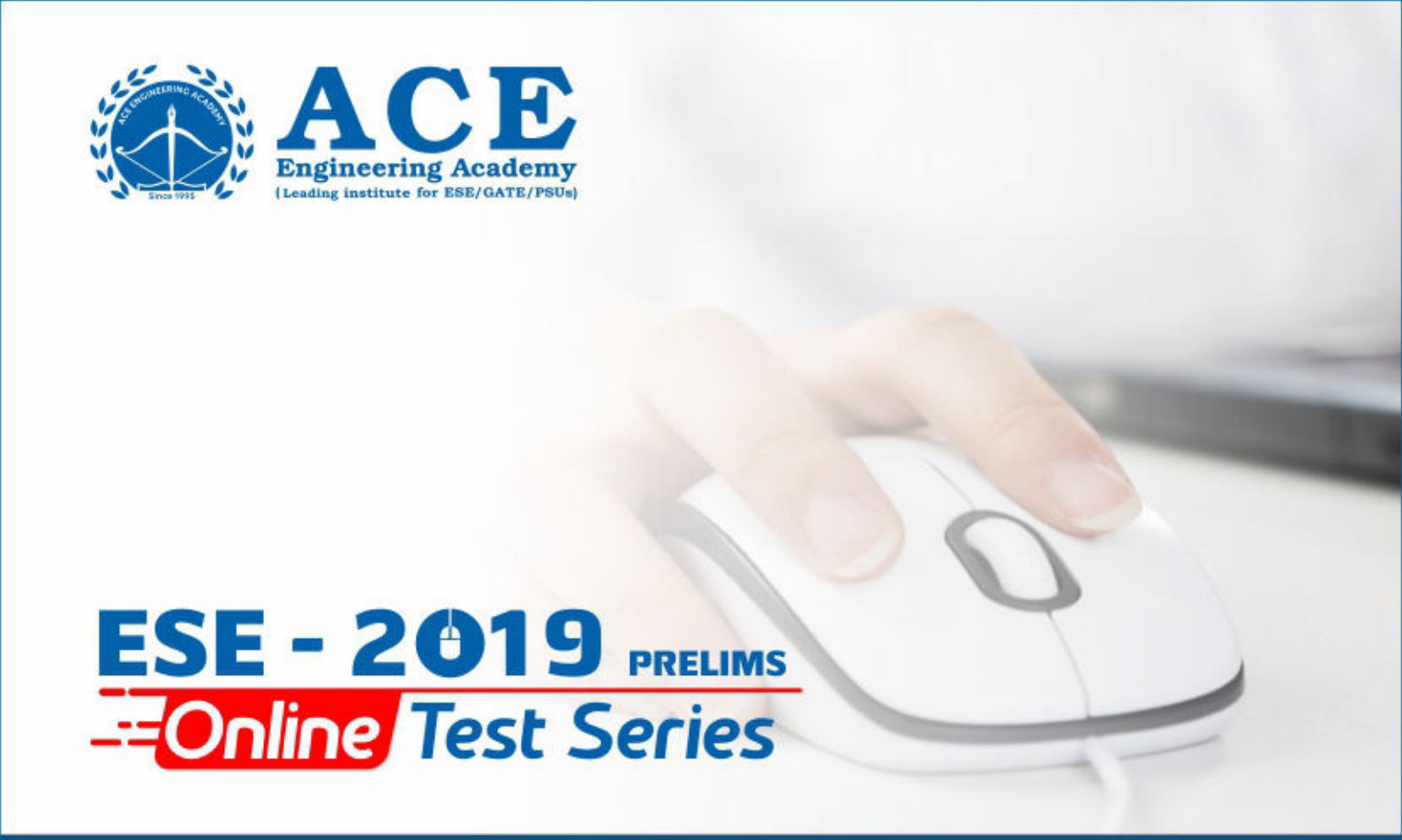
ACE
Engineering Academy
(Leading institute for ESE/GATE/PSUs)



ESE - 2019 PRELIMS
Online Test Series

ELECTRONICS & TELECOMMUNICATION ENGINEERING (E&T)

No. of Tests : 44 + Free 30 Practice Tests of ESE - 2018 Online Test Series

	ESE- 19 Test Series	Practice Tests ESE - 18 Test Series
Subject Wise Grand Tests	22	22
Multi Subject Grand Tests	10	-
Full Length Mock Tests	12	8

All tests will be available till ESE -2019 (Prelims) Examination.

