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GATE
2022

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Streams : **CE** **ME** **EE** **EC** **CS** **IN** **PI** **CH**

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KEY FEATURES



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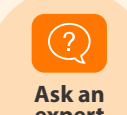
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Streams Offered :
CE, ME, EE, EC, CS, IN, PI, CH

54 Tests

1782 +
Newly Designed Questions

Fee:

Rs. ~~1700~~ + GST
Rs. 1500 + GST
Valid till 31st Aug, 2021

Test Series Packages

Package	Package Content	Commencement Dates	Fee
1.	GATE 2022 OTS	10 th April, 2021	Rs. 1700 + GST Rs. 1500 + GST
2.	GATE 2022 OTS GATE 2021 OTS (for practice)	10 th April, 2021	Rs. 2200 + GST Rs. 2000 + GST
3.	ESE Pre 2022 OTS	1 st Aug, 2021	Rs. 1700 + GST Rs. 1500 + GST
4.	ESE Pre 2022 OTS + ESE Pre 2021 OTS (for practice)	1 st Aug, 2021	Rs. 2200 + GST Rs. 2000 + GST
5.	GATE 2022 OTS + ESE Pre 2022 OTS	10 th April, 2021	Rs. 3200 + GST Rs. 2800 + GST
6.	GATE 2022 OTS + GATE 2021 OTS + ESE Pre 2022 OTS + ESE Pre 2021 OTS	10 th April, 2021	Rs. 4000 + GST Rs. 3700 + GST

Note : Discounted fee is valid till
31st Aug, 2021.



GATE 2022

54 Tests

Test Structure

Test Type	Syllabus	No. of Qs.	Marks	Time
24 Topicwise Tests	Part Syllabus	17	25	45 Minutes
12 Single Subjectwise Tests	Part Syllabus	33	50	90 Minutes
6 Multi Subject Tests	Part Syllabus	33	50	90 Minutes
4 Basic Level Tests	Full Syllabus	65	100	180 Minutes
4 Advanced Level Tests	Full Syllabus	65	100	180 Minutes
4 Mock Level Tests	Full Syllabus	65	100	180 Minutes

Note : Test structure of GATE 2021 is same as of GATE 2022.



GATE 2022

Online Test Series

CE

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	10-04-2021
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	
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, Probability and Statistics.	17	25	45 min	
10	Engineering Mathematics-2: Ordinary Differential Equations, Partial Differential Equations, Numerical Methods, Fourier Series.	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	10-05-2021
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	
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	



GATE 2022

Online Test Series

CE

CIVIL ENGINEERING

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Solid Mechanics	33	50	90 min	10-06-2021
26	Concrete Structures	33	50	90 min	
27	Environmental Engineering	33	50	90 min	
28	Engineering Mathematics	33	50	90 min	
29	Fluid Mechanics and Hydraulics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Transportation Engineering and Geomatics Engineering	33	50	90 min	10-07-2021
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	10-08-2021
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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



GATE 2021: 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; Theories of failures.	17	25	45 min	Activated
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, Limit state and Ultimate load design concepts; Design of beams, slabs.	17	25	45 min	
4	Concrete Structures-2: Columns; Bond and development length; Prestressed concrete; Analysis of beam sections at transfer and service loads.	17	25	45 min	
5	Environmental Engg.-1: Water : Quality standards, basic unit processes and operations for water treatment. Drinking water standards, water requirements, basic unit operations and unit processes for surface water treatment, distribution of water. <i>Air Pollution:</i> Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits. <i>Noise Pollution:</i> Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.	17	25	45 min	
6	Environmental Engg.-2: Waste water: Sewage and sewerage treatment, quantity and characteristics of wastewater. Primary, secondary and tertiary treatment of wastewater, effluent discharge standards. Domestic wastewater treatment, quantity of characteristics of domestic wastewater, primary and secondary treatment. Unit operations and unit processes of domestic wastewater, sludge disposal. <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).	17	25	45 min	
7	Fluid Mechanics and Hydraulics-1: Properties of fluids, fluid statics; Continuity, momentum, energy and corresponding equations; Potential flow, applications of momentum and energy equations; Laminar and turbulent flow; Flow in pipes, pipe networks; Concept of boundary layer and its growth. Dimensional analysis and hydraulic similitude.	17	25	45 min	
8	Fluid Mechanics and Hydraulics-2 : Forces on immersed bodies; Flow measurement in channels and pipes; Kinematics of flow, velocity triangles; Basics of hydraulic machines, specific speed of pumps and turbines; 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, Probability and Statistics.	17	25	45 min	
10	Engineering Mathematics-2: Ordinary Differential Equations, Partial Differential Equations, Numerical Methods.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	Activated
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Transportation Engg. and Geomatics Engg.-1: Highway alignment and engineering surveys; Geometric design of highways - cross-sectional elements, sight distances, horizontal and vertical alignments; Geometric design of railway track; Airport runway length, taxiway and exit taxiway design. <i>Photogrammetry</i> - scale, flying height; Remote sensing - basics, platform and sensors, visual image interpretation; Basics of Geographical information system (GIS) and Geographical Positioning system (GPS).	17	25	45 min	
14	Transportation Engg. and Geomatics Engg.-2: <i>Highway Pavements:</i> Highway materials-desirable properties and quality control tests; Design of bituminous paving mixes; Design factors for flexible and rigid pavements; Design of flexible pavement using IRC: 37-2012; Design of rigid pavements using IRC: 58-2011; Distresses in concrete pavements. <i>Traffic Engineering:</i> Traffic studies on flow, speed, travel time-delay and O-D study, PCU, peak hour factor, parking study, accident study and analysis, statistical analysis of traffic data; Microscopic and macroscopic parameters of traffic flow, fundamental relationships; Control devices, signal design by Webster's method; Types of intersections and channelization; Highway capacity and level of service of rural highways and urban roads. <i>Principles of surveying:</i> 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: Origin of soils, soil structure and fabric; Three-phase system and phase relationships, index properties; Unified and Indian standard soil classification system; Permeability-one dimensional flow, Darcy's law; Seepage through soils - two-dimensional flow, flow nets, uplift pressure, piping; Principle of effective stress, capillarity, seepage force and quicksand condition; Compaction in laboratory and field conditions; One-dimensional consolidation, time rate of consolidation.	17	25	45 min	
18	Geotechnical Engg.-2: Mohr's circle, stress paths, effective and total shear strength parameters, characteristics of clays and sand. <i>Foundation Engineering:</i> 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, method of slices and Bishop's method; Stress distribution in soils - Boussinesq's and Westergaard'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 - types of piles, dynamic and static formulae, load capacity of piles in sands and clays, pile load test, negative skin friction.	17	25	45 min	
20	Steel Structures-1: Working stress and Limit state design concepts; Design of tension and compression members, Plastic analysis of 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	
22	Hydrology : Hydrologic cycle, precipitation, evaporation, evapo-transpiration, watershed, infiltration, unit hydrographs, hydrograph analysis, flood estimation and routing, reservoir capacity, reservoir and channel routing, surface run-off models, ground water hydrology - steady state well hydraulics and aquifers; Application of Darcy's law.	17	25	45 min	
23	Irrigation: Duty, delta, estimation of evapo-transpiration; Crop water requirements; Design of lined and unlined canals, head works, gravity dams and spillways; Design of weirs on permeable foundation; Types of irrigation systems, irrigation methods; Water logging and drainage; Canal regulatory works, cross-drainage structures, outlets and escapes.	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; Kinematics of point mass and rigid body; Centre of mass; Euler's equations of motion; Impulse-momentum; Energy methods; Principles of virtual work. <i>Construction Materials:</i> Structural steel - composition, material properties and behaviour; Concrete - constituents, mix design, short-term and long-term properties; Bricks and mortar; Timber; Bitumen. <i>Construction Management:</i> Types of construction projects; Tendering and construction contracts; Rate analysis and standard specifications; Cost estimation; Project planning and network analysis - PERT and CPM.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

CIVIL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Solid Mechanics	33	50	90 min	Activated
26	Concrete Structures	33	50	90 min	
27	Environmental Engineering	33	50	90 min	
28	Engineering Mathematics	33	50	90 min	
29	Fluid Mechanics and Hydraulics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Transportation Engineering and Geomatics Engineering	33	50	90 min	Activated
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	Activated
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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

ME

MECHANICAL ENGG.

