



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

GATE-2022

Online Test Series

Civil Engineering - Schedule

No.of Tests : 66 + 52 *free* practice tests of GATE-2021 Online Test Series

	GATE - 2022 Test Series	Practice Tests GATE - 2021 Test Series
Topic wise Tests	24	22
Grand Tests (Subject Wise Tests + Multi-Subject Wise Tests)	30	18
Full Length Mock Tests	12	12
Total Tests - 118		

All tests will be Active upto GATE -2022 Examination.

Topic wise Tests

(No. of Questions: 15, Time duration: 45 Minutes and Marks: 25 M)

Test No	Name of the Topic	Date of Activation
Test-01	Engineering Mathematics-1: Linear Algebra: Matrix algebra; Systems of linear equations; Eigen values and Eigen vectors. Calculus: Functions of single variable; Limit, continuity and differentiability; Mean value theorems, local maxima and minima; Taylor series; Evaluation of definite and indefinite integrals, application of definite integral to obtain area and volume; Partial derivatives; Total derivative; Gradient, Divergence and Curl, Vector identities; Directional derivatives; Line, Surface and Volume integrals. Ordinary Differential Equation (ODE): First order (linear and non-linear) equations; higher order linear equations with constant coefficients; Euler-Cauchy equations; initial and boundary value problems.	03-05-2021
Test-02	Engineering Mathematics-2: Partial Differential Equation (PDE): Fourier series; separation of variables; solutions of one- dimensional diffusion equation; first and second order one-dimensional wave equation and two-dimensional Laplace equation. Probability and Statistics: Sampling theorems; Conditional probability; Descriptive statistics - Mean, median, mode and standard deviation; Random Variables – Discrete and Continuous, Poisson and Normal Distribution; Linear regression. Numerical Methods: Error analysis. Numerical solutions of linear and non-linear algebraic equations; Newton's and Lagrange polynomials; numerical differentiation; Integration by trapezoidal and Simpson's rule; Single and multi-step methods for first order differential equations.	
Test-03	Geotechnical Engineering-1: <i>Soil Mechanics:</i> Three-phase system and phase relationships, index properties; Unified and Indian standard soil classification system; Permeability - one dimensional flow, Seepage through soils – two - dimensional flow, flow nets, uplift pressure, piping, capillarity, seepage force; Principle of effective stress and quicksand condition; Compaction of soils; One- dimensional consolidation, time rate of consolidation; Shear Strength, Mohr's circle, effective and total shear strength parameters, Stress-Strain characteristics of clays and sand; Stress paths.	
Test-04	Geotechnical Engineering-2: <i>Foundation Engineering:</i> Sub-surface investigations - Drilling bore holes, sampling, plate load test, standard penetration and cone penetration tests; Earth pressure theories - Rankine and Coulomb; Stability of slopes – Finite and infinite slopes, Bishop's method; Stress distribution in soils – Boussinesq's theory; Pressure bulbs, Shallow foundations – Terzaghi's and Meyerhoff's bearing capacity theories, effect of water table; Combined footing and raft foundation; Contact pressure; Settlement analysis in sands and clays; Deep foundations - dynamic and static formulae, Axial load capacity of piles in sands and clays, pile load test, pile under lateral loading, pile group efficiency, negative skin friction.	
Test-05	Structural Analysis-1: Statically determinate and indeterminate structures by force/ energy methods; Method of superposition; Analysis of trusses, Arches, cables.	11-05-2021
Test-06	Structural Analysis-2 Analysis of Beams, and frames; Displacement methods: Slope deflection and moment distribution methods; Influence lines; Stiffness and flexibility methods of structural analysis.	
Test-07	Concrete Structures: Working stress and Limit state design concepts; Design of beams, slabs, columns; Bond and development length; Prestressed concrete beams.	
Test-08	Steel Structures: Working stress and Limit state design concepts; Design of tension and compression members, beams and beam- columns, column bases; Connections - simple and eccentric, beam-column connections, plate girders and trusses; Concept of plastic analysis - beams and frames.	
Test-09	Solid Mechanics-1: Simple stress and strain relationships, Complex Stresses and Strains, Bending moment and shear force in statically determinate beams; Deflections & Slopes, buckling of column, combined and direct bending stresses	18-05-2021
Test-10	Solid Mechanics-2: Simple bending theory, flexural and shear stresses, shear centre; Uniform torsion, Moment of Inertia.	
Test-11	Fluid Mechanics: Properties of fluids, fluid statics; Continuity, momentum and energy equations and their applications; Potential flow, Laminar and turbulent flow; Flow in pipes, pipe networks; Concept of boundary layer and its growth; Concept of lift and drag.	
Test-12	Hydraulics: Forces on immersed bodies; Flow measurement in channels and pipes; Dimensional analysis and hydraulic similitude; Channel Hydraulics - Energy-depth relationships, specific energy, critical flow, hydraulic jump, uniform flow, gradually varied flow and water surface profiles.	25-05-2021
Test-13	Hydrology: Hydrologic cycle, precipitation, evaporation, evapo-transpiration, watershed, infiltration, unit hydrographs, hydrograph analysis, flood estimation and routing, reservoir capacity, surface run-off models, ground water hydrology - steady state well hydraulics and aquifers; Application of Darcy's law.	
Test-14	Irrigation: Types of irrigation systems and methods; Crop water requirements - Duty, delta, evapo-transpiration; Gravity Dams and Spillways; Lined and unlined canals, Design of weirs on permeable foundation; cross drainage structures.	
Test-15	Environmental Engineering-1: <i>Water and Waste Water Quality and Treatment:</i> Basics of water quality standards – Physical, chemical and biological parameters; Water quality index; Unit processes and operations; Water requirement; Water distribution system; Drinking water treatment.	

