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	20-04-2025
2	**Network-2:** Time and frequency domain analysis of linear circuitsRL,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	30-04-2025
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.	17	25	45 min	
10	**Engineering Mathematics-2:** Differential Equations, Complex Analysis, 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	**Analog circuit-1:** Diode circuits: clipping, clamping and rectifiers. BJT and MOSFET amplifier biasing	17	25	45 min	10-05-2025
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	20-05-2025
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	

Single Subject Tests					
Test No.	Test Syllabus	No. of Ques.	Marks	Duration	Activation Date
25	Networks	33	50	90 min	15-6-2025
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	15-07-2025
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	
Full Syllabus Tests					
37	Full Syllabus Test-1 (Basic Level)	65	100	180 min	15-08-2025
38	Full Syllabus Test-2 (Basic Level)	65	100	180 min	
39	Full Syllabus Test-3 (Basic Level)	65	100	180 min	
40	Full Syllabus Test-4 (Basic Level)	65	100	180 min	
41	Full Syllabus Test-5 (Advance Level)	65	100	180 min	15-09-2025
42	Full Syllabus Test-6 (Advance Level)	65	100	180 min	
43	Full Syllabus Test-7 (Advance Level)	65	100	180 min	
44	Full Syllabus Test-8 (Advance Level)	65	100	180 min	
Candidate has to upload GATE-2026 Admit Card to access below mentioned tests					
45	GATE Mock Test 1	65	100	180 min	15-10-2025
46	GATE Mock Test 2	65	100	180 min	
47	GATE Mock Test 3	65	100	180 min	
48	GATE Mock Test 4	65	100	180 min	