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Strength of Materials-1: Stress and strain, elastic constants, Poisson's ratio; Mohr's circle for plane stress and plane strain; thin cylinders; shear force and bending moment diagrams; bending and shear stresses; concept of shear centre deflection of beams.	17	25	45 min	10-04-2021
2	Strength of Materials-2: Torsion of circular shafts; Euler's theory of columns; energy methods; thermal stresses; strain gauges and rosettes; testing of materials with universal testing machine; testing of hardness and impact strength.	17	25	45 min	
3	Thermodynamics-1: Thermodynamic systems and processes; properties of pure substances, behaviour of ideal and real gases; Zeroth and first laws of thermodynamics, calculation of work and heat in various processes.	17	25	45 min	
4	Thermodynamics-2: Second law of thermodynamics; thermodynamic property charts and tables, availability and irreversibility; thermodynamic relations.	17	25	45 min	
5	Fluid Mechanics & Hydraulic Machines-1: Fluid properties; fluid statics, forces on submerged bodies, stability of floating bodies; control-volume analysis of mass, momentum and energy; fluid acceleration; differential equations of continuity and momentum.	17	25	45 min	
6	Fluid Mechanics & Hydraulic Machines-2: Bernoulli's equation; dimensional analysis; viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends and fittings; Impulse and reaction principles, velocity diagrams, Pelton-wheel, Francis and Kaplan turbines.	17	25	45 min	
7	Manufacturing Engineering-1: Different types of castings, design of patterns, moulds and cores; solidification and cooling; riser and gating design. Plastic deformation and yield criteria; fundamentals of hot and cold working processes; load estimation for bulk (forging, rolling, extrusion, drawing) and sheet (shearing, deep drawing, bending) metal forming processes; principles of powder metallurgy. Principles of welding, brazing, soldering and adhesive bonding. Basic concepts of CAD/CAM and their integration tools. Additive manufacturing, NC/CNC machines and CNC programming	17	25	45 min	
8	Manufacturing Engineering-2: Mechanics of machining; basic machine tools; single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, design of jigs and fixtures. Limits, fits and tolerances; linear and angular measurements; comparators; interferometry; form and finish measurement; alignment and testing methods; tolerance analysis in manufacturing and assembly. Concepts of coordinate measuring machine (CMM); Abrasive machining process.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods, Fourier Series.	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	
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	Heat Transfer-1: Modes of heat transfer; one dimensional heat conduction, resistance concept and electrical analogy, heat transfer through fins; unsteady heat conduction, lumped parameter system, Heisler's charts; thermal boundary layer, dimensionless parameters in free and forced convective heat transfer, heat transfer correlations for flow over flat plates and through pipes, effect of turbulence.	17	25	45 min	10-05-2021
14	Heat Transfer-2: Heat exchanger performance, LMTD and NTU methods; radiative heat transfer, Stefan-Boltzmann law, Wien's displacement law, black and grey surfaces, view factors, radiation network analysis.	17	25	45 min	
15	Engineering Mechanics and Engineering Materials-1: Free-body diagrams and equilibrium; trusses and frames; Friction and its applications including rolling friction, belt pulley, brakes, clutches, screw jack, wedge, vehicles etc. virtual work; Structure and properties of engineering materials, phase diagrams	17	25	45 min	
16	Engineering Mechanics and Engineering Materials-2: Kinematics and dynamics of particles and of rigid bodies in plane motion; impulse and momentum (linear and angular) and energy formulations, Lagrange's equation; heat treatment, stress-strain diagrams for engineering materials.	17	25	45 min	
17	Theory of Machines-1: Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of linkages; Gears and gear trains; Free and forced vibration of single degree of freedom systems, effect of damping; vibration isolation; resonance; critical speeds of shafts.	17	25	45 min	
18	Theory of Machines-2: Cams, flywheels and governors; balancing of reciprocating and rotating masses; gyroscope.	17	25	45 min	
19	I.C Engine & Power Plant: Air and gas compressors; vapour and gas power cycles, concepts of regeneration and reheat. Air-standard Otto, Diesel and dual cycles, Basics of compressible fluid flow, steam and gas turbines.	17	25	45 min	
20	Refrigeration & Air-Conditioning: Vapour and gas refrigeration and heat pump cycles; properties of moist air, psychrometric chart, basic psychrometric processes.	17	25	45 min	
21	Industrial Engineering-1: Forecasting models, aggregate production planning, scheduling, materials requirement planning, Lean Manufacturing.	17	25	45 min	
22	Industrial Engineering-2: Deterministic models; safety stock inventory control systems; linear programming, simplex method, transportation, assignment, network flow models, simple queueing models, PERT and CPM.	17	25	45 min	
23	Machine Design-1: Design for static and dynamic loading; failure theories; fatigue strength and the S-N diagram.	17	25	45 min	
24	Machine Design-2: Principles of the design of machine elements such as bolted, riveted and welded joints; shafts, gears, rolling and sliding contact bearings, brakes and clutches, springs.	17	25	45 min	



GATE 2022

Online Test Series

ME

MECHANICAL ENGG.

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Strength of Materials	33	50	90 min	10-06-2021
26	Thermodynamics	33	50	90 min	
27	Fluid Mechanics & Hydraulic Machines	33	50	90 min	
28	Manufacturing Engineering	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Heat Transfer	33	50	90 min	10-07-2021
32	Engineering Mechanics and Engineering Materials	33	50	90 min	
33	Theory of Machines	33	50	90 min	
34	I.C Engine, Power Plant, Refrigeration & Air-Conditioning	33	50	90 min	
35	Industrial Engineering	33	50	90 min	
36	Machine Design	33	50	90 min	

Multiple Subject Tests

37	Engineering Mechanics and Engineering Materials + Theory of Machines	33	50	90 min	10-08-2021
38	Strength of Materials + Machine Design	33	50	90 min	
39	Thermodynamics + Fluid Mechanics & Hydraulic Machines	33	50	90 min	
40	Manufacturing Engineering + Heat Transfer	33	50	90 min	
41	Industrial Engineering + I.C Engine, Power Plant, Refrigeration & Air-Conditioning	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



GATE 2021: Online Test Series

MECHANICAL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Strength of Materials-1: Stress and strain, elastic constants, Poisson's ratio; Mohr's circle for plane stress and plane strain; thin cylinders; shear force and bending moment diagrams; bending and shear stresses; deflection of beams.	17	25	45 min	Activated
2	Strength of Materials-2: torsion of circular shafts; Euler's theory of columns; energy methods; thermal stresses; strain gauges and rosettes; testing of materials with universal testing machine; testing of hardness and impact strength.	17	25	45 min	
3	Thermodynamics-1: Thermodynamic systems and processes; properties of pure substances, behaviour of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes.	17	25	45 min	
4	Thermodynamics-2: second law of thermodynamics; thermodynamic property charts and tables, availability and irreversibility; thermodynamic relations.	17	25	45 min	
5	Fluid Mechanics & Hydraulic Machines-1: Fluid properties; fluid statics, manometry, buoyancy, forces on submerged bodies, stability of floating bodies; control-volume analysis of mass, momentum and energy; fluid acceleration; differential equations of continuity and momentum.	17	25	45 min	
6	Fluid Mechanics & Hydraulic Machines-2: Bernoulli's equation; dimensional analysis; viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends and fittings; Impulse and reaction principles, velocity diagrams, Pelton-wheel, Francis and Kaplan turbines.	17	25	45 min	
7	Theory of Machines-1: Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of linkages; cams; Free and forced vibration of single degree of freedom systems.	17	25	45 min	
8	Theory of Machines-2: Gears and gear trains; flywheels and governors; balancing of reciprocating and rotating masses; gyroscopes; effect of damping; vibration isolation; resonance; critical speeds of shafts.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Heat Transfer-1: Modes of heat transfer; one dimensional heat conduction, resistance concept and electrical analogy, heat transfer through fins; unsteady heat conduction, lumped parameter system, Heisler's charts; thermal boundary layer, dimensionless parameters in free and forced convective heat transfer, heat transfer correlations for flow over flat plates and through pipes, effect of turbulence.	17	25	45 min	Activated
14	Heat Transfer-2: Heat exchanger performance, LMTD and NTU methods; radiative heat transfer, Stefan-Boltzmann law, Wien's displacement law, black and grey surfaces, view factors, radiation network analysis.	17	25	45 min	
15	Engineering Mechanics and Engineering Materials-1: Free-body diagrams and equilibrium; trusses and frames; virtual work; Structure and properties of engineering materials, phase diagrams	17	25	45 min	
16	Engineering Mechanics and Engineering Materials-2: Kinematics and dynamics of particles and of rigid bodies in plane motion; impulse and momentum (linear and angular) and energy formulations, collisions; heat treatment, stress-strain diagrams for engineering materials.	17	25	45 min	
17	Manufacturing Engineering-1: Different types of castings, design of patterns, moulds and cores; solidification and cooling; riser and gating design. Plastic deformation and yield criteria; fundamentals of hot and cold working processes; load estimation for bulk (forging, rolling, extrusion, drawing) and sheet (shearing, deep drawing, bending) metal forming processes; principles of powder metallurgy. Principles of welding, brazing, soldering and adhesive bonding. Basic concepts of CAD/CAM and their integration tools.	17	25	45 min	
18	Manufacturing Engineering-2: Mechanics of machining; basic machine tools; single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, design of jigs and fixtures. Limits, fits and tolerances; linear and angular measurements; comparators; gauge design; interferometry; form and finish measurement; alignment and testing methods; tolerance analysis in manufacturing and assembly.	17	25	45 min	
19	I.C Engine & Power Plant: Air and gas compressors; vapour and gas power cycles, concepts of regeneration and reheat. Air-standard Otto, Diesel and dual cycles.	17	25	45 min	
20	Refrigeration & Air-Conditioning : Vapour and gas refrigeration and heat pump cycles; properties of moist air, psychrometric chart, basic psychrometric processes.	17	25	45 min	
21	Industrial Engineering-1: Forecasting models, aggregate production planning, scheduling, materials requirement planning.	17	25	45 min	
22	Industrial Engineering-2: Deterministic models; safety stock inventory control systems; linear programming, simplex method, transportation, assignment, network flow models, simple queuing models, PERT and CPM.	17	25	45 min	
23	Machine Design-1: Design for static and dynamic loading; failure theories; fatigue strength and the S-N diagram.	17	25	45 min	
24	Machine Design-2: Principles of the design of machine elements such as bolted, riveted and welded joints; shafts, gears, rolling and sliding contact bearings, brakes and clutches, springs.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

MECHANICAL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	Strength of Materials	33	50	90 min	Activated
26	Thermodynamics	33	50	90 min	
27	Fluid Mechanics & Hydraulic Machines	33	50	90 min	
28	Theory of Machines	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Heat Transfer	33	50	90 min	Activated
32	Engineering Mechanics and Engineering Materials	33	50	90 min	
33	Manufacturing Engineering	33	50	90 min	
34	I.C Engine, Power Plant, Refrigeration & Air-Conditioning	33	50	90 min	
35	Industrial Engineering	33	50	90 min	
36	Machine Design	33	50	90 min	

Multiple Subject Tests

37	Engineering Mechanics and Engineering Materials + Theory of Machines	33	50	90 min	Activated
38	Strength of Materials + Machine Design	33	50	90 min	
39	Thermodynamics + Fluid Mechanics & Hydraulic Machines	33	50	90 min	
40	Manufacturing Engineering + Heat Transfer	33	50	90 min	
41	Industrial Engineering + I.C Engine, Power Plant, Refrigeration & Air-Conditioning	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

EE

ELECTRICAL ENGG.

