GATE-2021 Online Test Series

Mechanical Engineering - Schedule

No.of Test : 64 (24 Topic wise Tests + 28 Grand Tests + 12 Full Length Mock Tests)

+ *Free* 53 practice Tests of GATE-2020 Online Test Series

Topic wise Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-01	**Engineering Mathematics-1:** Linear Algebra, Calculus, Differential Equations	15	25	45 mins	03-06-2020
Test-02	**Engineering Mathematics-2:** Complex Variables, Numerical Methods and Probability and Statistics.	15	25	45 mins	
Test-03	**Engineering Mechanics:** Free-body diagrams and equilibrium; friction and its application including rolling friction, belt-pulley, brakes, clutches, screw jack, wedge, vehicles, etc.; trusses and frames; virtual work; kinematics and dynamics of rigid bodies in plane motion; impulse and momentum (linear and angular) and energy formulations, Lagrange's equation.	15	25	45 mins	
Test-04	**Heat Transfer-1:** Modes of heat transfer; one dimensional heat conduction, resistance concept and electrical analogy, heat transfer through fins; 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;	15	25	45 mins	
Test-05	**Heat Transfer-2:** Unsteady heat conduction, lumped parameter system, Heisler's charts; 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.	15	25	45 mins	
Test-06	**Theory of Machines and Vibrations-1:** Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of linkages; flywheels; Cams; gears and gear trains;	15	25	45 mins	12-06-2020
Test-07	**Theory of Machines and Vibrations-2:** Governors; balancing of reciprocating and rotating masses; gyroscope. *Vibrations:* Free and forced vibration of single degree of freedom systems, effect of damping; vibration isolation; resonance; critical speeds of shafts.	15	25	45 mins	
Test-08	**Thermodynamics-1:** Thermodynamic systems and processes; behaviour of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes; second law of thermodynamics;	15	25	45 mins	
Test-09	**Thermodynamics-2:** Properties of pure substances,Thermodynamic property charts and tables, availability and irreversibility; thermodynamic relations. vapour and gas power cycles, concepts of regeneration and reheat.	15	25	45 mins	
Test-10	**Thermodynamics-3:** Air and gas compressors; I.C. Engines: Air-standard Otto, Diesel and dual cycles. Refrigeration and air-conditioning: Vapour and gas refrigeration and heat pump cycles; properties of moist air, psychrometric chart, basic psychrometric processes.	15	25	45 mins	
Test-11	**Strength of Materials-1:** Stress and strain, elastic constants, Poisson's ratio; Mohr’s circle for plane stress and plane strain; shear force and bending moment diagrams; thermal stresses; strain gauges and rosettes; testing of materials with universal testing machine; testing of hardness and impact strength	15	25	45 mins	19-06-2020
Test-12	**Strength of Materials-2:** Bending and shear stresses; concept of shear centre; deflection of beams; torsion of circular shafts; Euler’s theory of columns; energy methods; thin cylinders.	15	25	45 mins	
Test-13	**Fluid Mechanics-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; Bernoulli’s equation.	15	25	45 mins	
Test-14	**Fluid Mechanics-2:** Viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends and fittings.	15	25	45 mins	
Test-15	**Fluid Mechanics-3:** Dimensional analysis; Basics of compressible fluid flow; Turbomachinery: Impulse and reaction principles, velocity diagrams, Pelton-wheel, Francis and Kaplan turbines, Steam and gas turnine	15	25	45 mins	

