SSC-JE 2025
CBT-1 (Prelims Exam)
Online Test Series

MADE EASY

☑ **Civil Engineering**   ☑ **Mechanical Engineering**   ☑ **Electrical Engineering**

Test Series commencing from **10ᵗʰ July, 2025**

Total 24 Tests

- **2400** quality questions
- 📋 As per standard and pattern of SSC-JE CBT-1
- 📋 Both technical and non-technical syllabus covered
- 📋 Detailed solutions
- 🔍 Performance analysis report

TEST STRUCTURE

16 Subjectwise Tests	**8** Full Syllabus Tests
(8 Technical Tests + 8 Non Technical Tests)	(Mock Tests : Exactly on pattern of SSC-JE CBT-1)
Total Questions : 50/Test	Total Questions : 200/Test
Max Marks : 50	Max Marks : 200
Duration: 30 min	Duration: 120 min
Negative Marking : 0.25 Marks	Negative Marking : 0.25 Marks
800 Questions	**1600 Questions**
Total : 2400 Questions	

Fee : Rs. 1000 (Including GST) | **ADMISSION OPEN**

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Online Test Series

SSC-JE 2025 CBT-1 (Prelims Exam)
CIVIL ENGINEERING

Test No.	Activation Date	Subject	Marks/Time
1.		History & Culture + Geography	50 M /30 min
2.		Indian Polity + Indian Economy	50 M /30 min
3.		Current Affairs + General Knowledge	50 M /30 min
4.		General Science & Technology + Environment	50 M /30 min
5.		Analogies or Similarity + Blood relationship + Symbols and Notations + Classifcation	50 M /30 min
6.		Directions and Distance Test + Series + Coding and Decoding + Word Formation	50 M /30 min
7.		Completion of Figure + Ranking Arrangement + Find the Missing Number + Arrangement of Words in Logical Order + Cubes and Dice	50 M /30 min
8.		Logical Venn Diagram + Paper Cutting, Folding and Mirror images + Matrix reasoning + Syllogism + Statement and Conclusions	50 M /30 min
9.	10th July, 2025	**Building Materials :** Physical and Chemical properties, Classifcation, 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. **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. **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, Trapezoidal formula, Simpson's rule. Cost estimate of Septic tank, fexible pavements, Tube well, isolated 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.	50 M /30 min
10.		**Soil Mechanics :** Origin of soil, phase diagram, Definitions-void ratio, porosity, degree of saturation, water content, specificgravity 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, Unconfinedand confine 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.	50 M /30 min
11.		**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 defletion of simply supported and cantilever beams, critical load and columns, Torsion of circular section.	50 M /30 min
12.		**Irrigation Engineering :** Definition,Necessity, Benefi, lll effects of irrigation, types and methods of irrigation. Hydrology – Measurement of rainfall, run o ffcoefficient, 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 flo. Definition Of f fl, causes and effects, methods of of f control, water logging, preventive measures. Land reclamation, Characteristics of affecting fertility of soils, purposes, methods, description of land and reclamation processes. Major irrigation projects in India.	50 M /30 min

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CIVIL ENGINEERING

Test No.	Activation Date	Subject	Marks/Time
13.	10th July, 2025	**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, fi tures and fastening, track geometry, points and crossings, track junction, stations and yards. Traffic Engineering – Different traffic surveyurvey, speeddensity and their interrelationships, intersections and interchanges, traffic signals, traffic operation, traffic signs and markings, road safety. **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, Definitionof 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.	50 M /30 min
14.		**RCC Design :** RCC beams-flexuralstrength, shear strength, bond strength, design of singly reinforced and doubly reinforced beams, cantilever beams. T-beams, lintels. One way and two way slabs, isolated footings. Reinforced brick works, columns, staircases, retaining walls, 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.	50 M /30 min
15.		**Environmental Engineering :** Quality of water, source of water supply, purificationof 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 – causes, health effects, control.	50 M /30 min
16.		**Hydraulics :** Fluid properties, hydrostatics, measurements of flo, Bernoulli's theorem and its application, flow through pipes, flowin open channels, weirs, flum , spillways, pumps and turbines.	50 M /30 min
17.	10th Aug, 2025	Full Syllabus Test 1	200 M /120 min
18.		Full Syllabus Test 2	200 M /120 min
19.		Full Syllabus Test 3	200 M /120 min
20.		Full Syllabus Test 4	200 M /120 min
21.	10th Sept, 2025	Full Syllabus Test 5	200 M /120 min
22.		Full Syllabus Test 6	200 M /120 min
23.		Full Syllabus Test 7	200 M /120 min
24.		Full Syllabus Test 8	200 M /120 min

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Online Test Series
SSC-JE 2025 CBT-1 (Prelims Exam)
MECHANICAL ENGG.