TEST SERIES HIGHLIGHTS

- ★ All India Rank will be given for each test.
- ★ Test wise and overall statistics.
- ★ Comparison with toppers.
- ★ Question wise and test wise time analysis & comparison with toppers on time management.

Subject-wise Tests

Tests will be activated at 06:00 pm on scheduled day

Test No	Subject Name	No. of Questions	Max Marks	Duration	Date of Activation
EC-01	Control Systems	50	100	60 Min	15-05-2018
EC-02	Signals & Systems	50	100	60 Min	
EC-03	Digital Electronics and Micro-Processors	50	100	60 Min	21-05-2018
EC-04	Engineering Mathematics and Numerical Analysis	33	66	40 Min	
EC-05	Network Theory	50	100	60 Min	28-05-2018
EC-06	Basics of Energy and Environment	33	66	40 Min	
EC-07	Basic Electronics Engineering (Electronic Devices & VLSI) & Advanced Electronics	50	100	60 Min	04-06-2018
EC-08	General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
EC-09	Analog Electronics	50	100	60 Min	11-06-2018
EC-10	Ethics and values in Engineering profession	33	66	40 Min	
EC-11	Analog and Digital Communication Systems & Advanced communication	50	100	60 Min	18-06-2018
EC-12	Information and Communication Technologies (ICT)	33	66	40 Min	
EC-13	Electromagnetics	50	100	60 Min	25-06-2018
EC-14	Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
EC-15	Materials Science	50	100	60 Min	02-07-2018
EC-16	Basics of Material Science and Engineering	33	66	40 Min	
EC-17	Electronic Measurements and Instrumentation	50	100	60 Min	09-07-2018
EC-18	Standards and Quality practices in production, construction, maintenance and services	33	66	40 Min	
EC-19	Computer Organization and Architecture	50	100	60 Min	16-07-2018
EC-20	Basics of Project Management	33	66	40 Min	
EC-21	Basic Electrical Engineering	50	100	60 Min	23-07-2018
EC-22	Current Issues of National and International importance related to social, Economic and Industrial Development	33	66	40 Min	

Full Length Mock Tests -1st Series

Test No	Mock codes	No. of Questions	Max Marks	Duration	Date of Activation
EC-23	Mock-1 PAPER-1	100	200	2 Hours	04-08-2018
EC-24	Mock-1 PAPER-2	150	300	3 Hours	
EC-25	Mock-2 PAPER-1	100	200	2 Hours	11-08-2018
EC-26	Mock-2 PAPER-2	150	300	3 Hours	

Multi Subject Grand Tests

Test No	Subjects codes	No. of Questions	Max Marks	Duration	Date of Activation
EC-27	Network Theory + Control Systems	50	100	60 Min	20-08-2018
EC-28	Basics of Energy and Environment + Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
EC-29	Signals & Systems + Basic Electronics Engineering (Electronic Devices & VLSI) + Electronic Measurements and Instrumentation	50	100	60 Min	27-08-2018
EC-30	Engineering Mathematics and Numerical Analysis + Current Issues of National and International importance related to social, Economic and Industrial Development	33	66	40 Min	
EC-31	Materials Science + Analog Electronics + Digital Electronics and Micro-Processors	50	100	60 Min	03-09-2018
EC-32	Basics of Project Management + Basics of Material Science and Engineering	33	66	40 Min	
EC-33	Computer Organization and Architecture + Electromagnetics + Basic Electrical Engineering	50	100	60 Min	10-09-2018
EC-34	Information and Communication Technologies (ICT) + General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
EC-35	Analog and Digital Communication Systems + Advanced communication + Advanced Electronics	50	100	60 Min	17-09-2018
EC-36	Ethics and values in Engineering profession + Standards and Quality practices in production, construction, maintenance and services	33	66	40 Min	

Full Length Mock Tests -2nd Series

Test No	Mock codes	No. of Questions	Max Marks	Duration	Date of Activation
EC-37	Mock-3 PAPER-1	100	200	2 Hours	29-09-2018
EC-38	Mock-3 PAPER-2	150	300	3 Hours	
EC-39	Mock-4 PAPER-1	100	200	2 Hours	13-10-2018
EC-40	Mock-4 PAPER-2	150	300	3 Hours	
EC-41	Mock-5 PAPER-1	100	200	2 Hours	22-12-2018
EC-42	Mock-5 PAPER-2	150	300	3 Hours	
EC-43	Mock-6 PAPER-1	100	200	2 Hours	29-12-2018
EC-44	Mock-6 PAPER-2	150	300	3 Hours	

NOTE: The Dates of above MOCK Tests may Change according to the ESE – 2019(Prelims) Exam schedule.

