ACE Engineering Academy
Leading Institute for ESE/GATE/PSUs
Since 1995

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GATE-2027

Online Test Series

Instrumentation Engineering Schedule

No.of Tests : 54 + 54 *free* practice tests of GATE-2026 Online Test Series		
	GATE - 2027 Test Series	Practice Tests GATE - 2026 OTS
Topic wise Tests	25	25
Grand Tests (Subject Wise Tests + Multi-Subject Wise Tests)	17	17
Full Length Mock Tests	12	12
Total Tests - 108		

Note:

★ The syllabus followed is based on the previous notification of GATE. ACE Engineering Academy will not be responsible for any deviations in the syllabus in the final GATE-2027 examination.

★ The dates of the tests may change depending on the official GATE-2027 examination schedule.

★ All tests will be activated at 6:00 PM on the scheduled date.

★ All tests will remain active until the GATE-2027 examination.

Topic wise Tests

(No.of Questions: 15, Time duration: 42 Minutes and Marks: 25 M)

Test No	Name of the Test	Date of Activation
Test-01	**Engineering Mathematics-1:** Linear Algebra: Matrix algebra, systems of linear equations, consistency and rank, Eigen values and Eigen vectors. Calculus: Mean value theorems, theorems of integral calculus, partial derivatives, maxima and minima, multiple integrals, Fourier series, vector identities, line, surface and volume integrals, Stokes, Gauss and Green's theorems. Numerical Methods: Matrix inversion, solutions of non-linear algebraic equations, iterative methods for solving differential equations, numerical integration, regression and correlation analysis.	13-04-2026
Test-02	**Engineering Mathematics-2:** Differential equations: First order equation (linear and nonlinear), second order linear differential equations with constant coefficients, method of variation of parameters, Cauchy's and Euler's equations, initial and boundary value problems, solution of partial differential equations: variable separable method. Analysis of complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent's series, residue theorem, solution of integrals. Probability and Statistics: Sampling theorems, conditional probability, mean, median, mode, standard deviation and variance; random variables: discrete and continuous distributions: normal, Poisson and binomial distributions.	
Test-03	**Control Systems-1:** Feedback principles, signal flow graphs, transient response, steady-state-errors, Routh criteria, root loci.	20-04-2026
Test-04	**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; mechanical, hydraulic and pneumatic system components, synchro pair, servo and stepper motors, servo valves; on-off, P, P-I, P-I-D, cascade, feed forward, and ratio controllers,tuning of PID controllers and sizing of control valves.	
Test-05	**Signals and Systems-1:** Periodic, aperiodic and impulse signals; Fourier transform. transfer function, frequency response of first and second order linear time invariant systems, impulse response of systems; convolution, correlation.	
Test-06	**Signals and Systems-2:** Laplace,and z-transforms; Discrete time system: impulse response, frequency response, pulse transfer function; DFT and FFT; basics of IIR and FIR filters.	

Test No	Name of the Test	Date of Activation
Test-07	**Electrical Circuits and Machines-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.	
Test-08	**Electrical Circuits and Machines-2:** Peak-, average- and rms values of ac quantities; apparent-, active- and reactive powers; phasor analysis, impedance and admittance; series and parallel resonance, locus diagrams, realization of basic filters with R, L and C elements.transient analysis of RLC circuits with ac excitation. Transient analysis of RLC circuits with dc excitation. One-port and two-port networks, driving point impedance and admittance, open-, and short circuit parameters.	27-04-2026
Test-09	**Electrical Circuits and Machines-3 :** Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency; Three phase induction motors: principle of operation, types, performance, torque-speed characteristics, no-load and blocked rotor tests, equivalent circuit, starting and speed control; Types of losses and efficiency calculations of electric machines.	
Test-10	**Digital Electronics-1:** Combinational logic circuits, minimization of Boolean functions. Arithmetic circuits, comparators. multiplexer, basics of number systems.	
Test-11	**Digital Electronics-2:** Sample-and-hold circuit, 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); sequential circuits, flip- flops, shift registers, timers and counters; IC families: TTL and CMOS. Schmitt trigger, multi-vibrators.	04-05-2026
Test-12	**Digital Electronics-3:** 8-bit 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).	
Test-13	**Analog Electronics-1:** Characteristics and applications of diode, Zener diode, BJT and MOSFET; small signal analysis of transistor circuits, feedback amplifiers.	
Test-14	**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.	11-05-2026