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Electric Circuits (Part-1) : Network elements: R, L, C, & M; KCL, KVL, Node and Mesh analysis, Ideal current and voltage sources; Sinusoidal steady state analysis, Complex Power and power factor in ac circuits; Thevenin's theorem, Norton's theorem, Superposition theorem, Maximum power transfer theorem, balanced three phase circuits, star delta transformation.	17	25	45 min	10-04-2021
2	Electric Circuits (Part-2) : Transient response of dc and ac networks, Resonance, Two port networks.	17	25	45 min	
3	Control Systems (Part-1) : Mathematical modeling and representation of systems, Feedback principle, transfer function, Block diagrams and Signal flow graphs, Transient and Steady state analysis of linear time invariant systems, Stability analysis using Routh-Hurwitz, Root loci.	17	25	45 min	
4	Control Systems (Part-2) : Nyquist criteria, Bode plots, Lag, Lead and Lead Lag compensators; P, PI and PID controllers; State space model, Solution of state equation of LTI Systems.	17	25	45 min	
5	Electrical Machines (Part-1) : Electromechanical energy conversion principles, DC machines: separately excited, series and shunt, motoring and generating mode of operation and their characteristics, speed control of dc motors; Synchronous machines: cylindrical and salient pole machines, performance & characteristics regulation and parallel operation of generators, starting of synchronous motor, Types of losses and efficiency calculations of electric machines.	17	25	45 min	
6	Electrical Machines (Part-2) : Single phase transformers: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency; Three phase transformers: connections, vector groups, parallel operation; Autotransformer, Three phase induction motors: principle of operation, types, performance, torque-speed characteristics, no-load and blocked rotor tests, equivalent circuit, starting and speed control; Operating principle of single phase induction motors.	17	25	45 min	
7	Power Systems (Part-1) : Basic concepts of electrical power generation, ac and dc transmission concepts, Models and performance of transmission lines and cables, Series and shunt compensation, Electric field distribution and insulators, Distribution systems, Voltage and Frequency control, Power factor correction, Principles of over current, differential, directional and distance protection; Circuit breakers.	17	25	45 min	
8	Power Systems (Part-2) : Per unit quantities, Bus admittance matrix, Gauss Seidel and Newton-Raphson load flow methods, Symmetrical components, Symmetrical and unsymmetrical fault analysis, System stability concepts, Equal area criterion, Economic load dispatch (with and without considering transmission losses) .	17	25	45 min	
9	Engineering Mathematics (Part-1) : Linear Algebra, Calculus, Probability and Statistics.	17	25	45 min	
10	Engineering Mathematics (Part-2) : Differential Equations, Complex Analysis, Correlation and regression analysis, Fourier Series.	17	25	45 min	
11	General Aptitude (Part-1) : Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	
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	Signals & Systems (Part-1) : Representation of continuous and discrete time signals, Shifting and scaling properties, Linear Time Invariant and Causal systems, Fourier series representation of continuous and discrete time periodic signals, RMS value, average value calculation for any general periodic waveform.	17	25	45 min	10-05-2021
14	Signals & Systems (Part-2) : Sampling theorem, Applications of Fourier Transform for continuous and discrete time signals, Laplace Transform and z-Transform.	17	25	45 min	
15	Power Electronics (Part-1) : Static V-I Characteristics and firing/gating circuits of Thyristor, MOSFET, IGBT; Single and three phase configuration of uncontrolled rectifiers, voltage and current commutated thyristor based converters, Bidirectional ac to dc voltage source converters, Magnitude and phase of line current harmonics for uncontrolled and thyristor based converters, Power factor, Distortion factor of ac to dc converters.	17	25	45 min	
16	Power Electronics (Part-2) : DC to DC conversion: Buck, Boost and Buck-Boost converters; Single phase and three phase voltage and current source inverters, Sinusoidal pulse width modulation.	17	25	45 min	
17	Electrical & Electronics Measurements (Part-1) : Topic: Measurement of voltage, current, power, energy and power factor; Error analysis.	17	25	45 min	
18	Electrical & Electronics Measurements (Part-2) : Bridges and Potentiometers, Instrument transformers, Digital voltmeters and multimeters, Phase, Time and Frequency measurement; Oscilloscopes.	17	25	45 min	
19	Digital Electronics (Part-1) : Combinational and Sequential logic circuits, Multiplexers, Demultiplexers.	17	25	45 min	
20	Digital Electronics (Part-2) : Sample and hold circuits, A/D and D/A converters, Combinational and sequential logic circuits	17	25	45 min	
21	Analog Electronics (Part-1) : Simple diode circuits: clipping, clamping, rectifiers; Amplifiers: Biasing, Equivalent circuit and Frequency response.	17	25	45 min	
22	Analog Electronics (Part-2) : Oscillators and Feedback amplifiers; Operational amplifiers: Characteristics and applications; Single stage active filters, Sallen-key, Butterworth filters, VCOs and Timers, Schmitt trigger	17	25	45 min	
23	Electromagnetic Fields (Part-1) : Coulomb's Law, Electric Field Intensity, Electric Flux Density, Gauss's Law, Divergence, Electric field and potential due to point, line, plane and spherical charge distributions, Effect of dielectric medium, Capacitance of simple configurations.	17	25	45 min	
24	Electromagnetic Fields (Part-2) : Biot Savart's law, Ampere's law, Curl, Faraday's law, Lorentz force, Inductance, Magnetomotive force, Reluctance, Magnetic circuits, Self and Mutual inductance of simple configurations.	17	25	45 min	



GATE 2022

Online Test Series

EE

ELECTRICAL ENGG.

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Electric Circuits	33	50	90 min	10-06-2021
26	Control Systems	33	50	90 min	
27	Electrical Machines	33	50	90 min	
28	Power Systems	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Signals & Systems	33	50	90 min	10-07-2021
32	Power Electronics	33	50	90 min	
33	Electrical & Electronics Measurements	33	50	90 min	
34	Digital Electronics	33	50	90 min	
35	Analog Electronics	33	50	90 min	
36	Electromagnetic Fields	33	50	90 min	

Multiple Subject Tests

37	Electric Circuits + Control Systems	33	50	90 min	10-08-2021
38	Electrical Machines + Electrical & Electronics Measurements	33	50	90 min	
39	Analog Electronics + Power Systems	33	50	90 min	
40	Signals & Systems + Electromagnetic Fields	33	50	90 min	
41	Power Electronics + Digital Electronics	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



Detailed Schedule

GATE 2021: Online Test Series

ELECTRICAL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Electric Circuits-1: Network graph, KCL, KVL, Node and Mesh analysis, Ideal current and voltage sources; Sinusoidal steady-state analysis, Power and power factor in ac circuits; Thevenin's theorem, Norton's theorem, Superposition theorem, Maximum power transfer theorem.	17	25	45 min	Activated
2	Electric Circuits-2: Transient response of dc and ac networks, Resonance, Passive filters, Two-port networks.	17	25	45 min	
3	Control Systems-1: Mathematical modeling and representation of systems, Feedback principle, transfer function, Block diagrams and Signal flow graphs, Transient and Steady-state analysis of linear time invariant systems, Routh-Hurwitz, Root loci, Stability analysis.	17	25	45 min	
4	Control Systems-2: Frequency domain analysis, Nyquist criteria, Bode plots, Lag, Lead and Lead-Lag compensators; P, PI and PID controllers; State space model, State transition matrix.	17	25	45 min	
5	Electrical Machines-1 : Electromechanical energy conversion principles, DC machines: separately excited, series and shunt, motoring and generating mode of operation and their characteristics, starting and speed control of dc motors; Synchronous machines: cylindrical and salient pole machines, performance, regulation and parallel operation of generators, starting of synchronous motor, characteristics; Types of losses and efficiency calculations of electric machines.	17	25	45 min	
6	Electrical Machines-2 : Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency; Three phase transformers: connections, parallel operation; Auto-transformer, Three phase induction motors: principle of operation, types, performance, torque-speed characteristics, no-load and blocked rotor tests, equivalent circuit, starting and speed control; Operating principle of single phase induction motors.	17	25	45 min	
7	Power Systems-1 : Power generation concepts, ac and dc transmission concepts, Models and performance of transmission lines and cables, Series and shunt compensation, Electric field distribution and insulators, Distribution systems, Voltage and Frequency control, Power factor correction, Principles of over-current, differential and distance protection; Circuit breakers.	17	25	45 min	
8	Power Systems-2 : Per-unit quantities, Bus admittance matrix, Gauss-Seidel and Newton-Raphson load flow methods, Symmetrical components, Symmetrical and unsymmetrical fault analysis, System stability concepts, Equal area criterion.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods, Transform Theory.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Signals & Systems-1 : Representation of continuous and discrete-time signals, Shifting and scaling operations, Linear Time Invariant and Causal systems, Fourier series representation of continuous periodic signals.	17	25	45 min	Activated
14	Signals & Systems-2 : Sampling theorem, Applications of Fourier Transform, Laplace Transform and z-Transform.	17	25	45 min	
15	Power Electronics-1: Characteristics of semiconductor power devices: Diode, Thyristor, Triac, GTO, MOSFET, IGBT; Single and three phase configuration of uncontrolled rectifiers, Line commutated thyristor based converters, Bidirectional ac to dc voltage source converters, Issues of line current harmonics, Power factor, Distortion factor of ac to dc converters.	17	25	45 min	
16	Power Electronics-2: DC to DC conversion: Buck, Boost and Buck-Boost converters; Single phase and three phase inverters, Sinusoidal pulse width modulation.	17	25	45 min	
17	Electrical & Electronics Measurements-1: Measurement of voltage, current, power, energy and power factor; Error analysis.	17	25	45 min	
18	Electrical & Electronics Measurements-2: Bridges and Potentiometers, Instrument transformers, Digital voltmeters and multimeters, Phase, Time and Frequency measurement; Oscilloscopes.	17	25	45 min	
19	Digital Electronics & Microprocessors-1: Combinational and Sequential logic circuits, Multiplexer, Demultiplexer.	17	25	45 min	
20	Digital Electronics & Microprocessors-2: Sample and hold circuits, A/D and D/A converters, 8085 Microprocessor: Architecture, Programming and Interfacing.	17	25	45 min	
21	Analog Electronics-1: Characteristics of diodes, BJT, MOSFET; Simple diode circuits: clipping, clamping, rectifiers; Amplifiers: Biasing, Equivalent circuit and Frequency response.	17	25	45 min	
22	Analog Electronics-2: Oscillators and Feedback amplifiers; Operational amplifiers: Characteristics and applications; Simple active filters, VCOs and Timers, Schmitt trigger.	17	25	45 min	
23	Electromagnetic Fields-1: Coulomb's Law, Electric Field Intensity, Electric Flux Density, Gauss's Law, Divergence, Electric field and potential due to point, line, plane and spherical charge distributions, Effect of dielectric medium, Capacitance of simple configurations.	17	25	45 min	
24	Electromagnetic Fields-2: Biot-Savart's law, Ampere's law, Curl, Faraday's law, Lorentz force, Inductance, Magnetomotive force, Reluctance, Magnetic circuits, Self and Mutual inductance of simple configurations.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

ELECTRICAL ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	Electric Circuits	33	50	90 min	Activated
26	Control Systems	33	50	90 min	
27	Electrical Machines	33	50	90 min	
28	Power Systems	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Signals & Systems	33	50	90 min	Activated
32	Power Electronics	33	50	90 min	
33	Electrical & Electronics Measurements	33	50	90 min	
34	Digital Electronics & Microprocessors	33	50	90 min	
35	Analog Electronics	33	50	90 min	
36	Electromagnetic Fields	33	50	90 min	

Multiple Subject Tests

37	Electric Circuits + Control Systems	33	50	90 min	Activated
38	Electrical Machines + Electrical & Electronics Measurements	33	50	90 min	
39	Analog Electronics + Power Systems	33	50	90 min	
40	Signals & Systems + Electromagnetic Fields	33	50	90 min	
41	Power Electronics + Digital Electronics & Microprocessors	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

EC

ELECTRONICS ENGG.