Free Practice Tests of ESE (Prelims)-2018 Online Test Series

Subject-wise Tests

Test No	Subject Name	No. of Questions	Max Marks	Duration	Date of Activation
EC-P1	Network Theory	50	100	60 Min	15-05-2018
EC-P2	Control Systems	50	100	60 Min	
EC-P3	Signals & Systems	50	100	60 Min	
EC-P4	Digital Electronics and Micro-Processors	50	100	60 Min	
EC-P5	Analog and Digital Communication Systems & Advanced communication	50	100	60 Min	
EC-P6	Basic Electronics Engineering (Electronic Devices & VLSI) & Advanced Electronics	50	100	60 Min	
EC-P7	Electronic Measurements and Instrumentation	50	100	60 Min	
EC-P8	Computer Organization and Architecture	50	100	60 Min	
EC-P9	Analog Electronics	50	100	60 Min	
EC-P10	Materials Science	50	100	60 Min	
EC-P11	Electromagnetics	50	100	60 Min	
EC-P12	Basic Electrical Engineering	50	100	60 Min	
EC-P13	Basics of Energy and Environment	33	66	40 Min	30-05-2018
EC-P14	Standards and Quality practices in production, construction, maintenance and services	33	66	40 Min	
EC-P15	Basics of Project Management	33	66	40 Min	
EC-P16	Information and Communication Technologies (ICT)	33	66	40 Min	
EC-P17	Ethics and values in Engineering profession	33	66	40 Min	
EC-P18	Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
EC-P19	Basics of Material Science and Engineering	33	66	40 Min	
EC-P20	General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
EC-P21	Engineering Mathematics and Numerical Analysis	33	66	40 Min	
EC-P22	Current Issues of National and International importance related to social, Economic and Industrial Development	33	66	40 Min	

Free Practice Tests of ESE (Prelims)-2018 Online Test Series

Full Length Mock Tests

Test No	Mock codes	No. of Questions	Max Marks	Duration	Date of Activation
EC-P23	Mock-1 PAPER-1	100	200	2 Hours	20-06-2018
EC-P24	Mock-1 PAPER-2	150	300	3 Hours	
EC-P25	Mock-2 PAPER-1	100	200	2 Hours	
EC-P26	Mock-2 PAPER-2	150	300	3 Hours	
EC-P27	Mock-3 PAPER-1	100	200	2 Hours	
EC-P28	Mock-3 PAPER-2	150	300	3 Hours	
EC-P29	Mock-4 PAPER-1	100	200	2 Hours	
EC-P30	Mock-4 PAPER-2	150	300	3 Hours	

