GATE-2021 Online Test Series

Electronics and Communication Engineering - Schedule

No.of Test : 64 (22 Topic wise Tests + 30 Grand Tests + 12 Full Length Mock Tests)

+ *Free* 54 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 and Vector Analysis.	15	25	45 mins	03-06-2020
Test-02	**Engineering Mathematics-2:** Complex Anaysis, Probability and Statistics.	15	25	45 mins	
Test-03	**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 stability criteria, root-locus plot.	15	25	45 mins	
Test-04	**Control Systems-2:** Frequency response; Nyquist stability criteria; Bode Plot, Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.	15	25	45 mins	
Test-05	**Signals and Systems -1:** Introduction to signals, LTI systems: definition and properties, causality, stability, impulse response, convolution. Fourier series and Fourier transform representations. sampling theorem and applications. Frequency response, group delay and phase delay.	15	25	45 mins	10-06-2020
Test-06	**Signals and Systems -2:** Laplace transform, discrete-time Fourier transform (DTFT), DFT, Z-transform, poles and zeros, discrete-time processing of continuous-time signals.	15	25	45 mins	
Test-07	**Digital Circuits-1:** 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.	15	25	45 mins	
Test-08	**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.	15	25	45 mins	
Test-09	**Digital Circuits-3:** Semiconductor memories: ROM, SRAM, DRAM Computer organization: Machine instructions and addressing modes, ALU, data-path and control unit, instruction pipelining.	15	25	45 mins	
Test-10	**Networks-1:** Circuit analysis: Node and mesh analysis, superposition, Thevenin's theorem, Norton's theorem, reciprocity, maximum power transfer, wye-delta transformation	15	25	45 mins	17-06-2020
Test-11	**Networks-2:** Sinusoidal steady state analysis: phasors, complex power, Time and frequency domain analysis of linear circuits: RL, RC and RLC circuits, solution of network equations using Laplace transform. Linear 2-port network parameters	15	25	45 mins	
Test-12	**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, BJT. Direct and Indiect band-gap semiconductor.	15	25	45 mins	
Test-13	**Electronic Devices-2:** MOS capacitor, MOSFET, LED, photo diode and solar cell;	15	25	45 mins	
Test-14	**Analog Circuits-1:** Diode circuits: clipping, clamping and rectifiers. BJT and MOSFET amplifiers: biasing, ac coupling, small signal analysis, frequency response, Current mirrors.	15	25	45 mins	24-06-2020
Test-15	**Analog Circuits-2:** Op-amp circuits: Amplifiers, summers, differentiators, integrators, active filters, Schmitt triggers and oscillators. Differential amplifiers.	15	25	45 mins	

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-16	**Communications-1:** Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers.	15	25	45 mins	24-06-2020
Test-17	**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.	15	25	45 mins	
Test-18	**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.	15	25	45 mins	
Test-19	**Electromagnetics-1:** Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth.	15	25	45 mins	01-07-2020
Test-20	**Electromagnetics-2:** Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Rectangular and circular waveguides, light propagation in optical fibers, dipole and monopole antennas, linear antenna arrays.	15	25	45 mins	
Test-21	**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-22	**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-23	Engineering Mathematics	30	50	90 mins	15-07-2020
Test-24	Control Systems	30	50	90 mins	
Test-25	Signals and Systems	30	50	90 mins	22-07-2020
Test-26	Digital Circuits	30	50	90 mins	
Test-27	Networks	30	50	90 mins	29-07-2020
Test-28	Electronic Devices	30	50	90 mins	
Test-29	Analog Circuits	30	50	90 mins	05-08-2020
Test-30	Communications	30	50	90 mins	
Test-31	Electromagnetics	30	50	90 mins	11-08-2020
Test-32	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-33	Full Length GATE Mock Test-1	65	100	180 mins	19-08-2020
Test-34	Full Length GATE Mock Test-2	65	100	180 mins	26-08-2020
Test-35	Full Length GATE Mock Test-3	65	100	180 mins	02-09-2020

Subject Wise Grand Tests - 2nd Series

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-36	Engineering Mathematics	30	50	90 mins	09-09-2020
Test-37	Control Systems	30	50	90 mins	
Test-38	Signals and Systems	30	50	90 mins	16-09-2020
Test-39	Digital Circuits	30	50	90 mins	
Test-40	Networks	30	50	90 mins	23-09-2020
Test-41	Electronic Devices	30	50	90 mins	
Test-42	Analog Circuits	30	50	90 mins	30-09-2020
Test-43	Communications	30	50	90 mins	
Test-44	Electromagnetics	30	50	90 mins	07-10-2020
Test-45	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-46	Full Length GATE Mock Test-4	65	100	180 mins	14-10-2020
Test-47	Full Length GATE Mock Test-5	65	100	180 mins	21-10-2020
Test-48	Full Length GATE Mock Test-6	65	100	180 mins	28-10-2020