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Network -1: Circuits analysis methods: nodal and mesh analysis; Wye-Delta transformation; Network theorems: reciprocity; superposition, Thevenin and Norton's; sinusoidal Steady state analysis phasor, complex phasors, complex power, maximum power transfer.	17	25	45 min	10-04-2021
2	Network-2: Time and frequency domain analysis of linear circuits RL, RC, RLC circuit; Solution of network equations using Laplace transform; Linear 2-port network parameters; wye-delta transformation.	17	25	45 min	
3	Control-1: Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Routh-Hurwitz, root-locus plots.	17	25	45 min	
4	Control-2: Frequency response; Nyquist stability criteria; Bode plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.	17	25	45 min	
5	Electronic devices -1: Energy bands in intrinsic and extrinsic semiconductors, equilibrium carrier concentration, direct and indirect band-gap semiconductors. Carrier transport: diffusion current, drift current, mobility and resistivity, generation and recombination of carriers, Poisson and continuity equations. P-N junction, Zener diode.	17	25	45 min	
6	Electronic Devices-2: BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell.	17	25	45 min	
7	Signals and Systems-1: Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications. Continuous LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, frequency response, group delay, phase delay.	17	25	45 min	
8	Signal and Systems-2: Discrete-time signals: DTFT, DFT, z-transform, discrete-time processing of continuous-time signals. Discrete LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeroes.	17	25	45 min	
9	Engineering Mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics.	17	25	45 min	
10	Engineering Mathematics-2: Differential Equations, Complex Analysis, Fourier Series.	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	
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	Analog circuit-1: Diode circuits: clipping, clamping and rectifiers. BJT and MOSFET amplifier biasing	17	25	45 min	10-05-2021
14	Analog circuit-2: BJT and MOSFET : ac coupling, small signal analysis, frequency response. Current mirrors and differential amplifiers.	17	25	45 min	
15	Analog circuit-3: Op-amp circuits: Amplifiers, summers, differentiators, integrators, active filters, Schmitt triggers and oscillator	17	25	45 min	
16	COA: Semiconductor memories: ROM, SRAM, DRAM. Computer organization: Machine instructions and addressing modes, ALU, data-path and control unit, instruction pipelining.	17	25	45 min	
17	Digital circuits-1: Number representations: binary, integer and floating-point- numbers. Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders.	17	25	45 min	
18	Digital circuits-2: Sequential circuits: latches and flip-flops, counters, shift-registers, finite state machines, propagation delay, setup and hold time, critical path delay. Data converters: sample and hold circuits, ADCs and DACs.	17	25	45 min	
19	Communications-1: Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers..	17	25	45 min	
20	Communications-2: Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems. Information theory: entropy, mutual information and channel capacity theorem.	17	25	45 min	
21	Communications-3: Digital communications: PCM, DPCM, digital modulation schemes (ASK, PSK, FSK, QAM), bandwidth, inter-symbol interference, MAP, ML detection, matched filter receiver, SNR and BER. Fundamentals of error correction, Hamming codes, CRC.	17	25	45 min	
22	Electromagnetics-1: Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector	17	25	45 min	
23	Electromagnetics-2: Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth. Rectangular and circular waveguides.	17	25	45 min	
24	Electromagnetics-3: Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart, light propagation in optical fibers, dipole and monopole antennas, linear antenna arrays.	17	25	45 min	



GATE 2022

Online Test Series

EC

ELECTRONICS ENGG.

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Networks	33	50	90 min	10-06-2021
26	Control Systems	33	50	90 min	
27	Electronic Devices	33	50	90 min	
28	Signals and Systems	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Analog Circuits	33	50	90 min	10-07-2021
32	Analog Communication Systems	33	50	90 min	
33	Digital Communication Systems	33	50	90 min	
34	Digital Circuits	33	50	90 min	
35	Electromagnetics	33	50	90 min	
36	COA	33	50	90 min	

Multiple Subject Tests

37	Networks + Control Systems	33	50	90 min	10-08-2021
38	Electronic Devices + Analog Circuits	33	50	90 min	
39	Digital Circuits + COA	33	50	90 min	
40	Communications	33	50	90 min	
41	Electromagnetics + Signals and Systems	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



Detailed Schedule

GATE 2021: Online Test Series

ELECTRONICS ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Networks-1: Network solution methods: nodal and mesh analysis, Wye-Delta transformation. Network theorems: superposition, Thevenin and Norton's, maximum power transfer. Steady state sinusoidal analysis using phasors.	17	25	45 min	Activated
2	Networks-2: Frequency domain analysis of RLC circuits. Time domain analysis of simple linear circuits. Solution of network equations using Laplace transform. Linear 2-port network parameters: driving point and transfer functions.	17	25	45 min	
3	Control Systems-1: Basic control system components, feedback principle, transfer function, block diagram representation, signal flow graph. Transient and steady-state analysis of LTI systems. Routh-Hurwitz; Root-locus plots.	17	25	45 min	
4	Control Systems-2: Frequency response, Nyquist stability criteria and Bode plot. Lag, lead and lag-lead compensation, PID controllers. State variable model and solution of state equation of LTI systems.	17	25	45 min	
5	Electronic Devices-1: Energy bands in intrinsic and extrinsic silicon, Carrier transport: diffusion current, drift current, mobility and resistivity. Generation and recombination of carriers. Poisson and continuity equations. P-N junction, Zener diode.	17	25	45 min	
6	Electronic Devices-2: BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell. Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.	17	25	45 min	
7	Analog Circuits-1: Small signal equivalent circuits of diodes. Simple diode circuits: clipping, clamping and rectifiers. Biasing, bias stability of BJTs and MOSFETs.	17	25	45 min	
8	Analog Circuits-2: Small signal equivalent circuits of BJTs and MOSFETs, single-stage BJT and MOSFET amplifiers, mid-frequency small signal analysis. Frequency response of BJT and MOSFET amplifiers. Multi-stage, differential, feedback and power amplifiers.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Analog Circuits-3: Operational amplifiers: Simple op-amp circuits, active filters. Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations. Function generators, wave-shaping circuits and 555 timers. Voltage reference circuits; Power supplies: ripple removal and regulation.	17	25	45 min	Activated
14	Microprocessors: Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.	17	25	45 min	
15	Digital Circuits-1: Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders.	17	25	45 min	
16	Digital Circuits-2: Programmable logic devices. Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines. Data converters: sample and hold circuits, ADCs and DACs.	17	25	45 min	
17	Signals and Systems-1: Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications. Continuous LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structures, frequency response, group delay, phase delay.	17	25	45 min	
18	Signals and Systems-2: Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals. Discrete LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structures, digital filter design techniques.	17	25	45 min	
19	Communications-1: Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications.	17	25	45 min	
20	Communications-2: Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems. Information theory: entropy, mutual information and channel capacity theorem.	17	25	45 min	
21	Communications-3: Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.	17	25	45 min	
22	Electromagnetics-1: Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector.	17	25	45 min	
23	Electromagnetics-2: Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth. Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations.	17	25	45 min	
24	Electromagnetics-3: Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart. Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays. Basics of radar; Light propagation in optical fibers.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

ELECTRONICS ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	Networks	33	50	90 min	Activated
26	Control Systems	33	50	90 min	
27	Electronic Devices	33	50	90 min	
28	Analog Circuits	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Signals & Systems	33	50	90 min	Activated
32	Analog Communication Systems	33	50	90 min	
33	Digital Communication Systems	33	50	90 min	
34	Digital Circuits	33	50	90 min	
35	Electromagnetics	33	50	90 min	
36	Microprocessors	33	50	90 min	

Multiple Subject Tests

37	Networks + Control Systems	33	50	90 min	Activated
38	Electronic Devices + Analog Circuits	33	50	90 min	
39	Digital Circuits + Microprocessors	33	50	90 min	
40	Communications	33	50	90 min	
41	Electromagnetics + Signals & Systems	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

CS

COMPUTER SCIENCE & IT

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Theory of Computation-1: Regular expressions and finite automata, Context-free grammars and push-down automata	17	25	45 min	10-04-2021
2	Theory of Computation-2: Regular and context-free languages, Grammar, pumping lemma, Turing machines and undecidability.	17	25	45 min	
3	Algorithms -1: Sorting, Asymptotic worst case time and space complexity. Algorithm design techniques: greedy and divide-and-conquer and Searching.	17	25	45 min	
4	Algorithms-2: Hashing, Graph search, minimum spanning trees, shortest paths and dynamic programming.	17	25	45 min	
5	Computer Organization and Architecture-1: Instruction pipelining, Machine instructions and addressing modes and control unit.	17	25	45 min	
6	Computer Organization and Architecture-2: ALU, data-path, Memory hierarchy: cache, main memory, secondary storage and I/O interface (interrupt and DMA mode).	17	25	45 min	
7	Databases-1: Er-model. Relational model: relational algebra normalization and indexing (e.g., B and B+ trees).	17	25	45 min	
8	Databases-2: Tuple calculus, SQL, Integrity constraints, File organization, Transactions and concurrency control.	17	25	45 min	
9	Engineering Mathematics-1: Matrices, system of linear equations, eigenvalues and eigenvectors, Random variables. Uniform, normal, exponential, poisson and binomial distributions. Mean, median, mode and standard deviation.	17	25	45 min	
10	Engineering Mathematics-2: Limits, continuity and differentiability. Maxima and minima. Mean value theorem. Integration, determinants and LU decomposition, Conditional probability and Bayes theorem.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Operating System-1: Memory management, virtual memory and Deadlock and File systems.	17	25	45 min	10-05-2021
14	Operating System-2: Processes, threads, inter-process communication, concurrency, synchronization and CPU scheduling.	17	25	45 min	
15	Programming and Data Structures-1: Programming in C, Arrays, stacks and queues, Recursion.	17	25	45 min	
16	Programming and Data Structures-2: Linked lists, trees, binary search trees, binary heaps and graphs	17	25	45 min	
17	Computer Networks-1: Concept of layering, LAN technologies and Ethernet bridging along with MAC protocols, Flow and error control techniques, switching, application layer protocols (DNS, SMTP, POP, FTP, HTTP, Email).	17	25	45 min	
18	Computer Networks-2: IPv4, routers and routing algorithms (distance vector, link state). TCP/UDP and sockets, congestion control, network layer protocol headers like ARP, DHCP, ICMP.	17	25	45 min	
19	Digital Logic-1: Boolean algebra, Combinational and Minimization	17	25	45 min	
20	Digital Logic-2: Sequential circuits, Number representations and computer arithmetic (fixed and floating point).	17	25	45 min	
21	Discrete Mathematics-1: Propositional and first order logic. Sets, relations, functions and counting	17	25	45 min	
22	Discrete Mathematics-2: Partial orders and lattices, groups, Graphs: connectivity, matching, coloring. Recurrence relations and generating functions.	17	25	45 min	
23	Compiler Design-1: Lexical analysis, syntax-directed translation and Intermediate code generation.	17	25	45 min	
24	Compiler Design-2: Parsing, Runtime environments, local optimization. Data flow analysis: constant propagation, liveness analysis, common sub-expression elimination	17	25	45 min	



