





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

MPSC

Engineering Services 2019 (Mains)

Online Test Series

No. of Tests : 25

 Subject Wise Tests	21
 Full Length Mock Tests	4

All tests will be available till
24th November 2019.

TEST SERIES HIGHLIGHTS

- ★ 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 6:00 pm on scheduled day

Test No	Paper	Subject Name	No. of Questions	Max Marks	Duration	Date of Activation
Test-01	Paper-I	Construction Planning and Management	25	50	30 mins	15-08-2019
Test-02	Paper-II	Fluid Mechanics	25	50	30 mins	17-08-2019
Test-03	Paper-I	Strength of materials	25	50	30 mins	19-08-2019
Test-04	Paper-II	Estimating, Costing and Valuation	25	50	30 mins	21-08-2019
Test-05	Paper-I	Computer-aided analysis and design of structures, application of computer programming to structures + Numerical methods	25	50	30 mins	23-08-2019
Test-06	Paper-II	Engineering Hydrology	25	50	30 mins	25-08-2019
Test-07	Paper-I	Design of reinforced concrete structures	25	50	30 mins	27-08-2019
Test-08	Paper-II	Fluid Machines	25	50	30 mins	29-08-2019
Test-09	Paper-I	Theory of structures	25	50	30 mins	31-08-2019
Test-10	Paper-II	Bridge Engineering	25	50	30 mins	02-09-2019
Test-11	Paper-I	Steel structures	25	50	30 mins	04-09-2019
Test-12	Paper-II	Geo-technical Engineering	25	50	30 mins	06-09-2019
Test-13	Paper-I	Structural analysis	25	50	30 mins	08-09-2019
Test-14	Paper-II	Irrigation Engineering	25	50	30 mins	10-09-2019
Test-15	Paper-I	Building Construction & Materials-1	25	50	30 mins	12-09-2019
Test-16	Paper-II	Highway Engineering	25	50	30 mins	14-09-2019
Test-17	Paper-I	Building Construction & Materials-2	25	50	30 mins	16-09-2019
Test-18	Paper-II	Surveying	25	50	30 mins	18-09-2019
Test-19	Paper-I	Pre-stressed Concrete	25	50	30 mins	20-09-2019
Test-20	Paper-II	Tunnelling	25	50	30 mins	22-09-2019
Test-21	Paper-II	Environmental Engineering	25	50	30 mins	24-09-2019

Full Length Mock Tests

Test No	Paper	Mock codes	No. of Questions	Max Marks	Duration	Date of Activation
Test-22	Paper-I	Full Length Mock Tests-1	100	200	2 hours	02-10-2019
Test-23	Paper-II	Full Length Mock Tests-2	100	200	2 hours	03-10-2019
Test-24	Paper-I	Full Length Mock Tests-3	100	200	2 hours	12-10-2019
Test-25	Paper-II	Full Length Mock Tests-4	100	200	2 hours	13-10-2019

Note: The Syllabus considered as per previous Notifications of MPSC. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final MPSC exam. As per Notification of MPSC each question carries '2' mark and negative marking of 1/4th (i.e. 0.5 Marks) for each wrong answer.

