



ACE[®]
Engineering Academy
Leading Institute for ESE/GATE/PSUs



Railway Recruitment Boards Junior Engineer-2025 CBT-II

Online Test Series

Civil and Allied Engineering - Schedule

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

Note:

- ★ The syllabus is considered as per the notifications of the RRB. ACE Engineering Academy does not take responsibility for any changes or deviations in the final RRB-JE-2025 CBT-II examination syllabus. As per the RRB-JE-2025 notification, each question carries '1' mark, and there is negative marking of 1/3rd (i.e., 0.33 marks) for each wrong answer.
- ★ The test dates may change depending on the RRB-JE-2025 CBT-II examination schedule.
- ★ Tests will be activated at 6:00 PM on the scheduled day.
- ★ All tests will remain active until the RRB-JE-2025 CBT-II examination.
- ★ The test series is available only in English medium.

Subject-wise Tests

(No. of Questions: 40, Time duration: 32 Minutes and Max Marks: 40 M)

Test No	Name of the Test	Date of Activation
Test-01	General Awareness	01-04-2026
Test-02	Geo Technical Engineering + Construction of Substructure	02-04-2026
Test-03	Design of Concrete Structures + Design of Steel Structures	04-04-2026
Test-04	Physics & Chemistry	05-04-2026
Test-05	Estimating and Costing + Contracts and Accounts + Construction of Superstructure	07-04-2026
Test-06	Building drawing + Hydraulics + Computer Aided Design	08-04-2026
Test-07	Basics of Computers and Applications	10-04-2026
Test-08	Building Construction + Building materials + Building finishes + Building maintenance	11-04-2026
Test-09	Engineering Mechanics + Surveying	13-04-2026
Test-10	Basics of Environment and Pollution Control	14-04-2026
Test-11	Irrigation Engineering + Environmental Engineering	16-04-2026
Test-12	Concrete Technology + Advanced Construction Techniques and Equipment	17-04-2026
Test-13	General Awareness + Basics of Environment and Pollution Control	19-04-2026
Test-14	Mechanics of Structures + Theory of structures	20-04-2026
Test-15	Transportation Engineering + Highway Engineering	22-04-2026
Test-16	Physics & Chemistry + Basics of Computers and Applications	23-04-2026

Full Length Mock Test Series

(No. of Questions: 150, Time duration: 120 Minutes and Max Marks: 150)

Test-17	Full Length Mock Test-01	30-04-2026
Test-18	Full Length Mock Test-02	04-05-2026
Test-19	Full Length Mock Test-03	08-05-2026
Test-20	Full Length Mock Test-04	12-05-2026

Syllabus for CBT-II

Civil and Allied Engineering

The section wise Number of questions and marks are as below:

Subjects	STAGE-II (CBT-II)	
	No. of Questions	Marks for each Section
General Awareness	15	15
Physics & Chemistry	15	15
Basics of Computers and Applications	10	10
Basics of Environment and Pollution Control	10	10
Technical Abilities	100	100
Total	150	150
Time in Minutes	120	

* The section wise distribution given in the above table is only indicative and there may be some variations in the actual question papers.

General Awareness	Knowledge of Current affairs, Indian geography, culture and history of India including freedom struggle, Indian Polity and Constitution, Indian Economy, Environmental issues concerning India and the World, Sports, General Scientific and Technological Developments etc.
Physics and Chemistry	Up to 10th standard CBSE syllabus.
Basics of Computers and Applications	Architecture of Computers; input and Output devices; Storage devices, Networking, Operating System like Windows, Unix, Linux; MS Office; Various data representation; Internet and Email; Websites & Web Browsers; Computer Virus
Basics of Environment and Pollution Control	Basics of Environment; Adverse effect of environmental pollution and control strategies; Air, water and Noise pollution, their effect and control; Waste Management, Global warming; Acid rain; Ozone depletion.