GATE 2022

Online Test Series

CS

COMPUTER SCIENCE & IT

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Theory of Computation	33	50	90 min	10-06-2021
26	Algorithms	33	50	90 min	
27	Computer Organization and Architecture	33	50	90 min	
28	Operating System	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Database	33	50	90 min	10-07-2021
32	Programming and Data Structures	33	50	90 min	
33	Computer Networks	33	50	90 min	
34	Digital Logic	33	50	90 min	
35	Compiler Design	33	50	90 min	
36	Discrete Mathematics	33	50	90 min	

Multiple Subject Tests

37	Theory of Computation + Compiler Design	33	50	90 min	10-08-2021
38	Algorithms + Programming and Data Structures	33	50	90 min	
39	Computer Organization and Architecture + Operating System	33	50	90 min	
40	Digital Logic + Discrete Mathematics	33	50	90 min	
41	Computer Networks + Databases	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



Detailed Schedule

GATE 2021: Online Test Series

COMPUTER SCIENCE & IT



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Theory of Computation-1: Regular expressions and finite automata, Context-free grammars and push-down automata	17	25	45 min	Activated
2	Theory of Computation-2: Regular and context-free languages, Grammar, pumping lemma, Turing machines and undecidability.	17	25	45 min	
3	Algorithms -1: Sorting, Asymptotic worst case time and space complexity. Algorithm design techniques: greedy and divide-and-conquer and Searching.	17	25	45 min	
4	Algorithms-2: Hashing, Graph search, minimum spanning trees, shortest paths and dynamic programming.	17	25	45 min	
5	Computer Organization and Architecture-1: Instruction pipelining, Machine instructions and addressing modes and control unit.	17	25	45 min	
6	Computer Organization and Architecture-2: ALU, data-path, Memory hierarchy: cache, main memory, secondary storage and I/O interface (interrupt and DMA mode).	17	25	45 min	
7	Databases-1: Er-model. Relational model: relational algebra normalization and indexing (e.g., B and B+ trees).	17	25	45 min	
8	Databases-2: Tuple calculus, SQL, Integrity constraints, File organization, Transactions and concurrency control.	17	25	45 min	
9	Engineering Mathematics-1: Matrices, system of linear equations, eigenvalues and eigenvectors, Random variables. Uniform, normal, exponential, poisson and binomial distributions. Mean, median, mode and standard deviation.	17	25	45 min	
10	Engineering Mathematics-2: Limits, continuity and differentiability. Maxima and minima. Mean value theorem. Integration, determinants and LU decomposition, Conditional probability and Bayes theorem.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	Operating System-1: Memory management, virtual memory and Deadlock and File systems.	17	25	45 min	Activated
14	Operating System-2: Processes, threads, inter-process communication, concurrency, synchronization and CPU scheduling.	17	25	45 min	
15	Programming and Data Structures-1: Programming in C, Arrays, stacks and queues, Recursion.	17	25	45 min	
16	Programming and Data Structures-2: Linked lists, trees, binary search trees, binary heaps and graphs	17	25	45 min	
17	Computer Networks-1: Concept of layering, LAN technologies (Ethernet), Flow and error control techniques, switching, Basics of Wi-Fi, Network security, Authentication, basics of public key and private key cryptography, digital signatures and certificates	17	25	45 min	
18	Computer Networks-2: IPv4/IPv6, routers and routing algorithms (distance vector, link state). TCP/UDP and sockets, congestion control, Application layer protocols (DNS, SMTP, POP, FTP, HTTP) and firewalls	17	25	45 min	
19	Digital Logic-1: Boolean algebra, Combinational and Minimization	17	25	45 min	
20	Digital Logic-2: Sequential circuits, Number representations and computer arithmetic (fixed and floating point).	17	25	45 min	
21	Discrete Mathematics-1: Propositional and first order logic. Sets, relations, functions and counting	17	25	45 min	
22	Discrete Mathematics-2: Partial orders and lattices, groups, Graphs: connectivity, matching, coloring. Recurrence relations and generating functions.	17	25	45 min	
23	Compiler Design-1: Lexical analysis, syntax-directed translation and Intermediate code generation.	17	25	45 min	
24	Compiler Design-2: Parsing, Runtime environments and Intermediate code generation.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

COMPUTER SCIENCE & IT



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	Theory of Computation	33	50	90 min	Activated
26	Algorithms	33	50	90 min	
27	Computer Organization and Architecture	33	50	90 min	
28	Operating System	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Database	33	50	90 min	Activated
32	Programming and Data Structures	33	50	90 min	
33	Computer Networks	33	50	90 min	
34	Digital Logic	33	50	90 min	
35	Compiler Design	33	50	90 min	
36	Discrete Mathematics	33	50	90 min	

Multiple Subject Tests

37	Theory of Computation + Compiler Design	33	50	90 min	Activated
38	Algorithms + Programming and Data Structures	33	50	90 min	
39	Computer Organization and Architecture + Operating System	33	50	90 min	
40	Digital Logic + Discrete Mathematics	33	50	90 min	
41	Computer Networks + Databases	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

IN

INSTRUMENTATION ENGG.

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Electrical Circuits-1: Voltage and current sources: independent, dependent, ideal and practical; v-i relationships of resistor, inductor, mutual inductor and capacitor; Kirchhoff's Law, mesh nodal analysis, superposition, Thevenin, Norton, maximum power transfer and reciprocity theorems; Peak-, average - and rms value of ac quantities; apparent active-and reactive powers; phasor analysis, impedance and admittance.	17	25	45 min	10-04-2021
2	Electrical Circuits-2: Electrical Circuits-2: Transient analysis of RLC circuits with dc excitation; series and parallel resonance, locus diagram, realization of basic filters with R, L and C elements. One-port and two-port networks, driving point impedance and admittance, open-and short circuit parameters, Transient analysis of RLC circuits with ac excitation.	17	25	45 min	
3	Electric Machines -Single Phase Transformer: equivalent circuit, phasor diagram, open circuit and short circuit test, regulation and efficiency; Three Phase Induction Motor: principle of operation, types, performance, torque-speed characteristics, no-load and blocked rotor test, equivalent circuit, starting and speed control; Types of losses and efficiency calculations of electric machines.	17	25	45 min	
4	Electricity and Magnetism-1: Coulomb's Law, Electric Field Intensity, Electric Flux Density, Gauss's Law, Divergence, Electric Field and potential due to point, line, plane and spherical charge distributions, Effect of dielectric medium, Capacitance of simple configurations	17	25	45 min	
5	Electricity and Magnetism-2 : Biot-Savart's law, Ampere's law, Curl, Faraday's law, Lorentz force, Inductance, Magnetomotive Force, Reluctance, Magnetic Circuits, Self and Mutual inductance of simple configurations.	17	25	45 min	
6	Control Systems-1: Feedback principles, signal flow graph, transient response, steady-state-errors, Routh Criteria, root loci, Bode Plot, phase and gain margin, Nyquist criteria.	17	25	45 min	
7	Control Systems-2: Design of lead, Lag and Lead-lag compensators, state space representation of systems; time delay systems, Mechanical, hydraulic and pneumatic system components, synchro pair, servo and stepper motors, servo valve; on-off, P, P-I, P-I-D, cascade, feedforward, and ratio controllers, Tuning of PID controllers and sizing of control valve	17	25	45 min	
8	Sensors and Industrial Instrumentation-1: Resistive, capacitive, inductive, piezoelectric, Hall effect sensor and associated signal conditioning circuits; transducers for industrial instrumentation: displacement (linear and angular), velocity, acceleration, force, torque, vibration, shock.	17	25	45 min	
9	Sensors and Industrial Instrumentation-2: Pressure (including low pressure), flow (differential pressure, variable area, electromagnetic, ultrasonic, turbine and open channel flow meter) temperature (thermocouple, bolometer, RTD (3/4 wire), thermistor, pyrometer and semiconductor); liquid level, pH, conductivity and viscosity measurement, 4-20mA two wire transmitter	17	25	45 min	
10	Engineering Mathematics-1: Linear Algebra, calculus, Vector Analysis, Probability statistics, Fourier Series.	17	25	45 min	
11	Engineering Mathematics-2: Differential Equations, Analysis of complex variables, Numerical Methods.	17	25	45 min	
12	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	



GATE 2022

Online Test Series

IN

INSTRUMENTATION ENGG.

