



**SUCCESS EASE**

(A unit of SE Education Pvt. Ltd.)

**SSC JE CIVIL**

**2017-18**

**Paper Pattern & Syllabus**

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# About Us

Transformation of education and training has begun. Our task is to bring redress, establish, quality. Open the doors of opportunity, enable a true culture of learning and teaching to take root and strive for ever higher level of performance. We are a pillar of vital development of the students so that new opportunity struck them. We empower teachers and teaching assistant with our range of courses.

The courses offered are GATE, SSC JE, SSC, DMRC, NMRC. The faculties are well experienced & specialized in their own subjects always come out with new ideas of effective & interesting learning techniques. They nurture the talents of the students & provide them tremendous ease in achieving their goals.

Regular test are conducted by the teachers preparing students for these competitive exams so that they feel confident to appear in any of the competitive exams at any stage of their life.

Books are offered for all subjects for all courses. Subject wise notes and assignment are provided for every topic. The facility of online test on TESTBOOK.COM (India no. 1 online test series for RAILWAYS, SSC, GATE and all competitive exams) is provided to the students.

## WHY SUCCESS EASE?

- Consistent, focused and systematic course curriculum.
- Committed and Enthusiastic faculty members.
- 6month+1month (non-technical) class course.
- Thoroughly updated Study Materials
- Regular assessment of performance through online and offline test series
- Motivational classes and strategically planning classes to qualify exams
- Guidance till your selection
- Students can take backup classes in any batch
- Well maintained classrooms and library

## Paper Pattern

### PAPER-I (Objective Type)

Subject	NO. of Questions	Marks	Duration
General Intelligence & Reasoning	50	50	
General Awareness	50	50	2 Hours
Technical Part- (CIVIL, EE, ME.)	100	100	

### PAPER-II (Written)

Subject	Marks	Duration
Technical Part- (CIVIL, EE, ME.)	300	2 Hours

## RAILWAY RECRUITMENT BOARD (RRB JE/SSE)

### PART-I (General Ability)

Subject	Marks	Duration
General Intelligence & Reasoning		
General Awareness	60	
Arithmetic		

### PART-II (Technical Ability/General Science)

Subject	Marks	Duration
Basic Concepts of Physics, Civil, Mechanical, Electrical, Electronics, Computers, Environment & Pollution Control, Instrumentation & Measurement, Engineering Drawing.	90	
	Total-150	Total-2 hours

## DELHI METRO RAIL CORPORATION LTD. (DMRC/NMRC JE)

### PAPER-I

Subject	No. Of Questions	Marks	Duration
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Technical/Professional Sphere (CIVIL, EE, ECE,ME)	75	75	
General awareness			90 Mints
logical ability and reasoning	45	45	
Numerical Ability			

#### PAPER-II

Subject	No. Of Questions	Marks	Duration
General English	60	60	45 Mints

#### SSC JE last year cut off in Paper-1(out of 200 marks)

Engineering	UR	OBC	SC	ST	OH	HH
Civil- 2017	117.0	110.75	101.75	105.00	91.50	61.75
Civil-2016	100	92.5	84.5	85.5	72.5	40
Civil-2015	103.8	91.25	88	87.75	78	30
Civil-2014	93.75	82	75.75	70	69	40
Civil-2013	78	70.5	66.25	63.5	60	40
Civil-2012	62.25	52.5	47.75	43.5	30	30

# SYLLABUS

Topics	Details
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. 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, and 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, 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.
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.
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, IS1 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.
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. 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,

Topics	Details
	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.
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-flowdensity and their interrelationships, intersections and interchanges, traffic signals, traffic operation, traffic signs and markings, road safety.
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.
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.
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
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

Why Join Success Ease?

SSC JE

SSC JE+RRB JE+DMRC JE (Recommended)

Thanks for Visiting Us. We Wish You Good Luck for your future.