Test No	Name of the Topic	Date of Activation
Test-16	Environmental Engineering-2: <i>Water and Waste Water Quality and Treatment:</i> Sewerage system design, quantity of domestic wastewater, primary and secondary treatment. Effluent discharge standards; Sludge disposal; Reuse of treated sewage for different applications. <i>Air Pollution:</i> Types of pollutants, their sources and impacts, air pollution control, air quality standards, Air quality Index and limits. <i>Municipal Solid Wastes:</i> Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).	25-05-2021
Test-17	Transportation Engineering-1: <i>Transportation Infrastructure:</i> Geometric design of highways - cross-sectional elements, sight distances, horizontal and vertical alignments. Geometric design of railway Track – Speed and Cant. Concept of airport runway length, calculations and corrections; taxiway and exit taxiway design. <i>Highway Pavements:</i> Highway materials - desirable properties and tests; Desirable properties of bituminous paving mixes;	01-06-2021
Test-18	Transportation Engineering-2: <i>Highway Pavements:</i> Design factors for flexible and rigid pavements; Design of flexible and rigid pavement using IRC codes. <i>Traffic Engineering:</i> Traffic studies on flow and speed, peak hour factor, accident study, statistical analysis of traffic data; Microscopic and macroscopic parameters of traffic flow, fundamental relationships; Traffic signs; Signal design by Webster's method; Types of intersections; Highway capacity	
Test-19	Geomatics Engineering: Principles of surveying; Errors and their adjustment; Maps - scale, coordinate system; Distance and angle measurement - Levelling and trigonometric levelling; Traversing and triangulation survey; Total station; Horizontal and vertical curves. Photogrammetry and Remote Sensing - Scale, flying height; Basics of remote sensing and GIS.	
Test-20	Engineering Mechanics: System of forces, free-body diagrams, equilibrium equations; Internal forces in structures; Friction and its applications; Centre of mass; Free vibration of undamped SDOF system.	
Test-21	Construction Materials and CPM <i>Construction materials:</i> Structural steel - composition, material properties and behaviour; Concrete - constituents, mix design, short-term and long-term properties; <i>Construction Management:</i> Types of construction projects; Project planning and network analysis - PERT and CPM; Cost estimation	08-06-2021
Test-22	Verbal Ability: Basic English grammar: tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: words, idioms, and phrases in context. Reading and comprehension. Narrative sequencing.	
Test-23	Quantitative Aptitude: Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series. Mensuration and geometry. Elementary statistics and probability.	
Test-24	Analytical Aptitude: Logic: deduction and induction, Analogy, Numerical relations and reasoning Spatial Aptitude: Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping Paper folding, cutting, and patterns in 2 and 3 dimensions	

