






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

ESE - 2019 PRELIMS

Online Test Series

CIVIL ENGINEERING (CE)

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
CE-01	Transportation Engineering	50	100	60 Min	15-05-2018
CE-02	Flow of Fluids, Hydraulic Machines and Hydro Power	50	100	60 Min	
CE-03	Environmental Engineering	50	100	60 Min	22-05-2018
CE-04	Engineering Mathematics and Numerical Analysis	33	66	40 Min	
CE-05	Solid Mechanics	50	100	60 Min	29-05-2018
CE-06	Basics of Energy and Environment	33	66	40 Min	
CE-07	Structural Analysis	50	100	60 Min	05-06-2018
CE-08	General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
CE-09	Geo-technical Engineering and Foundation Engineering	50	100	60 Min	12-06-2018
CE-10	Ethics and values in Engineering profession	33	66	40 Min	
CE-11	Design of Concrete and Masonry structures	50	100	60 Min	19-06-2018
CE-12	Information and Communication Technologies (ICT)	33	66	40 Min	
CE-13	Surveying and Geology	50	100	60 Min	26-06-2018
CE-14	Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
CE-15	Design of Steel Structures	50	100	60 Min	03-07-2018
CE-16	Basics of Material Science and Engineering	33	66	40 Min	
CE-17	Hydrology and Water Resources Engineering	50	100	60 Min	10-07-2018
CE-18	Standards and Quality practices in production, construction, maintenance and services	33	66	40 Min	
CE-19	Building Materials	50	100	60 Min	17-07-2018
CE-20	Basics of Project Management	33	66	40 Min	
CE-21	Construction Practice, Planning and Management	50	100	60 Min	24-07-2018
CE-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
CE-23	Mock-1 PAPER-1	100	200	2 Hours	06-08-2018
CE-24	Mock-1 PAPER-2	150	300	3 Hours	
CE-25	Mock-2 PAPER-1	100	200	2 Hours	13-08-2018
CE-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
CE-27	Solid Mechanics + Surveying and Geology	50	100	60 Min	21-08-2018
CE-28	Basics of Energy and Environment + Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
CE-29	Environmental Engineering + Construction Practice, Planning and Management + Water Resources Engineering	50	100	60 Min	28-08-2018
CE-30	Engineering Mathematics and Numerical Analysis + Current Issues of National and International importance related to social, Economic and Industrial Development	33	66	40 Min	
CE-31	Design of Steel Structures + Transportation Engineering + Geo-technical Engineering and Foundation Engineering	50	100	60 Min	04-09-2018
CE-32	Basics of Project Management + Basics of Material Science and Engineering	33	66	40 Min	
CE-33	Flow of Fluids, Hydraulic Machines and Hydro Power + Structural Analysis	50	100	60 Min	11-09-2018
CE-34	Information and Communication Technologies (ICT) + General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
CE-35	Building Materials + Design of Concrete and Masonry structures + Hydrology	50	100	60 Min	18-09-2018
CE-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
CE-37	Mock-3 PAPER-1	100	200	2 Hours	01-10-2018
CE-38	Mock-3 PAPER-2	150	300	3 Hours	
CE-39	Mock-4 PAPER-1	100	200	2 Hours	15-10-2018
CE-40	Mock-4 PAPER-2	150	300	3 Hours	
CE-41	Mock-5 PAPER-1	100	200	2 Hours	19-12-2018
CE-42	Mock-5 PAPER-2	150	300	3 Hours	
CE-43	Mock-6 PAPER-1	100	200	2 Hours	26-12-2018
CE-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
CE-P1	Solid Mechanics	50	100	60 Min	15-05-2018
CE-P2	Flow of Fluids, Hydraulic Machines and Hydro Power	50	100	60 Min	
CE-P3	Geo-technical Engineering and Foundation Engineering	50	100	60 Min	
CE-P4	Structural Analysis	50	100	60 Min	
CE-P5	Design of Concrete and Masonry structures	50	100	60 Min	
CE-P6	Environmental Engineering	50	100	60 Min	
CE-P7	Surveying and Geology	50	100	60 Min	
CE-P8	Design of Steel Structures	50	100	60 Min	
CE-P9	Hydrology and Water Resources Engineering	50	100	60 Min	
CE-P10	Transportation Engineering	50	100	60 Min	
CE-P11	Building Materials	50	100	60 Min	
CE-P12	Construction Practice, Planning and Management	50	100	60 Min	
CE-P13	Basics of Energy and Environment	33	66	40 Min	30-05-2018
CE-P14	Standards and Quality practices in production, construction, maintenance and services	33	66	40 Min	
CE-P15	Basics of Project Management	33	66	40 Min	
CE-P16	Information and Communication Technologies (ICT)	33	66	40 Min	
CE-P17	Ethics and values in Engineering profession	33	66	40 Min	
CE-P18	Engineering Aptitude covering Logical reasoning and Analytical ability	33	66	40 Min	
CE-P19	Basics of Material Science and Engineering	33	66	40 Min	
CE-P20	General Principles of Design, Drawing, Importance of Safety	33	66	40 Min	
CE-P21	Engineering Mathematics and Numerical Analysis	33	66	40 Min	
CE-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
CE-P23	Mock-1 PAPER-1	100	200	2 Hours	05-07-2018
CE-P24	Mock-1 PAPER-2	150	300	3 Hours	
CE-P25	Mock-2 PAPER-1	100	200	2 Hours	
CE-P26	Mock-2 PAPER-2	150	300	3 Hours	
CE-P27	Mock-3 PAPER-1	100	200	2 Hours	
CE-P28	Mock-3 PAPER-2	150	300	3 Hours	
CE-P29	Mock-4 PAPER-1	100	200	2 Hours	
CE-P30	Mock-4 PAPER-2	150	300	3 Hours	

