



GATE 2023 ONLINE TEST SERIES



ELECTRICAL ENGINEERING

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, star delta transformation.	17	25	45 min	15-03-2022
2	Electric Circuits (Part-2) : Transient response of dc and ac networks, Resonance, Two port networks, balanced three phase circuits,.	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	1-04-2022
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, Corelation and regression analysis.	17	25	45 min	
10	Engineering Mathematics (Part-2) : Differential Equations, Complex Analysis, Fourier Series, Probability and Statistics.	17	25	45 min	
11	General Aptitude (Part-1) : Numerical Ability, Numerical computation, numerical estimation, and data interpretation.	17	25	45 min	
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	15-04-2022
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 circuits, Multiplexers, Demultiplexers.	17	25	45 min	1-05-2022
20	Digital Electronics (Part-2) : Sample and hold circuits, A/D and D/A converters, 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 2023 ONLINE TEST SERIES



ELECTRICAL ENGINEERING

Single Subject Tests

Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Electric Circuits	33	50	90 min	01-06-2022
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	01-07-2022
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	01-08-2022
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	01-09-2022
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	01-10-2022
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	15-10-2022
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	