Subject Wise Grand Tests - 1st Series

(No. of Questions: 30, Time duration: 90 Minutes and Marks: 50 M)

Test No	Name of the Subject	Date of Activation
Test-25	Engineering Mathematics	22-06-2021
Test-26	Engineering Mechanics and Solid Mechanics	
Test-27	Environmental engineering	29-06-2021
Test-28	Structural Analysis	
Test-29	Concrete Structures & Steel Structures	13-07-2021
Test-30	Geotechnical Engineering	
Test-31	Hydrology & Irrigation	20-07-2021
Test-32	Fluid Mechanics and Hydraulics	
Test-33	Transportation Engineering	27-07-2021
Test-34	Geomatics Engineering	
Test-35	Construction Materials & CPM	03-08-2021
Test-36	General Aptitude	

Full Length Mock Test - 1st Series*(No. of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*

Test No	Name of the Mock	Date of Activation
Test-37	Full Length Mock Test-1	10-08-2021
Test-38	Full Length Mock Test-2	17-08-2021
Test-39	Full Length Mock Test-3	24-08-2021

Subject Wise Grand Tests - 2nd Series*(No. of Questions: 30, Time duration: 90 Minutes and Marks: 50 M)*

Test No	Name of the Subject	Date of Activation
Test-40	Engineering Mathematics	31-08-2021
Test-41	Engineering Mechanics and Solid Mechanics	
Test-42	Environmental engineering	07-09-2021
Test-43	Structural Analysis	
Test-44	Concrete Structures & Steel Structures	14-09-2021
Test-45	Geotechnical Engineering	
Test-46	Hydrology & Irrigation	21-09-2021
Test-47	Fluid Mechanics and Hydraulics	
Test-48	Transportation Engineering	28-09-2021
Test-49	Geomatics Engineering	
Test-50	Construction Materials & CPM	05-10-2021
Test-51	General Aptitude	

Full Length Mock Test - 2nd Series*(No. of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*

Test No	Name of the Mock	Date of Activation
Test-52	Full Length Mock Test-4	19-10-2021
Test-53	Full Length Mock Test-5	26-10-2021
Test-54	Full Length Mock Test-6	02-11-2021

Multi-Subject Wise Grand Tests*(No. of Questions: 30, Time duration: 90 Minutes and Marks: 50 M)*

Test No	Name of the Subject	Date of Activation
Test-55	Engineering Mechanics, Solid Mechanics and Structural Analysis	16-11-2021
Test-56	Geotechnical Engineering and Fluid Mechanics and Hydraulics	
Test-57	Construction Materials and CPM, Concrete Structures and Steel Structures	23-11-2021
Test-58	Hydrology, Irrigation and Environmental engineering	
Test-59	Transportation Engineering and Geomatics Engineering	30-11-2021
Test-60	Engineering Mathematics and General Aptitude	

Full Length Mock Test - 3rd Series

(No. of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)

Test No	Name of the Topic	Date of Activation
Test-61	Full Length Mock Test-7	21-12-2021
Test-62	Full Length Mock Test-8	28-12-2021
Test-63	Full Length Mock Test-9	04-01-2022
Test-64	Full Length Mock Test-10	11-01-2022
Test-65	Full Length Mock Test-11	18-01-2022
Test-66	Full Length Mock Test-12	25-01-2022

Note: The Syllabus considered as per Previous year Notification of GATE. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final exam.

The Dates of above Tests may Change according to the GATE-2022 Exam schedule.

Tests will be activated at 02:00 pm on the scheduled day.

Free Practice Tests of GATE-2021 Online Test Series

Topic wise Tests

(No. of Questions: 15, Time duration: 45 Minutes and Marks: 25 M)

