



Detailed Schedule

GATE 2023: Online Test Series

CIVIL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Solid Mechanics-1: Bending moment and shear force in statically determinate beams; Simple stress and strain relationships; Transformation of stress.	17	25	45 min	Active
2	Solid Mechanics-2: Simple bending theory, flexural and shear stresses, shear centre; Uniform torsion, buckling of column, combined and direct bending stresses.	17	25	45 min	
3	Concrete Structures-1: Working stress and Limit state design concepts; Design of beams, slabs.	17	25	45 min	
4	Concrete Structures-2: Columns; Bond and development length; Prestressed concrete beams.	17	25	45 min	
5	Environmental Engg.-1: Water Quality and Treatment: Basics of water quality standards-physical, chemical and biological parameters; Water quality index; Unit processes and operations; Water requirements; Water distribution system; Drinking water treatment. Air Pollution: Types of pollutants, their sources and impacts, air pollution control, air quality standards, Air quality index and limits.	17	25	45 min	
6	Environmental Engg.-2: Waste water Quality and Treatment: Sewerage system design, quality of domestic waste water, primary and secondary treatment. Effluent discharge standards; sludge disposal; Reuse of treated sewage for different applications. Municipal Solid Wastes: Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).	17	25	45 min	
7	Fluid Mechanics and Hydraulics-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.	17	25	45 min	Active
8	Fluid Mechanics and Hydraulics-2 : Forces on immersed bodies; Flow measurement in channels and pipes; Dimensional analysis and hydraulic similitude; Channel Hydraulics - Energy-depth relationships, specific energy, critical flow, slope profile, hydraulic jump, uniform flow and gradually varied flow.	17	25	45 min	
9	Engineering Mathematics-1: Linear Algebra, Calculus, Numerical Methods.	17	25	45 min	
10	Engineering Mathematics-2: Ordinary Differential Equations, Partial Differential Equations, Fourier Series, Probability and Statistics.	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	Active
12	General Aptitude (Part-2) : Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning, numerical reasoning, verbal deduction and spatial aptitude.	17	25	45 min	
13	Transportation Engg. and Geomatics Engg.-1: Transportation Infrastructure: 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. Photogrammetry and Remote Sensing-- Scale, flying height; Basics of Remote sensing and GIS.	17	25	45 min	
14	Transportation Engg. and Geomatics Engg.-2: Highway Pavements: Highway materials-desirable properties and tests; Desirable properties of bituminous paving mixes; Design factors for flexible and rigid pavements; Design of flexible and rigid pavement using IRC codes. Traffic Engineering: 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. 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.	17	25	45 min	
15	Structural Analysis-1: Statically determinate and indeterminate structures by force/ energy methods; Method of superposition; Analysis of trusses, arches, beams, cables and frames.	17	25	45 min	
16	Structural Analysis-2: Displacement methods: Slope deflection and moment distribution methods; Influence lines; Stiffness and flexibility methods of structural analysis.	17	25	45 min	
17	Geotechnical Engg.-1: 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	17	25	45 min	
18	Geotechnical Engg.-2: Shear Strength, Mohr's circle, effective and total shear strength parameters, stress-strain characteristics of clay and sand; Stress paths. Foundation Engineering: Sub-surface investigations-scope, 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 theories; pressure bulbs.	17	25	45 min	
19	Geotechnical Engg.-3: 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 loadings, pile group efficiency, negative skin friction.	17	25	45 min	
20	Steel Structures-1: Working stress and Limit state design concepts; Design of tension and compression members, Concept of plastic analysis - beams and frames.	17	25	45 min	
21	Steel Structures-2: Plate girders and trusses; beams and beam- columns, column bases; Connections - simple and eccentric, beam-column connections.	17	25	45 min	Active
22	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.	17	25	45 min	
23	Irrigation: Types of irrigation system 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.	17	25	45 min	
24	Engineering Mechanics, Construction Materials and Management: System of forces, free-body diagrams, equilibrium equations; Internal forces in structures; Friction and its applications; Centre of mass; Free Vibrations of undamped SDOF system. Construction Materials: Structural steel - composition, material properties and behaviour; Concrete - constituents, mix design, short-term and long-term properties. Construction Management: Types of construction projects; Project planning and network analysis - PERT and CPM; Cost estimation,	17	25	45 min	



Detailed Schedule

GATE 2023: Online Test Series CIVIL ENGINEERING



Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Solid Mechanics	33	50	90 min	Active
26	Concrete Structures	33	50	90 min	
27	Environmental Engineering	33	50	90 min	
28	Fluid Mechanics and Hydraulics	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Transportation Engineering and Geomatics Engineering	33	50	90 min	Active
32	Structural Analysis	33	50	90 min	
33	Geotechnical Engineering	33	50	90 min	
34	Steel Structures	33	50	90 min	
35	Hydrology and Irrigation	33	50	90 min	
36	Engineering Mechanics, Construction Materials and Management	33	50	90 min	

Multiple Subject Tests

37	Solid Mechanics + Structural Analysis + Engineering Mechanics	33	50	90 min	Active
38	Geotechnical Engineering + Steel Structures	33	50	90 min	
39	Fluid Mechanics and Hydraulics + Concrete Structures + Construction Materials and Management	33	50	90 min	
40	Environmental Engineering + Hydrology + Irrigation	33	50	90 min	
41	Transportation Engineering + Geomatics Engineering	33	50	90 min	
42	Engineering Mathematics + General Aptitude	33	50	90 min	

Full Syllabus Tests

43	Full Syllabus Test-1 (Basic Level)	65	100	180 min	Active
44	Full Syllabus Test-2 (Basic Level)	65	100	180 min	
45	Full Syllabus Test-3 (Basic Level)	65	100	180 min	
46	Full Syllabus Test-4 (Basic Level)	65	100	180 min	
47	Full Syllabus Test-5 (Advance Level)	65	100	180 min	Active
48	Full Syllabus Test-6 (Advance Level)	65	100	180 min	
49	Full Syllabus Test-7 (Advance Level)	65	100	180 min	
50	Full Syllabus Test-8 (Advance Level)	65	100	180 min	

Mock Tests

51	GATE Mock Test 1	65	100	180 min	Active
52	GATE Mock Test 2	65	100	180 min	
53	GATE Mock Test 3	65	100	180 min	
54	GATE Mock Test 4	65	100	180 min	