Test No	Name of the Test	Date of Activation
Test-15	**Electricity and Magnetism:** 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, 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.	18-05-2026
Test-16	**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, pressure (including low pressure).	
Test-17	**Sensors and Industrial Instrumentation-2:** Flow (differential pressure, variable area, electromagnetic, ultrasonic, turbine and open channel flow meters)	
Test-18	**Sensors and Industrial Instrumentation-3:** Temperature (thermocouple, bolometer, RTD (3/4 wire), thermistor, pyrometer and semiconductor); liquid level, pH, conductivity and viscosity measurement. 4-20 mA two-wire transmitter.	
Test-19	**Communication and Optical instrumentation-1:** Amplitude- and frequency modulation and demodulation; Shannon's sampling theorem, pulse code modulation; frequency and time division multiplexing, amplitude-, phase-, frequency-,quadrature amplitude, pulse shift keying for digital modulation.	25-05-2026
Test-20	**Communication and Optical instrumentation-2:** Optical sources and detectors: LED, laser, photo-diode, light dependent resistor,square law detectors and their characteristics; interferometer: applications in metrology; basics of fiber optic sensing,UV-VIS Spectro photometers, Mass spectrometer.	
Test-21	**Measurements-1:** SI units,standards (R,L,C, voltage, current and frequency), systematic and random errors in measurement, expression of uncertainty - accuracy and precision index, propagation of errors,linear and weighted regression. ; Bridges: Wheatstone, Kelvin, Megohm, Maxwell, Anderson, Schering and Wien for measurement of R, L, C and frequency, Q-meter.	01-06-2026
Test-22	**Measurements-2:** Measurement of voltage, current and power in single and three phase circuits; ac and dc current probes; true rms meters, voltage and current scaling, instrument transformers, timer/counter, time, phase and frequency measurements, digital voltmeter, digital multimeter; oscilloscope, shielding and grounding.	

Test No	Name of the Test	Date of Activation
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.	
Test-24	**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.	08-06-2026
Test-25	**Analytical Aptitude:** Logic: deduction and induction, Analogy, Numerical relations and reasoning **Spatial Aptitude:** Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping Paper folding, cutting, and patterns in 2 and 3 dimensions	

Subject Wise Grand Tests *(No.of Questions: 30, Time duration: 83 Minutes and Marks: 50 M)*		
Test-26	Engineering Mathematics	15-06-2026
Test-27	Control Systems	
Test-28	Signals and Systems	22-06-2026
Test-29	Digital Electronics	
Test-30	Electrical Circuits and Machines	29-06-2026
Test-31	Sensors & Industrial Instrumentation	
Test-32	Analog Electronics	06-07-2026
Test-33	Communication & Optical instrumentation	
Test-34	Electricity and Magnetism	13-07-2026
Test-35	Measurements	
Test-36	General Aptitude	20-07-2026

Test No	Name of the Test	Date of Activation
Full Length Mock Test - 1st Series *(No.of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*		
Test-37	Full Length Mock Test-1	03-08-2026
Test-38	Full Length Mock Test-2	10-08-2026
Test-39	Full Length Mock Test-3	17-08-2026
Test-40	Full Length Mock Test-4	24-08-2026
Test-41	Full Length Mock Test-5	31-08-2026
Test-42	Full Length Mock Test-6	07-09-2026
Multi-Subject Wise Grand Tests *(No.of Questions: 30, Time duration: 83 Minutes and Marks: 50 M)*		
Test-43	Electrical Circuits and Machines and Electricity and Magnetism	28-09-2026
Test-44	Control Systems and Signals and Systems	
Test-45	Communication and Optical Instrumentation	05-10-2026
Test-46	Sensors and Industrial Instrumentation and Digital Electronics	
Test-47	Measurements & Analog Electronics	12-10-2026
Test-48	Engineering Mathematics & General Aptitude	
Full Length Mock Test -2nd Series *(No.of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*		
Test-49	Full Length Mock Test-7	26-10-2026
Test-50	Full Length Mock Test-8	02-11-2026
Test-51	Full Length Mock Test-9	09-11-2026
Test-52	Full Length Mock Test-10	16-11-2026
Test-53	Full Length Mock Test-11	28-12-2026
Test-54	Full Length Mock Test-12	04-01-2027

