

SUBJECT AND MOCK TEST SERIES					
GATE 2019 SCHEDULE: ELECTRICAL ENGINEERING					
Test Date	Test Type	Syllabus [ EB-Engineering Branch ; EM- Engineering Mathematics; GA- General Aptitude]	No. of Question	Marks	Duration
01/07/2018	Minor Test -1	<b>EB-Electric Circuits</b> : Network graph, KCL, KVL, Node and Mesh analysis, Transient response of dc and ac networks, Sinusoidal steady-state analysis, Resonance, Passive filters, Ideal current and voltage sources, Thevenin's theorem, Norton's theorem, Superposition theorem, Maximum power transfer theorem, Two-port networks, Three phase circuits, Power and power factor in ac circuits.	33	50	90 min
08/07/2018	Minor Test - 2	<b>EB-Electromagnetic Fields:</b> 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.	33	50	90 min
15/07/2018	Minor Test - 3	<b>EM- Linear Algebra:</b> Matrix Algebra, Systems of linear equations, Eigenvalues, Eigenvectors. <b>Transform Theory:</b> Fourier Transform, Laplace Transform, z-Transform. <b>Numerical Methods:</b> Solutions of nonlinear algebraic equations, Single and Multi-step methods for differential equations.	33	50	90 min
22/07/2018	Minor Test - 4	<b>EB- Signals &amp; Systems:</b> Representation of continuous and discrete-time signals, Shifting and scaling operations, Linear Time Invariant and Causal systems, Fourier series representation of continuous periodic signals, Sampling theorem, Applications of Fourier Transform, Laplace Transform and z-Transform.	33	50	90 min
29/07/2018	Minor Test - 5	<b>EB- Electrical Machines-I (Transformers &amp; AC Rotating Machines):</b> Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency, Three phase transformers: connections, parallel operation; Auto-transformer. 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.	33	50	90 min
05/08/2018	Minor Test - 6	<b>GA:</b> General Aptitude( Language and Analytical Skills)	33	50	90 min

12/08/2018	Minor Test - 7	<b>EB- Electrical Machines-II (DC &amp; Synchronous Machines):</b> Electromechanical energy conversion principles, DC machines: separately excited, series and shunt, motoring and generating mode of operation and their characteristics, starting and speed control of dc motors. Synchronous machines: cylindrical and salient pole machines, performance, regulation and parallel operation of generators, starting of synchronous motor, characteristics; Types of losses and efficiency calculations of electric machines.	33	50	90 min
19/08/2018	Minor Test - 8	<b>EB- Power System-I (Transmission &amp; Distribution):</b> ac and dc transmission concepts, Models and performance of transmission lines and cables, Series and shunt compensation, Electric field distribution and insulators, Distribution systems, Per-unit quantities, Bus admittance matrix, Gauss-Seidel and Newton-Raphson load flow methods, Voltage and Frequency control, Power factor correction.	33	50	90 min
26/08/2018	Minor Test - 9	<b>EM- Calculus:</b> Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series, Vector identities, Directional derivatives, Line integral, Surface integral, Volume integral, Stokes's theorem, Gauss's theorem, Green's theorem.	33	50	90 min
02/09/2018	Minor Test - 10	<b>EB-Power System-II (Generation, Protection &amp; Stability):</b> Power generation concepts, Principles of over-current, differential and distance protection; Circuit breakers, System stability concepts, Equal area criterion, Symmetrical components, Symmetrical and unsymmetrical fault analysis.	33	50	90 min
09/09/2018	Minor Test -11	<b>EB-Control Systems:</b> 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, Routh-Hurwitz and Nyquist criteria, Bode plots, Root loci, Stability analysis, Lag, Lead and Lead-Lag compensators; P, PI and PID controllers; State space model, State transition matrix.	33	50	90 min
16/09/2018	Minor Test - 12	<b>GA:</b> General Aptitude( Language and Analytical Skills)	33	50	90 min
23/09/2018	Minor Test - 13	<b>EB-Electrical and Electronics Measurements:</b> Bridges and Potentiometers, Measurement of voltage, current, power, energy and power factor; Instrument transformers, Digital voltmeters and multimeters, Phase, Time and Frequency measurement; Oscilloscopes, Error analysis.	33	50	90 min

30/09/2018	Minor Test -14	<b>EB- Analog Electronics:</b> Characteristics of diodes, BJT, MOSFET; Simple diode circuits: clipping, clamping, rectifiers; Amplifiers: Biasing, Equivalent circuit and Frequency response; Oscillators and Feedback amplifiers; Operational amplifiers: Characteristics and applications; Simple active filters, VCOs and Timers.	33	50	90 min
07/10/2018	Minor Test - 15	<b>EM-Differential equations:</b> First order equations (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's equation, Euler's equation, Initial and boundary value problems, Partial Differential Equations, Method of separation of variables. <b>Complex variables:</b> Analytic functions, Cauchy's integral theorem, Cauchy's integral formula, Taylor series, Laurent series, Residue theorem, Solution integrals.	33	50	90 min
14/10/2018	Minor Test - 16	<b>EB- Digital Electronics:</b> Combinational and Sequential logic circuits, Multiplexer, Demultiplexer, Schmitt trigger, Sample and hold circuits, A/D and D/A converters, 8085 Microprocessor: Architecture, Programming and Interfacing.	33	50	90 min
21/10/2018	Minor Test - 17	<b>EM-Probability and Statistics:</b> Sampling theorems, Conditional probability, Mean, Median, Mode, Standard Deviation, Random variables, Discrete and Continuous distributions, Poisson distribution, Normal distribution, Binomial distribution, Correlation analysis, Regression analysis.	33	50	90 min
28/10/2018	Minor Test - 18	<b>EB-Power Electronics-I:</b> Single and three phase configuration of uncontrolled rectifiers, Line commutated thyristor based converters, Bidirectional ac to dc voltage source converters, Issues of line current harmonics, Power factor, Distortion factor of ac to dc converters.	33	50	90 min
04/11/2018	Minor Test - 19	<b>EB-Power Electronics-II:</b> Characteristics of semiconductor power devices: Diode, Thyristor, Triac, GTO, MOSFET, IGBT; DC to DC conversion: Buck, Boost and Buck-Boost converters, Single phase and three phase inverters, Sinusoidal pulse width modulation.	33	50	90 min
11/11/2018	Minor Test -20	<b>GA:</b> General Aptitude( Language and Analytical Skills)	33	50	90 min
18/11/2018	Major Test - 1	<b>FULL SYLLABUS</b>	65	100	180 min
25/11/2018	Major Test - 2	<b>FULL SYLLABUS</b>	65	100	180 min
02/12/2018	Major Test - 3	<b>FULL SYLLABUS</b>	65	100	180 min
09/12/2018	Major Test - 4	<b>FULL SYLLABUS</b>	65	100	180 min
16/12/2018	Major Test - 5	<b>FULL SYLLABUS</b>	65	100	180 min
30/12/2018	Major Test - 6	<b>FULL SYLLABUS</b>	65	100	180 min
06/01/2019	Major Test -7	<b>FULL SYLLABUS</b>	65	100	180 min

13/01/2019	Major Test - 8	<b>FULL SYLLABUS</b>	65	100	180 min
20/01/2019	Major Test - 9	<b>FULL SYLLABUS</b>	65	100	180 min
27/01/2019	Major Test -10	<b>FULL SYLLABUS</b>	65	100	180 min

**NOTE:**

1. The above mentioned Dates are Opening Dates for Tests and each Test is valid till March 2019.