Test No.	Activation Date	Subject	Marks/Time
1.		History & Culture + Geography	50 M /30 min
2.		Indian Polity + Indian Economy	50 M /30 min
3.		Current Affairs + General Knowledge	50 M /30 min
4.		General Science & Technology + Environment	50 M /30 min
5.		Analogies or Similarity + Blood relationship + Symbols and Notations + Classification	50 M /30 min
6.		Directions and Distance Test + Series + Coding and Decoding + Word Formation	50 M /30 min
7.		Completion of Figure + Ranking Arrangement + Find the Missing Number + Arrangement of Words in Logical Order + Cubes and Dice	50 M /30 min
8.		Logical Venn Diagram + Paper Cutting, Folding and Mirror images + Matrix reasoning + Syllogism + Statement and Conclusions	50 M /30 min
9.	10th July, 2025	**Theory of Machines:** Concept of simple machine, Four bar linkage and link motion, Flywheels and flu tuation of energy, Cams, Governors – PPrinciples and classification.	50 M /30 min
10.		**Strength of Materials:** Concepts of stress and strain, Elastic limit and elastic constants, Bending moments and shear force diagram, Stress in composite bars, Torsion of circular shafts, Buckling of columns – Euler's and Rankin's theories, Thin walled pressure vessels	50 M /30 min
11.		**Thermodynamics** : P-v & P-T diagrams of pure substance like HO, Introduction of steam table with respect to steam generation process; definitionof saturation, wet & superheated status, Definitio of dryness fraction of steam, degree of superheat of steam h-s chart of steam (Mollier's Chart) . First Law of Thermodynamics : Definition of stored energy & internal energy, 1^t Law of Thermodynamics of cyclic process, Non Flow Energy Equation, Flow Energy & Definitionof Enthalpy, Conditions for Steady State Steady Flow; Steady State Steady Flow Energy Equation . Second Law of Thermodynamics : Definitionof Sink, Source Reservoir of Heat, Heat Engine, Kelvin – Planck & Clausius Statements of 2^{cd} Law of Thermodynamics, Absolute or Thermodynamic Scale of temperature, Clausius Integral, Entropy, Entropy change calculation of ideal gas processes Carnot Cycle & Carnot Efficiency, PMM-2; definition& its impossibility	50 M /30 min
12.		**Fluid Mechanics & Machinery Properties & Classifcation of Fluid :** Properties & Classificationof Fluid: Ideal & real fluid, Newton's law of viscosity, Newtonian and Non-Newtonian flui, compressible and incompressible fluids **Fluid Statics :** Pressure at a point, Measurement of Fluid Pressure: Manometers, U-tube, Inclined tube **Fluid Kinematics :** Stream line, laminar & turbulent flo, external & internal fl, continuity equation **Dynamics of ideal fuids :** Bernoulli's equation, Total head; Velocity head; Pressure head; Application of Bernoulli's equitation **Measurement of Flow rate Basic Principles :** Venturimeter, Pilot tube, Orificemeter **Hydraulic Turbines :** Classification, Principles **Centrifugal Pumps :** Classification, Principles, Performance	50 M /30 min

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SSC-JE 2025
CBT-1 (Prelims Exam)
MECHANICAL ENGG.