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
13	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	10-05-2021
14	Analog Electronics-1 : Characteristics and applications of diode, Zener diode, BJT and MOSFET; small signal analysis of transistor circuits, feedback amplifiers.	17	25	45 min	
15	Analog Electronics-2 : Characteristics of operational amplifiers; applications of op-amps: difference amplifier, adder, subtractor, integrator, differentiator, instrumentation amplifier, precision rectifier, active filters and other circuits. Oscillators, signal generators, voltage-controlled oscillators and phase locked loop, Sources and effects of noise and interference in electronic circuits.	17	25	45 min	
16	Digital Electronics-1 : Basics of number systems, Combinational logic circuits, minimization of Boolean functions. IC families: TTL and CMOS. Arithmetic circuits, comparators, Schmitt trigger, multi-vibrators, Sequential circuits, flip flops, shift registers, timers and counters; sample-and-hold circuit, multiplexer.	17	25	45 min	
17	Digital Electronics-2 : Analog-to digital (successive approximation, integrating, flash and sigma-delta) and digital-to analog converters (weighted R, R-2R ladder and current steering logic). Characteristics of ADC and DAC (resolution, quantization, significant bits, conversion/settling time), Embedded Systems: Microprocessor and microcontroller applications, memory and input output interfacing; basics of data acquisition systems, basics of distributed control systems (DCS) and programmable logic controllers (PLC).	17	25	45 min	
18	Signals and Systems-1 : Periodic, aperiodic and impulse signals; Laplace, Fourier transform, transfer function, frequency response of first and second order linear time invariant systems, impulse response, convolution, correlation.	17	25	45 min	
19	Signals and Systems-2 : z-transforms; Discrete time system: impulse response, frequency response, pulse transfer function; DFT and FFT; basics of IIR and FIR filters.	17	25	45 min	
20	Communication : Amplitude and frequency modulation and demodulation; Shannon's sampling theorem. Pulse code modulation; frequency and time division multiplexing, amplitude-, phase, frequency, pulse shift keying for digital modulation, Quadrature amplitude modulation.	17	25	45 min	
21	Measurement-1 : SI units, systematic and random errors in measurement, expression of uncertainty - accuracy and precision index, propagation of errors. PMMC, MI and dynamometer type instruments; dc potentiometer, Measurement of voltage and current, voltage and current scaling.	17	25	45 min	
22	Measurement-2 : Bridges for measurement of R, L and C, Q-meter. Measurement of Power in single and three phase circuits; ac and dc current probes; true rms meters Instrument transformers, timer/counter, time, phase and frequency measurements, digital voltmeter, digital multimeter, oscilloscope, shielding and grounding.	17	25	45 min	
23	Optical instrumentation-1 : Basics of fiber optic sensing, interferometer: applications in metrology.	17	25	45 min	10-05-2021
24	Optical Instrumentation-2 : Optical sources and detectors: LED, laser, photo-diode, light dependent resistor and their characteristics. UV-VIS Spectro photometers, Mass spectrometer.	17	25	45 min	



GATE 2022

Online Test Series

IN

INSTRUMENTATION ENGG.

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Electrical Circuits + Electrical Machines	33	50	90 min	10-06-2021
26	Control Systems + Process Control	33	50	90 min	
27	Sensors & Industrial Instrumentation	33	50	90 min	
28	Electricity and Magnetism	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Signals & Systems	33	50	90 min	10-07-2021
32	Measurements	33	50	90 min	
33	Communications	33	50	90 min	
34	Digital Electronics & Microprocessors	33	50	90 min	
35	Analog Electronics	33	50	90 min	
36	Optical Instrumentation	33	50	90 min	

Multiple Subject Tests

37	Electrical Circuits + Electricity and Magnetism + Electrical Machines	33	50	90 min	10-08-2021
38	Analog Electronics + Digital Electronics & Microprocessors	33	50	90 min	
39	Sensors & Industrial Instrumentation + Control Systems + Process Control	33	50	90 min	
40	Signals & Systems + Communications	33	50	90 min	
41	Measurements + Optical Instrumentation	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



Detailed Schedule

GATE 2021: Online Test Series

INSTRUMENTATION ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Electrical Circuits-1: Voltage and current sources: independent, dependent, ideal and practical; v-i relationships of resistor, inductor, mutual inductor and capacitor; Kirchoff's laws, mesh and nodal analysis, superposition, Thevenin, Norton, maximum power transfer and reciprocity theorems; Peak-, average- and rms values of ac quantities; apparent-active- and reactive powers; phasor analysis, impedance and admittance.	17	25	45 min	Activated
2	Electrical Circuits-2: Electrical Circuits-2: Transient analysis of RLC circuits with dc excitation; series and parallel resonance, locus diagrams, realization of basic filters with R, L and C elements. One-port and two-port networks, driving point impedance and admittance, open-and short circuit parameters.	17	25	45 min	
3	Control Systems-1: Feedback principles, signal flow graphs, transient response, steady-state-errors, Routh criteria, root loci.	17	25	45 min	
4	Control Systems-2: Control Systems-2: Bode plot, phase and gain margins, Nyquist criteria, design of lead, Lag and Lead-lag compensators, state-space representation of systems; time-delay systems.	17	25	45 min	
5	Process control: Mechanical, hydraulic and pneumatic system components, synchro pair, servo and stepper motors, servo valves; on-off, P, P-I, P-I-D, cascade, feedforward, and ratio controllers.	17	25	45 min	
6	Sensors and Industrial Instrumentation-1: Resistive, capacitive, inductive, piezoelectric, Hall effect sensors and associated signal conditioning circuits; transducers for industrial instrumentation: displacement (linear and angular), velocity, acceleration, force, torque, vibration, shock.	17	25	45 min	
7	Sensors and Industrial Instrumentation-2: Pressure (including low pressure), flow (differential pressure, variable area, electromagnetic, ultrasonic, turbine and open channel flow meters) temperature (thermocouple, bolometer, RTD (3/4 wire), thermistor, pyrometer and semiconductor); liquid level, pH, conductivity and viscosity measurement.	17	25	45 min	
8	Microprocessors: 8-bit microprocessor and microcontroller: applications, memory and input-output interfacing; basics of data acquisition systems.	17	25	45 min	
9	Engineering Mathematics-1: Linear Algebra, calculus, Vector Analysis, Probability and statistics	17	25	45 min	
10	Engineering Mathematics-2: Differential Equations, Analysis of complex variables, Numerical Methods.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, Word groups, instruction, critical reasoning and verbal deduction.	17	25	45 min	
13	Analog Electronics-1: Characteristics and applications of diode, Zener diode, BJT and MOSFET; small signal analysis of transistor circuits, feedback amplifiers.	17	25	45 min	Activated
14	Analog Electronics-2: Characteristics of operational amplifiers; applications of opamps: difference amplifier, adder, subtractor, integrator, differentiator, instrumentation amplifier, precision rectifier, active filters and other circuits. Oscillators, signal generators, voltage controlled oscillators and phase locked loop.	17	25	45 min	
15	Digital Electronics-1: Basics of number systems, Combinational logic circuits, minimization of Boolean functions. IC families: TTL and CMOS. Arithmetic circuits, comparators, Schmitt trigger, multi-vibrators.	17	25	45 min	
16	Digital Electronics-2: Sequential circuits, flip-flops, shift registers, timers and counters; sample-and-hold circuit, multiplexer, analog-to digital (successive approximation, integrating, flash and sigma-delta) and digital-to analog converters (weighted R, R-2R ladder and current steering logic). Characteristics of ADC and DAC (resolution, quantization, significant bits, conversion/settling time).	17	25	45 min	
17	Signals and Systems-1: Periodic, aperiodic and impulse signals; Laplace, Fourier transform, transfer function, frequency response of first and second order linear time invariant systems, impulse response, convolution, correlation.	17	25	45 min	
18	Signals and Systems-2: z-transforms; Discrete time system: impulse response, frequency response, pulse transfer function; DFT and FFT; basics of IIR and FIR filters.	17	25	45 min	
19	Communication-1: Amplitude- and frequency modulation and demodulation; Shannon's sampling theorem.	17	25	45 min	
20	Communication-2: Pulse code modulation; frequency and time division multiplexing, amplitude-, phase-, frequency-, pulse shift keying for digital modulation.	17	25	45 min	
21	Measurement-1: SI units, systematic and random errors in measurement, expression of uncertainty- accuracy and precision index, propagation of errors. PMMC, MI and dynamometer type instruments; dc potentiometer, Measurement of voltage and current, voltage and current scaling.	17	25	45 min	
22	Measurement-2: bridges for measurement of R, L and C, Q-meter. Measurement of Power in single and three phase circuits; ac and dc current probes; true rms meters Instrument transformers, timer/counter, time, phase and frequency measurements, digital voltmeter, digital multimeter, oscilloscope, shielding and grounding.	17	25	45 min	
23	Optical instrumentation-1: Basics of fibre optic sensing, interferometer: applications in metrology.	17	25	45 min	
24	Optical Instrumentation-2: Optical sources and detectors: LED, laser, photo-diode, light dependent resistor and their characteristics.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

INSTRUMENTATION ENGINEERING



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	Electrical Circuits + Electrical Machines	33	50	90 min	Activated
26	Control Systems + Process Control	33	50	90 min	
27	Sensors & Industrial Instrumentation	33	50	90 min	
28	Electricity and Magnetism	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Signals & Systems	33	50	90 min	Activated
32	Measurements	33	50	90 min	
33	Communications	33	50	90 min	
34	Digital Electronics & Microprocessors	33	50	90 min	
35	Analog Electronics	33	50	90 min	
36	Optical Instrumentation	33	50	90 min	

Multiple Subject Tests

37	Electrical Circuits + Electricity and Magnetism + Electrical Machines	33	50	90 min	Activated
38	Analog Electronics + Digital Electronics & Microprocessors	33	50	90 min	
39	Sensors & Industrial Instrumentation + Control Systems + Process Control	33	50	90 min	
40	Signals & Systems + Communications	33	50	90 min	
41	Measurements + Optical Instrumentation	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