Syllabus for ESE (Prelims), Paper-2

Subject Name	Syllabus
Building Materials	Stone, Lime, Glass, Plastics, Steel, FRP, Ceramics, Aluminum, Fly Ash, Basic Admixtures, Timber, Bricks and Aggregates: Classification, properties and selection criteria; Cement: Types, Composition, Properties, Uses, Specifications and various Tests; Lime & Cement Mortars and Concrete: Properties and various Tests; Design of Concrete Mixes: Proportioning of aggregates and methods of mix design.
Solid Mechanics	Elastic constants, Stress, plane stress, Strains, plane strain, Mohr's circle of stress and strain, Elastic theories of failure, Principal Stresses, Bending, Shear and Torsion.
Structural Analysis	Basics of strength of materials, Types of stresses and strains, Bending moments and shear force, concept of bending and shear stresses; Analysis of determinate and indeterminate structures; Trusses, beams, plane frames; Rolling loads, Influence Lines, Unit load method & other methods; Free and Forced vibrations of single degree and multi degree freedom system; Suspended Cables; Concepts and use of Computer Aided Design.
Design of Steel Structures	Principles of Working Stress methods, Design of tension and compression members, Design of beams and beam column connections, built-up sections, Girders, Industrial roofs, Principles of Ultimate load design.
Design of Concrete and Masonry structures	Limit state design for bending, shear, axial compression and combined forces; Design of beams, Slabs, Lintels, Foundations, Retaining walls, Tanks, Staircases; Principles of pre-stressed concrete design including materials and methods; Earthquake resistant design of structures; Design of Masonry Structure.
Construction Practice, Planning and Management	Construction - Planning, Equipment, Site investigation and Management including Estimation with latest project management tools and network analysis for different Types of works; Analysis of Rates of various types of works; Tendering Process and Contract Management, Quality Control, Productivity, Operation Cost; Land acquisition; Labour safety and welfare.
Flow of Fluids, Hydraulic Machines and Hydro Power	<p>(a) Fluid Mechanics, Open Channel Flow, Pipe Flow: Fluid properties; Dimensional Analysis and Modeling; Fluid dynamics including flow kinematics and measurements; Flow net; Viscosity, Boundary layer and control, Drag, Lift, Principles in open channel flow, Flow controls. Hydraulic jump; Surges; Pipe networks.</p> <p>(b) Hydraulic Machines and Hydro power - Various pumps, Air vessels, Hydraulic turbines – types, classifications & performance parameters; Power house – classification and layout, storage, pondage, control of supply.</p>

Subject Name	Syllabus
Hydrology and Water Resources Engineering	<p>Hydrological cycle, Ground water hydrology, Well hydrology and related data analysis; Streams and their gauging; River morphology; Flood, drought and their management; Capacity of Reservoirs.</p> <p>Water Resources Engineering : Multipurpose uses of Water, River basins and their potential; Irrigation systems, water demand assessment; Resources - storages and their yields; Water logging, canal and drainage design, Gravity dams, falls, weirs, Energy dissipaters, barrage Distribution works, Cross drainage works and head-works and their design; Concepts in canal design, construction & maintenance; River training, measurement and analysis of rainfall.</p>
Environmental Engineering	<p>(a) Water Supply Engineering: Sources, Estimation, quality standards and testing of water and their treatment; Rural, Institutional and industrial water supply; Physical, chemical and biological characteristics and sources of water, Pollutants in water and its effects, Estimation of water demand; Drinking water Standards, Water Treatment Plants, Water distribution networks.</p> <p>(b) Waste Water Engineering: Planning & design of domestic waste water, sewage collection and disposal; Plumbing Systems. Components and layout of sewerage system; Planning & design of Domestic Waste-water disposal system; Sludge management including treatment, disposal and re-use of treated effluents; Industrial waste waters and Effluent Treatment Plants including institutional and industrial sewage management.</p> <p>(c) Solid Waste Management: Sources & classification of solid wastes along with planning & design of its management system; Disposal system, Beneficial aspects of wastes and Utilization by Civil Engineers.</p> <p>(d) Air, Noise pollution and Ecology: Concepts & general methodology.</p>
Geo-technical Engineering and Foundation Engineering	<p>(a) Geo-technical Engineering: Soil exploration - planning & methods, Properties of soil, classification, various tests and inter-relationships; Permeability & Seepage, Compressibility, consolidation and Shearing resistance, Earth pressure theories and stress distribution in soil; Properties and uses of geo-synthetics.</p> <p>(b) Foundation Engineering: Types of foundations & selection criteria, bearing capacity, settlement analysis, design and testing of shallow & deep foundations; Slope stability analysis, Earthen embankments, Dams and Earth retaining structures: types, analysis and design, Principles of ground modifications.</p>
Surveying and Geology	<p>(a) Surveying: Classification of surveys, various methodologies, instruments & analysis of measurement of distances, elevation and directions; Field astronomy, Global Positioning System; Map preparation; Photogrammetry; Remote sensing concepts; Survey Layout for culverts, canals, bridges, road/railway alignment and buildings, Setting out of Curves.</p> <p>(b) Geology: Basic knowledge of Engineering geology & its application in projects.</p>
Transportation Engineering	<p>Highways - Planning & construction methodology, Alignment and geometric design; Traffic Surveys and Controls; Principles of Flexible and Rigid pavements design.</p> <p>Tunneling - Alignment, methods of construction, disposal of muck, drainage, lighting and ventilation.</p> <p>Railways Systems – Terminology, Planning, designs and maintenance practices; track modernization.</p> <p>Harbours – Terminology, layouts and planning.</p> <p>Airports – Layout, planning & design.</p>