Technical Abilities

Geo Technical Engineering	Application of Geo Technical Engineering in design of foundation, pavement, earth retaining structures, earthen dams etc., physical properties of soil, permeability of soil and seepage analysis, shear strength of soil, bearing capacity of soil, compaction and stabilization of soil, site investigation and sub soil exploration.
Construction of substructure	job layout, earthwork, foundation (types, dewatering, coffer dams, bearing capacity).
Design of Concrete Structures	Working Stress method, Limit State method, analysis and design of singly reinforced and doubly reinforced sections, shear, bond and development length, analysis and design of T Beam, slab, axially loaded column and footings.
Design of Steel Structures	Types of sections, grades of steel, strength characteristics, IS Code, Connections, Design of tension and compression members, steel roof truss, beams, column bases.
Estimating and Costing	Types of estimates (approximate, detailed), mode of measurements and rate analysis.
Contracts and Accounts	Types of engineering contracts, Tender and tender documents, payment, specifications.
Construction of superstructure	stone masonry, brick masonry, Hollow concrete block masonry, composite masonry, cavity wall, doors and windows, vertical communication (stairs, lifts, escalators), scaffolding and shoring.
Building drawing	Conventions (type of lines, symbols), planning of building (principles of planning for residential and public buildings, rules and byelaws), drawings (plan, elevation, section, site plan, location plan, foundation plan, working drawing), perspective drawing.
Hydraulics	properties of fluid, hydrostatic pressure, measurement of liquid pressure in pipes, fundamentals of fluid flow, flow of liquid through pipes, flow through open hannel, flow measuring devices, hydraulic machines.
Computer Aided Design	CAD Software (AutoCAD, Auto Civil, 3D Max etc.), CAD commands, generation of plan, elevation, section, site plan, area statement, 3D view.
Building Construction	Building components (substructure, superstructure), type of structure (load bearing, framed and composite structures).
Building materials	Masonry materials (stones, bricks, and mortars), Timber and miscellaneous materials (glass, plastic, fiber, aluminium steel, galvanized iron, bitumen, PVC, CPVC, and PPF).
Building finishes	Floors (finishes, process of laying), walls (plastering, pointing, painting) and roofs (roofing materials including RCC).
Building maintenance	Cracks (causes, type, repairs- grouting, guniting, epoxy etc.), settlement (causes and remedial measures), and re-baring techniques.
Engineering Mechanics	Force (resolution of force, moment of force, force system, composition of forces), Equilibrium, Friction, Centroid and Center of gravity, Simple machines.

<p>Surveying</p>	<p>Types of survey, chain and cross staff survey (principle, ranging, triangulation, chaining, errors, finding area), compass survey (principle, bearing of line, prismatic compass, traversing, local attraction, calculation of bearings, angles and local attraction) leveling (dumpy level, recording in level book, temporary adjustment, methods of reduction of levels, classification of leveling, tilting level, auto level, sources of errors, precautions and difficulties in leveling), contouring (contour interval, characteristics, method of locating, interpolation, establishing grade contours, uses of contour maps), area and volume measurements, plane table survey (principles, setting, method), theodolite survey (components, adjustments, measurements, traversing), Tacheometric survey, curves (types, setting out), advanced survey equipment, aerial survey and remote sensing.</p>
<p>Irrigation Engineering</p>	<p>Hydrology, investigation and reservoir planning, percolation tanks, diversion head works.</p>
<p>Environmental Engineering</p>	<p>Environmental pollution and control, public water supply, domestic sewage, solid waste management, environmental sanitation, and plumbing.</p>
<p>Concrete Technology</p>	<p>Properties of various types/grades of cement, properties of coarse and fine aggregates, properties of concrete (water cement ratio, properties of fresh and hardened concrete), Concrete mix design, testing of concrete, quality control of concrete (batching, formwork, transportation, placing, compaction, curing, waterproofing), extreme weather concreting and chemical admixtures, properties of special concrete (ready mix, RCC, pre-stressed, fiber reinforced, precast, high performance).</p>
<p>Advanced Construction Techniques and Equipment</p>	<p>Fibers and plastics, artificial timber, advanced concreting methods (under water concreting, ready mix concrete, tremix concreting, special concretes), formwork, pre-fabricated construction, soil reinforcing techniques, hoisting and conveying equipment, earth moving machinery (exaction and compaction equipment), concrete mixers, stone crushers, pile driving equipment, working of hot mix bitumen plant, bitumen paver, floor polishing machines.</p>
<p>Mechanics of Structures</p>	<p>Stress and strain, shear force and bending moment, moment of inertia, stresses in beams, analysis of trusses, strain energy.</p>
<p>Theory of structures</p>	<p>Direct and bending stresses, slope and deflection, fixed beam, continuous beam, moment distribution method, columns.</p>
<p>Transportation Engineering</p>	<p>Railway Engineering (alignment and gauges, permanent way, railway track geometrics, branching of tracks, stations and yards, track maintenance), Bridge engineering (site selection, investigation, component parts of bridge, permanent and temporary bridges, inspection and maintenance), Tunnel engineering classification, shape and sizes, tunnel investigation and surveying, method of tunneling in various strata, precautions, equipment, explosives, lining and ventilation).</p>
<p>Highway Engineering</p>	<p>Road Engineering, investigation for road project, geometric design of highways, construction of road pavements and materials, traffic engineering, hill roads, drainage of roads, maintenance and repair of roads. ☐</p>