Test No	Name of the Topic	Date of Activation
CE_P-01	Engineering Mathematics-1: Linear Algebra, Calculus, Ordinary Differential Equation.	15-04-2021
CE_P-02	Engineering Mathematics-2: Partial Differential Equation, Probability and Statistics, Numerical Methods.	
CE_P-03	Engineering Mechanics: System of forces, free-body diagrams, equilibrium equations; Internal forces in structures; Friction and its applications; Centre of mass; Free vibration of undamped SDOF system.	
CE_P-04	Geotechnical Engineering-1: Soil Mechanics: Three-phase system and phase relationships, index properties; Unified and Indian standard soil classification system; Permeability - one dimensional flow, Seepage through soils – two - dimensional flow, flow nets, uplift pressure, piping, capillarity, seepage force; Principle of effective stress and quicksand condition; Compaction of soils; One- dimensional consolidation, time rate of consolidation; Shear Strength, Mohr's circle, effective and total shear strength parameters, Stress-Strain characteristics of clays and sand; Stress paths.	
CE_P-05	Geotechnical Engineering-2: Foundation Engineering: Sub-surface investigations - Drilling bore holes, sampling, plate load test, standard penetration and cone penetration tests; Earth pressure theories - Rankine and Coulomb; Stability of slopes – Finite and infinite slopes, Bishop's method; Stress distribution in soils – Boussinesq's theory; Pressure bulbs, Shallow foundations – Terzaghi's and Meyerhoff's bearing capacity theories, effect of water table; Combined footing and raft foundation; Contact pressure; Settlement analysis in sands and clays; Deep foundations - dynamic and static formulae, Axial load capacity of piles in sands and clays, pile load test, pile under lateral loading, pile group efficiency, negative skin friction.	
CE_P-06	Structural Analysis-1: Statically determinate and indeterminate structures by force/ energy methods; Method of superposition; Analysis of trusses, Arches, cables.	
CE_P-07	Structural Analysis-2 Analysis of Beams, and frames; Displacement methods: Slope deflection and moment distribution methods; Influence lines; Stiffness and flexibility methods of structural analysis.	
CE_P-08	Concrete Structures-1: Working stress, Limit state and Ultimate load design concepts; Design of beams; Shear; Bond and development length. Steel Structures-1: Rivetted, bolted, Welded and Eccentric Connections, Tension & Compression Members, Column Bases & Column Splices.	
CE_P-09	Concrete Structures-2: Design of Slabs, columns; Footing, Limit State of Serviceability; Prestressed concrete; Analysis of beam sections at transfer and service loads. Steel Structures-2: Plastic analysis of beams and frames, Beams, Plate Girder, Gantry Girders & Roof Trusses.	
CE_P-10	Solid Mechanics-1: Simple stress and strain relationships, Complex Stresses and Strains, Bending moment and shear force in statically determinate beams; Deflections & Slopes, buckling of column, combined and direct bending stresses	
CE_P-11	Solid Mechanics-2: Simple bending theory, flexural and shear stresses, shear centre; Uniform torsion, Moment of Inertia.	
CE_P-12	Fluid Mechanics-1: Properties of fluids, fluid statics; Continuity, momentum and energy equations and their applications; Potential flow, Laminar and turbulent flow; Flow in pipes, pipe networks; Concept of boundary layer and its growth; Concept of lift and drag.	
CE_P-13	Fluid Mechanics-2: Hydraulics: Forces on immersed bodies; Flow measurement in channels and pipes; Dimensional analysis and hydraulic similitude; Channel Hydraulics - Energy-depth relationships, specific energy, critical flow, hydraulic jump, uniform flow, gradually varied flow and water surface profiles.	

