, Shuttering, Timber work, Painting, Flooring, Plastering. Boundary wall, Brick building, Water Tank, Septic tank, Bar bending schedule, Centre line method, Mid-section formula, Trapezodial formula, Simpson's rule. Cost estimate of Septic tank, flexible pavements, Tube well, isolates and combined footings, Steel Truss, Piles and pile-caps. Valuation – Value and cost, scrap value, salvage value, assessed value, sinking fund, depreciation and obsolescence, methods of valuation. Transportation Engineering: Highway Engineering – cross sectional elements, geometric design, types of pavements, pavement materials – aggregates and bitumen, different tests, Design of flexible and rigid pavements – Water Bound Macadam (WBM) and Wet Mix Macadam (WMM), Gravel Road, Bituminous construction, Rigid pavement joint, pavement maintenance, Highway drainage, Railway Engineering- Components of permanent way – sleepers, ballast, fixtures and fastening, track geometry, points and crossings, track junction, stations and yards. Traffic Engineering – Different traffic survey, speed-flow-density and their interrelationships, intersections and interchanges, traffic signals, traffic operation, traffic signs and markings, road safety.	29-07-2023
Test-09	General Intelligence and Reasoning-3	01-08-2023
Test-10	**Hydraulics:** Fluid properties, hydrostatics, measurements of flow, Bernoulli's theorem and its application, flow through pipes, flow in open channels, weirs, flumes, spillways, pumps and turbines.	05-08-2023
Test-11	General Awareness-3	08-08-2023
Test-12	**Environmental Engineering + Concrete Technology:** Environmental Engineering: Quality of water, source of water supply, purification of water, distribution of water, need of sanitation, sewerage systems, circular sewer, oval sewer, sewer appurtenances, sewage treatments. Surface water drainage. Solid waste management – types, effects, engineered management system. Air pollution – pollutants, causes, effects, control. Noise pollution – cause, health effects, control. Concrete Technology: Properties, Advantages and uses of concrete, cement aggregates, importance of water quality, water cement ratio, workability, mix design, storage, batching, mixing, placement, compaction, finishing and curing of concrete, quality control of concrete, hot weather and cold weather concreting, repair and maintenance of concrete structures.	12-08-2023
Test-13	General Intelligence and Reasoning-4	15-08-2023
Test-14	**Theory of Structures:** Elasticity constants, types of beams – determinate and indeterminate, bending moment and shear force diagrams of simply supported, cantilever and over hanging beams. Moment of area and moment of inertia for rectangular & circular sections, bending moment and shear stress for tee, channel and compound sections, chimneys, dams and retaining walls, eccentric loads, slope deflection of simply supported and cantilever beams, critical load and columns, Torsion of circular section.	19-08-2023
Test-15	General Awareness-4	22-08-2023

Test No	Name of the Test	Date of Activation
Test-16	**RCC Design + Steel Design:** RCC Design: RCC beams-flexural strength, shear strength, bond strength, design of singly reinforced and double reinforced beams, cantilever beams. T-beams, lintels. One way and two way slabs, isolated footings. Reinforced brick works, columns, staircases, retaining wall, water tanks (RCC design questions may be based on both Limit State and Working Stress methods). Steel Design: Steel design and construction of steel columns, beams roof trusses plate girders.	26-08-2023

Full Length Mock Test Series *(No.of Questions: 200, Time duration: 120 Minutes and Marks: 200 M)*		
Test-17	Full Length Mock Test-1	02-09-2023
Test-18	Full Length Mock Test-2	09-09-2023
Test-19	Full Length Mock Test-3	16-09-2023
Test-20	Full Length Mock Test-4	23-09-2023