Free Practice Tests

Topic wise Tests

(No.of Questions: 15, Time duration: 42 Minutes and Marks: 25 M)

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Test-01	**Engineering Mathematics-1:** Linear Algebra: Matrix algebra, systems of linear equations, consistency and rank, Eigen values and Eigen vectors. Calculus: Mean value theorems, theorems of integral calculus, partial derivatives, maxima and minima, multiple integrals, Fourier series, vector identities, line, surface and volume integrals, Stokes, Gauss and Green's theorems. Numerical Methods: Matrix inversion, solutions of non-linear algebraic equations, iterative methods for solving differential equations, numerical integration, regression and correlation analysis.	25-03-2026
Test-02	**Engineering Mathematics-2:** Differential equations: First order equation (linear and nonlinear), second order linear differential equations with constant coefficients, method of variation of parameters, Cauchy's and Euler's equations, initial and boundary value problems, solution of partial differential equations: variable separable method. Analysis of complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent's series, residue theorem, solution of integrals. Probability and Statistics: Sampling theorems, conditional probability, mean, median, mode, standard deviation and variance; random variables: discrete and continuous distributions: normal, Poisson and binomial distributions.	
Test-03	**Control Systems-1:** Feedback principles, signal flow graphs, transient response, steady-state-errors, Routh criteria, root loci.	
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Test-08	**Electrical Circuits and Machines-2:** Peak-, average- and rms values of ac quantities; apparent-, active- and reactive powers; phasor analysis, impedance and admittance; series and parallel resonance, locus diagrams, realization of basic filters with R, L and C elements.transient analysis of RLC circuits with ac excitation. Transient analysis of RLC circuits with dc excitation. One-port and two-port networks, driving point impedance and admittance, open-, and short circuit parameters.	
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Test-27	Control Systems	
Test-28	Signals and Systems	
Test-29	Digital Electronics	
Test-30	Electrical Circuits and Machines	
Test-31	Sensors & Industrial Instrumentation	
Test-32	Analog Electronics	
Test-33	Communication & Optical instrumentation	
Test-34	Electricity and Magnetism	
Test-35	Measurements	
Test-36	General Aptitude	

Test No	Name of the Test	Date of Activation
Multi-Subject Wise Grand Tests *(No.of Questions: 30, Time duration: 83 Minutes and Marks: 50 M)*		
Test-37	Electrical Circuits and Machines and Electricity and Magnetism	01-04-2026
Test-38	Control Systems and Signals and Systems	
Test-39	Communication and Optical Instrumentation	
Test-40	Sensors and Industrial Instrumentation and Digital Electronics	
Test-41	Measurements & Analog Electronics	
Test-42	Engineering Mathematics & General Aptitude	

Full Length Mock Tests *(No.of Questions: 65, Time duration: 180 Minutes and Marks: 100 M)*		
Test-43	Full Length Mock Test-1	10-04-2026
Test-44	Full Length Mock Test-2	
Test-45	Full Length Mock Test-3	
Test-46	Full Length Mock Test-4	
Test-47	Full Length Mock Test-5	
Test-48	Full Length Mock Test-6	
Test-49	Full Length Mock Test-7	
Test-50	Full Length Mock Test-8	
Test-51	Full Length Mock Test-9	
Test-52	Full Length Mock Test-10	
Test-53	Full Length Mock Test-11	
Test-54	Full Length Mock Test-12	