Multi-Subject Wise Grand Tests

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
Test-49	Networks & Electromagnetics	30	50	90 mins	04-11-2020
Test-50	Control Systems & Signals and Systems	30	50	90 mins	
Test-51	Electronic Devices & Analog Circuits	30	50	90 mins	11-11-2020
Test-52	Communications & Digital Circuits	30	50	90 mins	
Test-53	Engineering Mathematics & General Aptitude	30	50	90 mins	18-11-2020
Test-54	Control Systems, Signals and Systems, Digital Circuits & Analog Circuits	30	50	90 mins	
Test-55	Electronic Devices, Networks, Communications & Electromagnetics	30	50	90 mins	25-11-2020
Test-56	Signals and Systems, Analog Circuits, Electronic Devices & Communications	30	50	90 mins	
Test-57	Control Systems, Neworks, Digital Circuits & Electromagnetics	30	50	90 mins	28-11-2020
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	02-12-2020
Test-60	Full Length GATE Mock Test-8	65	100	180 mins	09-12-2020
Test-61	Full Length GATE Mock Test-9	65	100	180 mins	04-01-2021
Test-62	Full Length GATE Mock Test-10	65	100	180 mins	11-01-2021
Test-63	Full Length GATE Mock Test-11	65	100	180 mins	18-01-2021
Test-64	Full Length GATE Mock Test-12	65	100	180 mins	25-01-2021

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
EC_P01	**Engineering Mathematics-1:** Linear Algebra, Calculus, Differential Equations and Vector Analysis.	15	25	45 mins	20-04-2020
EC_P02	**Engineering Mathematics-2:** Complex Anaysis, Numerical Methods and Probability and Statistics.	15	25	45 mins	
EC_P03	**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 stability criteria, root-locus plot.	15	25	45 mins	
EC_P04	**Control Systems-2:** Frequency response; Nyquist stability criteria; Bode Plot, Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.	15	25	45 mins	
EC_P05	**Signals and Systems -1:** Introduction to signals, LTI systems: definition and properties, causality, stability, impulse response, convolution. Fourier series and Fourier transform representations. sampling theorem and applications. Frequency response, group delay and phase delay.	15	25	45 mins	
EC_P06	**Signals and Systems -2:** Laplace transform, discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals, poles and zeros, parallel and cascade structure, digital filter design techniques.	15	25	45 mins	
EC_P07	**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 and PLAs.	15	25	45 mins	
EC_P08	**Digital Circuits-2:** Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines. Data converters: sample and hold circuits, ADCs and DACs;	15	25	45 mins	
EC_P09	**Digital Circuits-3:** Semiconductor memories: ROM, SRAM, DRAM, 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.	15	25	45 mins	
EC_P10	**Networks-1:** Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation	15	25	45 mins	
EC_P11	**Networks-2:** Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.	15	25	45 mins	
EC_P12	**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, BJT.	15	25	45 mins	
EC_P13	**Electronic Devices-2:** MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.	15	25	45 mins	
EC_P14	**Analog Circuits-1:** Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage.	15	25	45 mins	
EC_P15	**Analog Circuits-2:** Differential, feedback, power and operational; 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.	15	25	45 mins	
EC_P16	**Communications-1:** Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications.	15	25	45 mins	
EC_P17	**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.	15	25	45 mins	
EC_P18	**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.	15	25	45 mins	

Test No	Name of the Topic	No. of Questions	Max Marks	Duration	Date of Activation
EC_P19	**Electromagnetics-1:** Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth.	15	25	45 mins	20-04-2020
EC_P20	**Electromagnetics-2:** Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.	15	25	45 mins	
EC_P21	**Verbal Ability:** English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.	15	25	45 mins	
EC_P22	**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
EC_P23	Engineering Mathematics	30	50	90 mins	20-04-2020
EC_P24	Control Systems	30	50	90 mins	
EC_P25	Signals and Systems	30	50	90 mins	
EC_P26	Digital Circuits	30	50	90 mins	
EC_P27	Networks	30	50	90 mins	
EC_P28	Electronic Devices	30	50	90 mins	
EC_P29	Analog Circuits	30	50	90 mins	
EC_P30	Communications	30	50	90 mins	
EC_P31	Electromagnetics	30	50	90 mins	
EC_P32	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
EC_P33	Networks & Electromagnetics	30	50	90 mins	20-04-2020
EC_P34	Control Systems & Signals and Systems	30	50	90 mins	
EC_P35	Electronic Devices & Analog Circuits	30	50	90 mins	
EC_P36	Communications & Digital Circuits	30	50	90 mins	
EC_P37	Engineering Mathematics & General Aptitude	30	50	90 mins	
EC_P38	Control Systems, Signals and Systems, Digital Circuits & Analog Circuits	30	50	90 mins	
EC_P39	Electronic Devices, Networks, Communications & Electromagnetics	30	50	90 mins	
EC_P40	Signals and Systems, Analog Circuits, Electronic Devices & Communications	30	50	90 mins	
EC_P41	Control Systems, Neworks, Digital Circuits & Electromagnetics	30	50	90 mins	
EC_P42	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
EC_P43	Full Length GATE Mock Test-1	65	100	180 mins	20-04-2020
EC_P44	Full Length GATE Mock Test-2	65	100	180 mins	
EC_P45	Full Length GATE Mock Test-3	65	100	180 mins	
EC_P46	Full Length GATE Mock Test-4	65	100	180 mins	
EC_P47	Full Length GATE Mock Test-5	65	100	180 mins	
EC_P48	Full Length GATE Mock Test-6	65	100	180 mins	
EC_P49	Full Length GATE Mock Test-7	65	100	180 mins	
EC_P50	Full Length GATE Mock Test-8	65	100	180 mins	
EC_P51	Full Length GATE Mock Test-9	65	100	180 mins	
EC_P52	Full Length GATE Mock Test-10	65	100	180 mins	
EC_P53	Full Length GATE Mock Test-11	65	100	180 mins	
EC_P54	Full Length GATE Mock Test-12	65	100	180 mins	