Test No	Name of the Topic	Date of Activation
CE_P-14	Hydrology: Hydrologic cycle, precipitation, evaporation, evapo-transpiration, watershed, infiltration, unit hydrographs, hydrograph analysis, flood estimation and routing, reservoir capacity, surface run-off models, ground water hydrology - steady state well hydraulics and aquifers; Application of Darcy's law.	15-04-2021
CE_P-15	Irrigation: Types of irrigation systems and methods; Crop water requirements - Duty, delta, evapo-transpiration; Gravity Dams and Spillways; Lined and unlined canals, Design of weirs on permeable foundation; cross drainage structures.	
CE_P-16	Environmental Engineering-1: Water and Waste Water Quality and Treatment: Basics of water quality standards – Physical, chemical and biological parameters; Water quality index; Unit processes and operations; Water requirement; Water distribution system; Drinking water treatment.	
CE_P-17	Environmental Engineering-2: Sewerage system design, quantity of domestic wastewater, primary and secondary treatment. Effluent discharge standards; Sludge disposal; Reuse of treated sewage for different applications. Air Pollution: Types of pollutants, their sources and impacts, air pollution control, air quality standards, Air quality Index and limits. Municipal Solid Wastes: Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).	
CE_P-18	Transportation Engineering-1: Geometric design of highways - cross-sectional elements, sight distances, horizontal and vertical alignments. Geometric design of railway Track – Speed and Cant. Concept of airport runway length, calculations and corrections; taxiway and exit taxiway design. Highway materials - desirable properties and tests; Desirable properties of bituminous paving mixes; Geomatics Engineering-1: Principles of surveying; Errors and their adjustment; Maps - scale, coordinate system; Distance and angle measurement - Levelling and trigonometric levelling; Traversing and triangulation survey; Total station; Horizontal and vertical curves.	
CE_P-19	Transportation Engineering-2: Pavement Design: Design factors for flexible and rigid pavements. Design of flexible and rigid pavements using IRC codes. Traffic Engineering: traffic studies on flow and speed, peak hour factor, accident study, structural analysis of traffic data, microscopic and macroscopic parameters of traffic flow, fundamental relationships, traffic signs, signal design by Webster method, types of intersections, Highway capacity Geomatics Engineering-2: Photogrammetry and Remote Sensing - Scale, flying height; Basics of remote sensing and GIS.	
CE_P-20	Construction Materials and CPM: <i>Construction materials:</i> Structural steel - composition, material properties and behaviour; Concrete - constituents, mix design, short-term and long-term properties; <i>Construction Project Management:</i> Types of construction projects, Project planning and Network Analysis – PERT and CPM, Cost Estimation.	
CE_P-21	Verbal Ability: Basic English grammar: tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech Basic vocabulary: words, idioms, and phrases in context Reading and comprehension Narrative sequencing	
CE_P-22	Numerical Ability: Quantitative Aptitude: Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series Mensuration and geometry Elementary statistics and probability. Analytical Aptitude: Logic: deduction and induction Analogy Numerical relations and reasoning Spatial Aptitude: Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping Paper folding, cutting, and patterns in 2 and 3 dimensions.	

Subject Wise Grand Tests

(No. of Questions: 30, Time duration: 90 Minutes and Marks: 50 M)

Test No	Name of the Subject	Date of Activation
CE_P-23	Engineering Mathematics	20-04-2021
CE_P-24	Engineering Mechanics & Strength of Materials(Solid Mechanics)	
CE_P-25	Environmental engineering	
CE_P-26	Structural Analysis	
CE_P-27	Concrete Structures & Steel Structures	
CE_P-28	Geotechnical Engineering	
CE_P-29	Hydrology & Irrigation	
CE_P-30	Fluid Mechanics	
CE_P-31	Transportation Engineering	
CE_P-32	Geomatics Engineering	
CE_P-33	Construction Materials & CPM	
CE_P-34	General Aptitude	

Multi-Subject Wise Grand Tests*(No. of Questions: 30, Time duration: 90 Minutes and Marks: 50 M)*

Test No	Name of the Subject	Date of Activation
CE_P-35	Engineering Mechanics, Solid Mechanics & Structural Analysis	20-04-2021
CE_P-36	Geotechnical Engineering & Fluid Mechanics	
CE_P-37	Construction Materials & CPM, Concrete Structures & Steel Structures	
CE_P-38	Hydrology & Irrigation & Environmental engineering	
CE_P-39	Transportation Engineering & Geomatics Engineering	
CE_P-40	Engineering Mathematics & General Aptitude	

Full Length Mock Test*(No. of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*

Test No	Name of the Mock	Date of Activation
CE_P-41	Full Length Mock Test-1	30-04-2021
CE_P-42	Full Length Mock Test-2	
CE_P-43	Full Length Mock Test-3	
CE_P-44	Full Length Mock Test-4	
CE_P-45	Full Length Mock Test-5	
CE_P-46	Full Length Mock Test-6	
CE_P-47	Full Length Mock Test-7	
CE_P-48	Full Length Mock Test-8	
CE_P-49	Full Length Mock Test-9	
CE_P-50	Full Length Mock Test-10	
CE_P-51	Full Length Mock Test-11	
CE_P-52	Full Length Mock Test-12	