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-16	**Machine Design-1:** Design for static and dynamic loading; failure theories; fatigue strength and the S-N diagram; principles of the design of machine elements such as bolted, riveted and welded joints;	15	25	45 mins	26-06-2020
Test-17	**Machine Design-2:** Shafts, gears, rolling and sliding contact bearings, brakes and clutches, springs.	15	25	45 mins	
Test-18	**Production-1:** *Casting, Forming and Joining Processes* : 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.	15	25	45 mins	
Test-19	**Production-2:** *Machining and Machine Tool Operations* : 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, jigs and fixtures; abrasive machining processes; NC/CNC machines and CNC programming. Computer Integrated Manufacturing: Basic concepts of CAD/CAM and their integration tools; *additive manufacturing.*	15	25	45 mins	
Test-20	**Production-3:** *Metrology and Inspection* : 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)* .Engineering Materials: Structure and properties of engineering materials, phase diagrams, heat treatment, stress-strain diagrams for engineering materials.	15	25	45 mins	
Test-21	**Industrial Management and Operational Research-1:** Forecasting models, aggregate production planning, scheduling, materials requirement planning; lean manufacturing; Inventory Control: Deterministic models; safety stock inventory control systems.	15	25	45 mins	03-07-2020
Test-22	**Industrial Management and Operational Research-2:** Linear programming, simplex method, transportation, assignment, network flow models, simple queuing models, PERT and CPM.	15	25	45 mins	
Test-23	**Verbal Ability:** Basic English grammar: tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech Basic vocabulary: words, idioms, and phrases in context Reading and comprehension Narrative sequencing	15	25	45 mins	
Test-24	**Numarical Ability:** Quantitative Aptitude: Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series Mensuration and geometry Elementary statistics and probability. Analytical Aptitude: Logic: deduction and induction Analogy Numerical relations and reasoning Spatial Aptitude: Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping Paper folding, cutting, and patterns in 2 and 3 dimensions.	15	25	45 mins	

Subject Wise Grand Tests - 1st Series

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-25	Engineering Mathematics	30	50	90 mins	17-07-2020
Test-26	Thermodynamics	30	50	90 mins	
Test-27	Heat Transfer	30	50	90 mins	24-07-2020
Test-28	Fluid Mechanics & Turbo Machinery	30	50	90 mins	
Test-29	Engineering Mechanics	30	50	90 mins	31-07-2020
Test-30	Strength of Materials	30	50	90 mins	
Test-31	Theory of Machines and Vibrations	30	50	90 mins	07-08-2020
Test-32	Machine Design	30	50	90 mins	
Test-33	Production	30	50	90 mins	13-08-2020
Test-34	Industrial Management and Operational Research	30	50	90 mins	
Test-35	General Aptitude	30	50	90 mins	

Full Length Mock GATE Test - 1st Series (As per GATE pattern)

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-36	Full Length GATE Mock Test-1	65	100	180 mins	21-08-2020
Test-37	Full Length GATE Mock Test-2	65	100	180 mins	28-08-2020
Test-38	Full Length GATE Mock Test-3	65	100	180 mins	04-09-2020

Subject Wise Grand Tests - 2nd Series

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-39	Engineering Mathematics	30	50	90 mins	11-09-2020
Test-40	Thermodynamics	30	50	90 mins	
Test-41	Heat Transfer	30	50	90 mins	18-09-2020
Test-42	Fluid Mechanics & Turbo Machinery	30	50	90 mins	
Test-43	Engineering Mechanics	30	50	90 mins	25-09-2020
Test-44	Strength of Materials	30	50	90 mins	
Test-45	Theory of Machines and Vibrations	30	50	90 mins	02-10-2020
Test-46	Machine Design	30	50	90 mins	
Test-47	Production	30	50	90 mins	09-10-2020
Test-48	Industrial Management and Operational Research	30	50	90 mins	
Test-49	General Aptitude	30	50	90 mins	

Full Length Mock GATE Tests- 2nd Series

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-50	Full Length GATE Mock Test-4	65	100	180 mins	16-10-2020
Test-51	Full Length GATE Mock Test-5	65	100	180 mins	23-10-2020
Test-52	Full Length GATE Mock Test-6	65	100	180 mins	30-10-2020