PI

PRODUCTION & INDUSTRIAL ENGINEERING

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Fluid Mechanics: Fluid statics, Bernoulli's equation, flow through pipes, laminar and turbulent flows, equations of continuity and momentum, capillary action; Dimensional analysis;	17	25	45 min	10-04-2021
2	Thermodynamics: Zeroth, first and second law of thermodynamics, thermodynamic system and processes, calculation of work and heat for systems and control volumes.	17	25	45 min	
3	Applied Mechanics-1: Equivalent force systems, free body concepts, equations of equilibrium; trusses	17	25	45 min	
4	Applied Mechanics-2: Strength of materials – stress, strain and their relationship; Failure theories; Mohr's circle (stress); Deflection of beams, bending and shear stresses; Euler's theory of columns; Thick and thin cylinders; Torsion.	17	25	45 min	
5	Manufacturing Process 1: Casting: Types of casting processes and applications; Sand casting: patterns – types, materials and allowances; molds and cores – materials, making, and testing; design of gating system and riser; casting techniques of cast iron, steels, and nonferrous metals and alloys; analysis of solidification and microstructure development; Other casting techniques: Pressure die casting, Centrifugal casting, Investment casting, Shell mold casting; Casting defects and their inspection by non-destructive testing. Joining of Materials: Classification of joining processes; Principles of fusion welding processes using different heat sources (flame, arc, resistance, laser, electron beam), Heat transfer and associated losses; Arc welding processes – SMAW, GMAW, GTAW, plasma arc, submerged arc welding processes; Principles of solid state welding processes – friction welding, friction stir welding, ultrasonic welding; Welding defects – causes and inspection; Principles of adhesive joining, brazing and soldering processes.	17	25	45 min	
6	Manufacturing Process- 2: Metal Forming: Stress-strain relations in elastic and plastic deformation; Von Mises and Tresca yield criteria, Concept of flow stress; Hot, warm and cold working; Bulk forming processes – forging, rolling, extrusion and wire drawing; Sheet metal working processes – blanking, punching, bending, stretch forming, spinning and deep drawing; Ideal work and slab analysis; Defects in metal working and their causes.	17	25	45 min	
7	Manufacturing Process- 3: Machining: Orthogonal and oblique machining, Single point cutting tool and tool signature, Chip formation, cutting forces, Merchant's analysis, Specific cutting energy and power; Machining parameters and material removal rate; tool materials, Tool wear and tool life; Thermal aspects of machining, cutting fluids, machinability; Economics of machining; Machining processes – turning, taper turning, thread cutting, drilling, boring, milling, gear cutting, thread production; Finishing processes – grinding, honing, lapping and super-finishing. Machine Tools: Lathe, milling, drilling and shaping machines – construction and kinematics.	17	25	45 min	
8	Manufacturing Process- 4: Powder Processing: Production of metal/ceramic powders, compaction and sintering of metals and ceramic powders, Cold and hot isostatic pressing. Polymers and Composites: Polymer processing – injection, compression and blow molding, extrusion, calendaring and thermoforming; Molding of composites.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Method.s	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	
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	IC Engine: Air standard cycles	17	25	45 min	10-05-2021
14	Heat Transfer: Basic applications of conduction, convection and radiation.	17	25	45 min	
15	Material Science-1: Structure, physical and mechanical properties, and applications of common engineering materials (metals and alloys, semiconductors, ceramics, polymers, and composites – metal, polymer and ceramic based)	17	25	45 min	
16	Material Science-2: Iron-carbon equilibrium phase diagram; Heat treatment of metals and alloys and its influence on mechanical properties; Stress-strain behavior of metals and alloys.	17	25	45 min	
17	TOM & Machine Design-1: Analysis of planar mechanisms, cams and followers; governors and flywheels	17	25	45 min	
18	TOM & Machine Design-2: Design of bolted, riveted and welded joints; Interference/shrink fit joints; Friction and lubrication; Design of shafts, keys, couplings, spur gears, belt drives, brakes and clutches; Pressure vessels.	17	25	45 min	



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PRODUCTION & INDUSTRIAL ENGINEERING

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
19	Manufacturing Process- 5: Jigs and fixtures – principles, applications, and design. Metrology and Inspection: Accuracy and precision; Types of errors; Limits, fits and tolerances; Gauge design, Interchangeability, Selective assembly; Linear, angular, and form measurements (straightness, flatness, roundness, runout and cylindricity) by mechanical and optical methods; Inspection of screw threads and gears; Surface roughness measurement by contact and non-contact methods.	17	25	45 min	10-05-2021
20	Manufacturing Process- 6: Advanced Manufacturing: Principles and applications of USM, AJM, WJM, AWJM, EDM and Wire EDM, LBM, EBM, PAM, CHM, ECM; Effect of process parameters on material removal rate, surface roughness and power consumption; Additive manufacturing techniques. Computer Integrated Manufacturing: Basic concepts of CAD and CAM, Geometric modeling, CNC; Automation in Manufacturing; Industrial Robots – configurations, drives and controls; Cellular manufacturing and FMS - Group Technology, CAPP.	17	25	45 min	
21	Industrial Engineering Operations Research and Operations Management 1 Industrial Engineering : Work system design: Taylor's scientific management, Gilbreth's contributions; Productivity – concepts and measurements; Method study, Micro-motion study, Principles of motion economy; Work measurement – time study, Work sampling, Standard data, PMTS; Ergonomics; Job evaluation and merit rating. Operations Research and Operations Management Engineering Engineering Economy and Costing: Elementary cost accounting and methods of depreciation; Break-even analysis; Techniques for evaluation of capital investments; Financial statements; Activity based costing. Inventory – functions, costs, classifications, deterministic inventory models, quantity discount; Perpetual and periodic inventory control systems.	17	25	45 min	
22	Industrial Engineering Operations Research and Operations Management 2 Industrial Engineering Product Design and Development: Principles of product design, tolerance design; Quality and cost considerations; Product life cycle; Standardization, simplification, diversification; Value engineering and analysis; Concurrent engineering; Design for "X". Operations Research and Operations Management Project Management: Scheduling techniques – Gantt chart, CPM, PERT and GERTPERT/CPM	17	25	45 min	
23	Operations Research and Operations Management Quality and reliability Operations Research and Operations Management Operation Research: Linear programming – problem formulation, simplex method, duality and sensitivity analysis; Transportation and assignment models; Integer programming; Constrained and unconstrained nonlinear optimization; Markovian queuing models; Simulation – manufacturing applications. Quality Management: Quality – concept and costs; Statistical quality control – process capability analysis, control charts for variables and attributes and acceptance sampling; Six sigma; Total quality management; Quality assurance and certification - ISO 9000, ISO 14000. Reliability and Maintenance: Reliability, availability and maintainability; Distribution of failure and repair times; Determination of MTBF and MTTR, Reliability models; Determination of system reliability; Preventive and predictive maintenance and replacement, Total productive maintenance.	17	25	45 min	
24	Industrial Engineering Operations Research and Operations Management 3 Operations Research and Operations Management Production control: Forecasting techniques – causal and time series models, moving average, exponential smoothing, trend and seasonality; Aggregate production planning; Master production scheduling; MRP, MRP-II and ERP; Routing, scheduling and priority dispatching; Push and pull production systems, concepts of Lean and JIT manufacturing systems; Logistics, distribution, and supply chain management. Industrial Engineering Facility Design: Facility location factors and evaluation of alternate locations; Types of plant layout and their evaluation; Computer aided layout design techniques; Assembly line balancing; Materials handling systems.	17	25	45 min	



GATE 2022

Online Test Series

PI

PRODUCTION &
INDUSTRIAL ENGINEERING

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Manufacturing Process-I (1+2+4)	33	50	90 min	10-06-2021
26	Fluid Mechanics	33	50	90 min	
27	Thermodynamics	33	50	90 min	
28	Applied Mechanics	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	TOM & Machine Design	33	50	90 min	10-07-2021
32	Manufacturing Process-II (3+5+6)	33	50	90 min	
33	IC Engine + Heat Transfer	33	50	90 min	
34	Material Science	33	50	90 min	
35	Industrial Engineering + Quality Management + Reliability & Maintenance	33	50	90 min	
36	Operation Research	33	50	90 min	

Multiple Subject Tests

37	Engineering Materials + Applied Mechanics	33	50	90 min	10-08-2021
38	TOM + Machine Design	33	50	90 min	
39	Thermodynamics + Fluid Mechanics & Hydraulic Machines + HMT + IC Engine	33	50	90 min	
40	Manufacturing (1+2+3) + Industrial Engineering	33	50	90 min	
41	Manufacturing (4+5+6) + Operation Research	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	



Detailed Schedule

GATE 2021: Online Test Series

PRODUCTION & INDUSTRIAL ENGG.



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	TOM & Machine Design-1: Analysis of planar mechanisms, cams and followers; governors and fly wheels.	17	25	45 min	Activated
2	TOM & Machine Design-2: design of bolted, riveted and welded joints; interference/shrink fit joints; design of shafts, keys, spur gears, belt drives, brakes and clutches; pressure vessels.	17	25	45 min	
3	Fluid Mechanics: Fluid statics, Bernoulli's equation, flow through pipes, equations of continuity and momentum, capillary action, contact angle and wetting.	17	25	45 min	
4	Thermodynamics: Zeroth, first and second law of thermodynamics, thermodynamic system and processes, calculation of work and heat for systems and control volumes.	17	25	45 min	
5	Applied Mechanics-1: Equivalent force systems, free body concepts, equations of equilibrium; trusses.	17	25	45 min	
6	Applied Mechanics-2: Stress, strain and their relationship; failure theories, Mohr's circle(stress), deflection of beams, bending and shear stress, Euler's theory of columns.	17	25	45 min	
7	Manufacturing Process 1: Types of casting processes and applications; patterns – types and materials; allowances; moulds and cores – materials, making, and testing; casting techniques of cast iron, steels and nonferrous metals and alloys; analysis of solidification and microstructure development; design of gating and riser; origin of defects. Principles of fusion welding processes(manual metal arc, MIG, TIG, plasma arc, submerged arc welding processes)–different heat sources (flame, arc, resistive, laser, electron beam), and heat transfer and associated losses, flux application, feeding of filler rod; Principles of solid state welding processes (friction, explosive welding, ultrasonic welding processes); Principles of adhesive, brazing and soldering processes; Origins of welding defects.	17	25	45 min	
8	Manufacturing Process- 2: Stress-strain relations in elastic and plastic deformation; concept of flow stress; hot and cold working – forging, rolling, extrusion and wire drawing; sheet metal working processes – blanking, bending and deep drawing; ideal work and slab analysis; origin of metal working defects.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Vector Analysis, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods.	17	25	45 min	
11	General Aptitude-1: Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.	17	25	45 min	
12	General Aptitude-2: Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	17	25	45 min	
13	IC Engine: Air standard cycles, Basics of internal combustion engines and steam turbines.	17	25	45 min	Activated
14	Heat Transfer: Basic applications of conduction, convection and radiation.	17	25	45 min	
15	Material Science-1: Structure and properties correlation; engineering materials (metals, ceramics, polymers and composites) – properties and applications; stress-strain behavior of metals and alloys;	17	25	45 min	
16	Material Science-2: Iron-carbon phase diagram, heat treatment of metals and alloys, its influence on mechanical properties.	17	25	45 min	
17	Manufacturing Process- 3: Basic machine tools like centre lathe, milling machine, and drilling machine – construction and kinematics; machining processes - turning, taper turning, thread cutting, drilling, boring, milling, gear cutting, thread production, grinding; geometry of single point cutting tools, chip formation, cutting forces, specific cutting energy and power requirements, Merchant's analysis; basis of selection of machining parameters; tool materials, tool wear and tool life, economics of machining, thermal aspects of machining, cutting fluids, machinability	17	25	45 min	
18	Manufacturing Process- 4: Production of metal/ceramic powders, compaction and sintering of metals and ceramic powders. Polymers and Composites: Plastic processing – injection, compression and blow molding, extrusion, calendaring and thermoforming; molding of composites.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

PRODUCTION & INDUSTRIAL ENGG.