Syllabus for ESE (Prelims), Paper-2

Subject Name	Syllabus
Signals & Systems	**Extracted from Control System:** Classification of signals and systems; Application of signal and system theory; System realization; Transforms& their applications **Extracted from Advanced Electronics:** DSP: Discrete time signals/systems , uses; Digital filters: FIR/IIR types, design, speech/audio/radar signal processing uses
Control Systems	Signal flow graphs, Routh-Hurwitz criteria, root loci, Nyquist/Bode plots; Feedback systems-open &close loop types, stability analysis, steady state, transient and frequency response analysis; Design of control systems, compensators, elements of lead/lag compensation, PID and industrial controllers
Network Theory	Network graphs & matrices; Wye-Delta transformation; Linear constant coefficient differential equations- time domain analysis of RLC circuits; Solution of network equations using Laplace transforms- frequency domain analysis of RLC circuits; 2-port network parameters-driving point & transfer functions; State equations for networks; Steady state sinusoidal analysis. **Extracted from Basic Electrical Engineering:** DC circuits-Ohm's & Kirchoff's laws, mesh and nodal analysis, circuit theorems; Single phase ac circuits.
Basic Electrical Engineering	Electro-magnetism, Faraday's & Lenz's laws, induced EMF and its uses; Transformers, efficiency; Basics- DC machines, induction machines, and synchronous machines; Electrical power sources- basics: hydroelectric, thermal, nuclear, wind, solar; Basics of batteries and their uses.
Electromagnetics	Elements of vector calculus, Maxwell's equations-basic concepts; Gauss', Stokes' theorems; Wave propagation through different media; Transmission lines-different types, basics, Smith's chart, impedance matching/transformation, S-parameters, pulse excitation, uses; Waveguides-basics, rectangular types, modes, cut-off frequency, dispersion, dielectric types; Antennas-radiation pattern, monopoles/dipoles, gain, arrays-active/passive, theory, uses. **Extracted from Basic Electrical Engineering:** Electro-magnetism, Faraday's & Lenz's laws, induced EMF and its uses;
Basic Electronics Engineering (Electronic Devices & VLSI)	Basics of semiconductors; Diode/Transistor basics and characteristics; Diodes for different uses; Junction & Field Effect Transistors (BJTs, JFETs, MOSFETs); Transistor amplifiers of different types, Basics of Integrated Circuits (ICs); Bipolar, MOS and CMOS ICs; Optical sources/detectors; Basics of Opto electronics and its applications.
Advanced Electronics	VLSI technology: Processing, lithography, interconnects, packaging, testing; VLSI design: Principles; Pipeline concepts & functions; Design for testability, examples;

Subject Name	Syllabus
Analog Electronics	Small signal equivalent circuits of diodes, BJTS and FETs; Diode circuits for different uses; Biasing & stability of BJT and JFET amplifier circuits; Analysis/design of amplifier- single/multi-stage; Feedback & uses; Active filters, timers, multipliers, wave shaping **Extracted from Basic Electronics Engineering:** Basics of linear ICs, operational amplifiers and their applications-linear/non-linear. Oscillators and other circuits;
Digital Electronics and Micro-Processors	Boolean Algebra & uses; Logic gates, Digital IC families, Combinational/sequential circuits; Basics of multiplexers, counters/registers/ memories/microprocessors, design & applications. A/D-D/A converters; **Extracted from Advanced Electronics:** MUX/ROM/PLA-based design, Moore & Mealy circuit design; Microprocessors & microcontrollers, basics, interrupts, DMA, instruction sets, interfacing; controllers & uses; Embedded systems.
Materials Science	Electrical Engineering materials; Crystal structure & defects: Ceramic materials-structures, composites, processing and uses; Insulating laminates for electronics, structures, properties and uses; Magnetic materials, basics, classification, ferrites, ferro/para-magnetic materials and components; Nano materials-basics, preparation, purification, sintering, nano particles and uses; Nano-optical/magnetic/electronic materials and uses; Superconductivity, uses.
Electronic Measurements and Instrumentation	Principles of measurement, accuracy, precision and standards; Analog and Digital systems for measurement, measuring instruments for different applications; Static/dynamic characteristics of measurement systems, errors, statistical analysis and curve fitting; Measurement systems for non-electrical quantities; Basics of telemetry; Different types of transducers and displays; Data acquisition system basics.
Analog and Digital Communication Systems	Random signals, noise, probability theory, information theory; Analog versus digital communication & applications: Systems - AM, FM, transmitters/receivers, theory/practice/ standards, SNR comparison; Digital communication basics: Sampling, quantizing, coding, PCM, DPCM, multiplexing-audio/video; Digital modulation: ASK, FSK, PSK; Multiple access: TDMA, FDMA, CDMA;
Advanced communication	Communication networks: Principles /practices /technologies /uses /OSI model/security; Basic packet multiplexed streams/scheduling; Cellular networks, types, analysis, protocols (TCP/TCPIP); Microwave & satellite communication: Terrestrial/space type LOS systems, block schematics link calculations, system design; Communication satellites, orbits, characteristics, systems, uses; Fibre-optic communication systems, block schematics, link calculations, system design. Optical communication: fiber optics, theory, practice/standards
Computer Organization and Architecture	Basic architecture, CPU, I/O organisation, memory organisation, peripheral devices, trends; Hardware /software issues; Data representation & Programming; Operating systems-basics, processes, characteristics, applications; Memory management, virtual memory, file systems, protection & security; Data bases, different types, characteristics and design; Transactions and concurrency control; Elements of programming languages, typical examples.