Syllabus for MPSC (Mains), Paper-I

Subject Name	Syllabus
Building Construction & Materials	Building Construction & Materials-1: Properties of wet and hardened concrete, tests on concrete, factors affecting strength of concrete, water-cement ratio, aggregate-cement ratio, mix design, additives, design of form work, types of formwork. Stones, bricks, cements, lime, mortar, timber, plastic, concrete, steel, paints and varnishes.
	Building Construction & Materials-2: Principles of building planning and design, integrated approach, building byelaws, building services such as vertical transportation, water supply sanitation, thermal ventilation, lighting, acoustics, fire protection, electrical fittings. Foundations, stones, brick and block masonry, steel and reinforced cement concrete structures, floors, doors and windows, roofs, finishing works, water proofing.
Strength of materials	Stresses, strains, principal stresses, bending moments, shear forces and torsion theory, bending theory of beam, deflection of beam, theories of buckling of columns.
Theory of structures	Analysis of beams, frames and trusses, slope deflection method, moment distribution method
Structural analysis	Analysis of arches and suspension cables, influence lines, stiffness and flexibility matrix methods.
Steel structures	Design of bolted and welded connections, columns, footings, trusses, steel beams, plate girders
Design of reinforced concrete structures (Working stress and limit state)	Design of slab, beams, columns, footing. retaining walls, tanks, building frames, staircases.
Pre-stressed Concrete	Principles of pre-stressing, materials used and their properties, permissible stresses as per I.S. codes, systems of pre-stressing, losses in pre-stress, design of pre-tensioned and post-tensioned beams- simply supported, rectangular and T- beams, cable profile, end block design, bridge girder.
Construction Planning and Management	Elements of scientific management, elements of material management, safety engineering, network analysis, construction equipment, site layout, quality control.0
Computer-aided analysis and design of structures, application of computer programming to structures. Numerical methods	Computer-aided analysis and design of structures, application of computer programming to structures. Numerical methods: i. Finding area by Simpson's rule, trapezoidal rule; ii. Finding root of an equation by a) Newton-Raphson techniques b) Bisection method iii. Solution of simultaneous equations by a) Gauss elimination method, b) GaussJordan method, c) Iteration method.

Syllabus for MPSC (Mains), Paper-II

Subject Name	Syllabus
Surveying	Classification of surveys, measurement of distances-direct and indirect methods, optical and electronic devices, prismatic compass, local attraction; plane table surveying, levelling, calculations of volumes, contours, theodolite, theodolite traversing, omitted measurements, trigonometric levelling, tacheometry, curves, photogrammetry, geodetic surveying, hydrographic surveying.
Estimating, Costing and Valuation	Specification, estimation, costing, tenders and contracts, rate analysis, valuation
Geo-technical Engineering	Geotechnical properties, stresses in soil, shear resistance, compaction, consolidation and earth pressure, stability of slopes, bearing capacity, settlements, shallow and deep foundations, cofferdams, ground water control.
Fluid Mechanics	Properties of fluids, fluid statics and buoyancy, kinematics and dynamics, flow measurement, flow in open channel, flow in closed conduits, dimensional and model analysis, losses in pipe flow, siphon, water hammer, boundary layer and control, pipe network.
Fluid Machines	Hydraulic turbines, centrifugal pumps, reciprocating pumps, power house, classification and layout.
Engineering Hydrology	Hydrological cycle, precipitation, evaporation, infiltration, runoff, hydrographs, reservoir planning & sediment control, floods, flood routing, ground water.
Irrigation Engineering	Water requirement of crops, methods of irrigation, lift irrigation, water logging, dams, spillways, energy dissipation, diversion head works, canal and canal structures, cross drainage works, river training works
Highway Engineering	Planning of highway systems, alignment and geometric design, horizontal and vertical curves, grade separation, materials and different surfaces and maintenance, rigid and flexible pavement, traffic engineering.
Bridge Engineering	Selection of site, types of bridges, discharge, waterway, spans, afflux, scour, standards, specifications, loads and forces, erection of superstructure, strengthening.
Tunnelling	Open cuts, surveys, criteria for selection of size and shapes, driving in soft and hard grounds, mucking, dust control, ventilation, lighting and drainage, special methods of tunnelling.
Environmental Engineering	Water Supply Engineering: Sources of supply, design of intakes, estimation of demand, water quality standards, primary and secondary treatment, maintenance of treatment units, conveyance and distribution of treated water, rural water supply.
	Waste Water Engineering & Pollution control: Quantity, collection and conveyance and quality, disposal, design of sewer and sewerage systems, pumping, characteristics of sewage and its treatment, rural sanitation, sources and effects of air and noise pollution, monitoring, standards
	Solid Waste Management: Sources, classification, collection and disposal.