Multi-Subject Wise Grand Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-53	Strength of Materials & Engineering Mechanics	30	50	90 mins	06-11-2020
Test-54	Fluid Mechanics & Turbo Machinery, Heat Transfer	30	50	90 mins	
Test-55	Thermodynamics	30	50	90 mins	13-11-2020
Test-56	Machine Design & Theory of Machines and Vibrations	30	50	90 mins	
Test-57	Production & Industrial Management and Operational Research	30	50	90 mins	20-11-2020
Test-58	Engineering Mathematics & General Aptitude	30	50	90 mins	

Full Length Mock GATE Tests - 3rd Series

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-59	Full Length GATE Mock Test-7	65	100	180 mins	04-12-2020
Test-60	Full Length GATE Mock Test-8	65	100	180 mins	11-12-2020
Test-61	Full Length GATE Mock Test-9	65	100	180 mins	06-01-2021
Test-62	Full Length GATE Mock Test-10	65	100	180 mins	13-01-2021
Test-63	Full Length GATE Mock Test-11	65	100	180 mins	20-01-2021
Test-64	Full Length GATE Mock Test-12	65	100	180 mins	27-01-2021

Free Practice Tests of GATE-2020 Online Test Series

Topic wise Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
ME_P01	**Engineering Mathematics-1:** Linear Algebra, Calculus, Differential Equations	15	25	45 mins	20-04-2020
ME_P02	**Engineering Mathematics-2:** Complex Variables, Numerical Methods and Probability and Statistics.	15	25	45 mins	
ME_P03	**Engineering Mechanics:** Free-body diagrams and equilibrium; trusses and frames; virtual work; kinematics and dynamics of particles and of rigid bodies in plane motion; impulse and momentum (linear and angular) and energy formulations, collisions.	15	25	45 mins	
ME_P04	**Heat Transfer-1:** Modes of heat transfer; one dimensional heat conduction, resistance concept and electrical analogy, heat transfer through fins; 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;	15	25	45 mins	
ME_P05	**Heat Transfer-2:** Unsteady heat conduction, lumped parameter system, Heisler's charts; 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.	15	25	45 mins	
ME_P06	**Theory of Machines and Vibrations-1:** Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of linkages; flywheels; Cams; gears and gear trains;	15	25	45 mins	
ME_P07	**Theory of Machines and Vibrations-2:** Governors; balancing of reciprocating and rotating masses; gyroscope. *Vibrations:* Free and forced vibration of single degree of freedom systems, effect of damping; vibration isolation; resonance; critical speeds of shafts.	15	25	45 mins	
ME_P08	**Thermodynamics-1:** Thermodynamic systems and processes; behaviour of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes; second law of thermodynamics;	15	25	45 mins	
ME_P09	**Thermodynamics-2:** Properties of pure substances,Thermodynamic property charts and tables, availability and irreversibility; thermodynamic relations. vapour and gas power cycles, concepts of regeneration and reheat.	15	25	45 mins	
ME_P10	**Thermodynamics-3:** Air and gas compressors; I.C. Engines: Air-standard Otto, Diesel and dual cycles. Refrigeration and air-conditioning: Vapour and gas refrigeration and heat pump cycles; properties of moist air, psychrometric chart, basic psychrometric processes.	15	25	45 mins	
ME_P11	**Strength of Materials-1:** Stress and strain, elastic constants, Poisson's ratio; Mohr's circle for plane stress and plane strain; shear force and bending moment diagrams; thermal stresses; strain gauges and rosettes; testing of materials with universal testing machine; testing of hardness and impact strength	15	25	45 mins	
ME_P12	**Strength of Materials-2:** Bending and shear stresses; deflection of beams; torsion of circular shafts; Euler's theory of columns; energy methods; thin cylinders.	15	25	45 mins	
ME_P13	**Fluid Mechanics-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; Bernoulli's equation.	15	25	45 mins	
ME_P14	**Fluid Mechanics-2:** Viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends and fittings.	15	25	45 mins	