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
19	Manufacturing Process- 5: Jigs and fixtures – principles, applications, and design Metrology and Inspection: Limits, fits, and tolerances, gauge design, interchangeability, selective assembly; linear, angular, and form measurements (straightness, squareness, flatness, roundness, and cylindricity) by mechanical and optical methods; inspection of screw threads and gears; surface finish measurement by contact and non-contact methods; tolerance analysis in manufacturing and assembly.	17	25	45 min	Activated
20	Manufacturing Process- 6: Computer Integrated Manufacturing: Basic concepts of CAD – geometric modeling, CAM – CNC and robotics – configurations, drives and controls, Group Technology and its applications – CAPP, cellular manufacturing and FMS. Non-traditional Manufacturing: Principles, applications, effect of process parameters on MRR and product quality of non-traditional machining processes – USM, AJM, WJM, AWJM, EDM and Wire cut EDM, LBM, EBM, PAM, CHM, ECM.	17	25	45 min	
21	Industrial Engineering-1: Industrial Engineering Operations Research and Operations Management 1 Industrial Engineering : Work system design: Taylor's scientific management, Gilbreth's contributions; productivity – concepts and measurements; method study, micro-motion study, principles of motion economy; work measurement – time study, work sampling, standard data, PMTS; ergonomics; job evaluation, merit rating, incentive schemes, and wage administration., Operations Research and Operations Management Engineering Economy and Costing: Elementary cost accounting and methods of depreciation; break-even analysis, techniques for evaluation of capital investments, financial statements, time-cost trade-off, resource levelling. Inventory – functions, costs, classifications, deterministic inventory models, quantity discount; perpetual and periodic inventory control systems.	17	25	45 min	
22	Industrial Engineering Operations Research and Operations Management 2 Industrial Engineering Product Design and Development: Principles of good product design, tolerance design; quality and cost considerations; product life cycle; standardization, simplification, diversification, value engineering and analysis, concurrent engineering; comparison of production alternatives. Operations Research and Operations Management Project Management PERT/CPM	17	25	45 min	
23	Operations Research and Operations Management Quality and reliability Operations Research and Operations Management Operation Research: Linear programming – problem formulation, simplex method, duality and sensitivity analysis; transportation and assignment models; network flow models, constrained optimization and Lagrange multipliers; Markovian queuing models; dynamic programming; simulation – manufacturing applications. Quality management: Quality – concept and costs; quality assurance; statistical quality control, acceptance sampling, zero defects, six sigma; total quality management; ISO 9000. Reliability and Maintenance: Reliability, availability and maintainability; distribution of failure and repair times; determination of MTBF and MTTR, reliability models; determination of system reliability; preventive maintenance and replacement. Quality Management, Reliability and Maintenance	17	25	45 min	
24	Industrial Engineering Operations Research and Operations Management 3 Operations Research and Operations Management Production control: Forecasting techniques – causal and time series models, moving average, exponential smoothing, trend and seasonality; aggregate production planning; master production scheduling; MRP and MRP-II; routing, scheduling and priority dispatching; Push and pull production systems, concept of JIT manufacturing system; Logistics, distribution, and supply chain management; Industrial Engineering Facility Design: Facility location factors and evaluation of alternate locations; types of plant layout and their evaluation; computer aided layout design techniques; assembly line balancing; materials handling systems.	17	25	45 min	



Detailed Schedule

GATE 2021: Online Test Series

PRODUCTION & INDUSTRIAL ENGG.



Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
25	TOM & Machine Design	33	50	90 min	Activated
26	Fluid Mechanics	33	50	90 min	
27	Thermodynamics	33	50	90 min	
28	Applied Mechanics	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Manufacturing Process-I (1+2+4)	33	50	90 min	Activated
32	Manufacturing Process-II (3+5+6)	33	50	90 min	
33	IC Engine + Heat Transfer	33	50	90 min	
34	Material Science	33	50	90 min	
35	Industrial Engineering + Quality Management + Reliability & Maintenance	33	50	90 min	
36	Operation Research	33	50	90 min	

Multiple Subject Tests

37	Engineering Materials + Applied Mechanics	33	50	90 min	Activated
38	TOM + Machine Design	33	50	90 min	
39	Thermodynamics + Fluid Mechanics & Hydraulic Machines + HMT + IC Engine	33	50	90 min	
40	Manufacturing (1+2+3) + Industrial Engineering	33	50	90 min	
41	Manufacturing (4+5+6) + Operation Research	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	Activated
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	Activated
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	Activated
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	



GATE 2022

Online Test Series

CH

CHEMICAL ENGINEERING

Topicwise Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Time	Activation Date
1	Heat Transfer-1: Equation of energy, steady and unsteady heat conduction, convection.	17	25	45 min	10-04-2021
2	Heat Transfer-2: Radiation, thermal boundary layer and heat transfer coefficients, boiling, condensation and evaporation; types of heat exchangers and evaporators and their process calculations; design of double pipe, shell and tube heat exchangers, and single and multiple effect evaporators.	17	25	45 min	
3	Chemical Reaction Engineering-1: Theories of reaction rates; kinetics of homogeneous reactions, interpretation of kinetic data, single and multiple reactions in ideal reactors.	17	25	45 min	
4	Chemical Reaction Engineering-2: Non-ideal reactors; residence time distribution, single parameter model; non-isothermal reactors.	17	25	45 min	
5	Chemical Reaction Engineering-3: Kinetics of enzyme reactions (Michaelis-Menten and Monod models); kinetics of heterogeneous catalytic reactions; diffusion effects in catalysis; rate and performance equations for catalyst deactivation.	17	25	45 min	
6	Fluid Mechanics-1: Fluid statics, surface tension, Newtonian and non-Newtonian fluids, transport properties, shell-balances including differential form of Bernoulli equation and energy balance, equation of continuity, equation of motion, equation of mechanical energy, Macroscopic friction factors, dimensional analysis and similitude.	17	25	45 min	
7	Fluid Mechanics-2: Flow through pipeline systems, velocity profiles, flow meters, pumps and compressors, elementary boundary layer theory, flow past immersed bodies including packed and fluidized beds, Turbulent flow: fluctuating velocity, universal velocity profile and pressure drop.	17	25	45 min	
8	Mechanical Operations-3: Particle size and shape, particle size distribution, size reduction and classification of solid particles; free and hindered settling; centrifuge and cyclones; thickening and classification, filtration, agitation and mixing; conveying of solids.	17	25	45 min	
9	Engineering mathematics-1: Linear Algebra, Calculus, Probability and Statistics.	17	25	45 min	
10	Engineering mathematics-2: Differential Equations, Complex Analysis, Numerical Methods.	17	25	45 min	
11	General Aptitude (Part-1): Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	10-05-2021
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	Plant Design and Economics-1: Principles of process economics and cost estimation including depreciation and total annualized cost, cost indices, rate of return, payback period.	17	25	45 min	
14	Plant Design and Economics-2: Discounted cash flow, optimization in process design and sizing of chemical engineering equipments such as heat exchangers and multistage contactors.	17	25	45 min	
15	Instrumentation and Process Control-1: Measurement of process variables; sensors and transducers; P & ID equipment symbols; process modeling and linearization, transfer functions and dynamic responses of various systems, systems with inverse response.	17	25	45 min	
16	Instrumentation and Process Control-2: Process reaction curve, controller modes (P, PI, and PID); control valves; transducer dynamics; analysis of closed loop systems including stability, frequency response, controller tuning, cascade and feed forward control.	17	25	45 min	
17	Thermodynamics and Process Calculations-1: Steady and unsteady state mass and energy balances including multiphase, multi-component, reacting and non-reacting systems. Use of tie components; recycle, bypass and purge calculations; Gibbs' phase rule and degree of freedom analysis.	17	25	45 min	
18	Thermodynamics and Process Calculations-2: First and Second laws of thermodynamics. Applications of first law to close and open systems. Second law and Entropy. Thermodynamic properties of pure substances.	17	25	45 min	
19	Thermodynamics and Process Calculations-3: Equation of State and residual properties, properties of mixtures: partial molar properties, fugacity, excess properties and activity coefficients; phase equilibria: predicting VLE of systems; chemical reaction equilibrium.	17	25	45 min	
20	Chemical Technology-1: Inorganic chemical industries (sulfuric acid, phosphoric acid, chlor-alkali industry), fertilizers (Ammonia, Urea, SSP and TSP); natural products industries (Pulp and Paper, Sugar, Oil, and Fats).	17	25	45 min	
21	Chemical Technology-2: Petroleum refining and petrochemicals; polymerization industries (polyethylene, polypropylene, PVC and polyester synthetic fibers).	17	25	45 min	
22	Mass Transfer-1: Fick's laws, molecular diffusion in fluids, mass transfer coefficients, film, penetration and surface renewal theories; momentum, heat and mass transfer analogies.	17	25	45 min	
23	Mass Transfer-2: Stage-wise and continuous contacting and stage efficiencies; HTU & NTU concepts; design and operation of equipment for distillation, absorption.	17	25	45 min	
24	Mass Transfer-3: Leaching, liquid-liquid extraction, drying, humidification, dehumidification and adsorption, membrane separations (micro-filtration, ultra-filtration, nano-filtration and reverse osmosis).	17	25	45 min	



GATE 2022

Online Test Series

CH

CHEMICAL ENGINEERING

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Thermodynamics	33	50	90 min	10-06-2021
26	Heat Transfer	33	50	90 min	
27	Chemical Reaction Engineering	33	50	90 min	
28	Process Calculation and Mechanical Operation	33	50	90 min	
29	Engineering Mathematics	33	50	90 min	
30	General Aptitude	33	50	90 min	
31	Instrumentation and Process Control	33	50	90 min	10-07-2021
32	Fluid Mechanics	33	50	90 min	
33	Mass Transfer	33	50	90 min	
34	Instrument and Process Control	33	50	90 min	
35	Plant Design and Economics	33	50	90 min	
36	Chemical Technology	33	50	90 min	

Multiple Subject Tests

37	Thermodynamics + Process Control	33	50	90 min	10-08-2021
38	Chemical Reaction Engineering + Plant Design and Economics	33	50	90 min	
39	Mass Transfer + Chemical Technology	33	50	90 min	
40	Heat Transfer + Mechanical Operations	33	50	90 min	
41	Instrumentation Process Control + Fluid Mechanics	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	10-09-2021
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	30-09-2021
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	

Candidate has to upload GATE-2022 Admit Card to access below mentioned tests

51	GATE Mock Test 1	65	100	180 min	
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	

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