Online Test Series

Test No.	Activation Date	Subject	Marks/Time
13.	10th July, 2025	**Production Engineering :** Welding – Arc Welding, Gas Welding, Resistance Welding, Special Welding Techniques i.e. TIG, MIG, etc (Brazing & Soldering), Welding Defects & Testing; NDT, Foundry & Casting – methods, defects, different casting processes, Forging, Extrusion, etc, Metal cutting principles, cutting tools, Basic Principles of machining with (i) Lathe (ii) Milling (iii) Drilling (iv) Shaping (v) Grinding, Machines, tools & manufacturing processes	50 M /30 min
14.		**Internal Combustion Engines :** Otto cycle; plot on P-V, T-S Planes; Thermal Efficiency, Diesel Cycle; Plot on P-V, T-S planes; Thermal efficiency IC Engine Performance, IC Engine Combustion, IC Engine Cooling & Lubrication **Power Plant :** Rankine cycle of steam: Simple Rankine cycle plot on P-V, T-S, h-s planes, Rankine cycle efficiency with & without pump work, Boilers; Classification; SpecificationFittings & Accessories: Fire Tube & Water Tube Boilers, Air Compressors & their cycles; Nozzles & Steam Turbines	50 M /30 min
15.		**Material Science :** Classificationof Steels : mild steal & alloy steel, Heat treatment of steel **Engineering Mechanics**: Equilibrium of Forces, Law of motion, Friction	50 M /30 min
16.		**Refrigeration & Air-conditioning:** Heat Pump & Refrigerator; Thermal Efficiency of Heat Engines & co-efficient of performance of Refrigerators, Refrigeration cycles; Principle of a Refrigeration Plant; **Machine Design :** Power transmission by belts – V-belts and Flat belts, Clutches – Plate and Conical clutch, Gears – Type of gears, gear profileand gear ratio calculation, Riveted joint, Bearings, Friction in collars and pivots	50 M /30 min
17.	10th Aug, 2025	**Full Syllabus Test 1**	200 M /120 min
18.		**Full Syllabus Test 2**	200 M /120 min
19.		**Full Syllabus Test 3**	200 M /120 min
20.		**Full Syllabus Test 4**	200 M /120 min
21.	10th Sept, 2025	**Full Syllabus Test 5**	200 M /120 min
22.		**Full Syllabus Test 6**	200 M /120 min
23.		**Full Syllabus Test 7**	200 M /120 min
24.		**Full Syllabus Test 8**	200 M /120 min

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8.	10th July, 2025	Logical Venn Diagram + Paper Cutting, Folding and Mirror images + Matrix reasoning + Syllogism + Statement and Conclusions	50 M /30 min
9.		**Electrical Circuits :** Concepts of resistance, inductance, capacitance, and various factors affecting them. Concepts of current, voltage, power, energy and their units. Kirchhoff's law, Simple Circuit solution using network theorems. Instantaneous, peak, R.M.S. and average values of alternating waves, Representation of sinusoidal wave form, simple series and parallel AC Circuits consisting of R, L and C, Resonance, Tank Circuit. Poly Phase system – star and delta connection, 3-phase power, DC and sinusoidal response of R-L and R-C circuit.	50 M /30 min
10.		**Magnetic Circuit :** Concepts of flux, mmf, reluctance, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration e.g. straight, circular, solenoidal, etc. Electromagnetic induction, self and mutual induction.	50 M /30 min
11.		**Measurement and Measuring Instruments :** Measurement of power (1 phase and 3-phase, both active and re-active) and energy, 2 wattmeter method of 3-phase power measurement. Measurement of frequency and phase angle. Ammeter and voltmeter (both moving oil and moving iron type), extension of range wattmeter, Multimeters, Megger, Energy meter AC Bridges. Use of CRO, Signal Generator, CT, PT and their uses. Earth fault detection.	50 M /30 min
12.		**Electrical Machines-1 :** 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase /3 phase transformers. Auto transformers. 3 phase induction motors, rotating magnetic feld, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics. Fractional Kilowatt Motors and Single Phase Induction Motors: Characteristics and applications.	50 M /30 min

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SSC-JE 2025
CBT-1 (Prelims Exam)
ELECTRICAL ENGG.

Test No.	Activation Date	Subject	Marks/Time
13.	10th July, 2025	**Electrical Machines-2 :** D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. Generation of 3-phase e.m.f. armature reaction, voltage regulation, parallel operation of two alternators, synchronizing, control of active and reactive power. Starting and applications of synchronous motors.	50 M /30 min
14.		**Power Systems :** Different types of power stations, Load factor, diversity factor, demand factor, cost of generation, inter-connection of power stations. Power factor improvement, various types of tariffs, types of faults, short circuit current for symmetrical faults. Switchgears – rating of circuit breakers, Principles of arc extinction by oil and air, H.R.C. Fuses, Protection against earth leakage/over current, etc. Buchholtz relay, Merz-Price system of protection of generators & transformers, protection of feeders and bus bars. Lightning arresters, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor.	50 M /30 min
15.		**Estimation and Costing :** Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules. **Utilization of Electrical Energy :** Illumination, Electric heating, Electric welding, Electroplating, Electric drives and motors.	50 M /30 min
16.		**Basic Electronics :** Working of various electronic devices e.g. P N Junction diodes, Transistors (NPN and PNP type), BJT and JFET. Simple circuits using these devices.	50 M /30 min
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