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
ME_P15	**Fluid Mechanics-3:** Dimensional analysis; Turbomachinery: Impulse and reaction principles, velocity diagrams, Pelton-wheel, Francis and Kaplan turbines.	15	25	45 mins	20-04-2020
ME_P16	**Machine Design-1:** Design for static and dynamic loading; failure theories; fatigue strength and the S-N diagram; principles of the design of machine elements such as bolted, riveted and welded joints;	15	25	45 mins	
ME_P17	**Machine Design-2:** Shafts, gears, rolling and sliding contact bearings, brakes and clutches, springs.	15	25	45 mins	
ME_P18	***Production-1:*** *Casting:* Different types of castings, design of patterns, moulds and cores; solidification and cooling; riser and gating design. *Forming and Joining Processes:* 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 welding, brazing, soldering and adhesive bonding.	15	25	45 mins	
ME_P19	***Production-2:*** *Machining and Machine Tool Operations:* 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.*Computer Integrated Manufacturing:* Basic concepts of CAD/CAM and their integration tools.	15	25	45 mins	
ME_P20	***Production-3:*** *Metrology and Inspection:* 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. Principles of powder metallurgy. *Engineering Materials:* Structure and properties of engineering materials, phase diagrams, heat treatment, stress-strain diagrams for engineering materials.	15	25	45 mins	
ME_P21	**Industrial Management and Operational Research-1:** Forecasting models, aggregate production planning, scheduling, materials requirement planning. Inventory Control: Deterministic models; safety stock inventory control systems.	15	25	45 mins	
ME_P22	**Industrial Management and Operational Research-2:** Linear programming, simplex method, transportation, assignment, network flow models, simple queuing models, PERT and CPM.	15	25	45 mins	
ME_P23	**Verbal Ability:** English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	15	25	45 mins	
ME_P24	**Numarical Ability:** Numerical computation, numerical estimation, numerical reasoning and data interpretation.	15	25	45 mins	

Subject Wise Grand Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
ME_P25	Engineering Mathematics	30	50	90 mins	20-04-2020
ME_P26	Engineering Mechanics	30	50	90 mins	
ME_P27	Heat Transfer	30	50	90 mins	
ME_P28	Theory of Machines and Vibrations	30	50	90 mins	
ME_P29	Thermodynamics	30	50	90 mins	
ME_P30	Strength of Materials	30	50	90 mins	
ME_P31	Fluid Mechanics & Turbo Machinery	30	50	90 mins	
ME_P32	Machine Design	30	50	90 mins	
ME_P33	Production	30	50	90 mins	
ME_P34	Industrial Management and Operational Research	30	50	90 mins	
ME_P35	General Aptitude	30	50	90 mins	

Multi-Subject Wise Grand Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
ME_P36	Strength of Materials & Engineering Mechanics	30	50	90 mins	20-04-2020
ME_P37	Fluid Mechanics & Turbo Machinery, Heat Transfer	30	50	90 mins	
ME_P38	Thermodynamics	30	50	90 mins	
ME_P39	Machine Design & Theory of Machines and Vibrations	30	50	90 mins	
ME_P40	Production & Industrial Management and Operational Research	30	50	90 mins	
ME_P41	Engineering Mathematics & General Aptitude	30	50	90 mins	

Full Length Mock GATE Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
ME_P42	Full Length GATE Mock Test-1	65	100	180 mins	20-04-2020
ME_P43	Full Length GATE Mock Test-2	65	100	180 mins	
ME_P44	Full Length GATE Mock Test-3	65	100	180 mins	
ME_P45	Full Length GATE Mock Test-4	65	100	180 mins	
ME_P46	Full Length GATE Mock Test-5	65	100	180 mins	
ME_P47	Full Length GATE Mock Test-6	65	100	180 mins	
ME_P48	Full Length GATE Mock Test-7	65	100	180 mins	
ME_P49	Full Length GATE Mock Test-8	65	100	180 mins	
ME_P50	Full Length GATE Mock Test-9	65	100	180 mins	
ME_P51	Full Length GATE Mock Test-10	65	100	180 mins	
ME_P52	Full Length GATE Mock Test-11	65	100	180 mins	
ME_P53	Full Length GATE Mock Test-12	65	100	180 mins	