



MADE EASY

India's Best Institute for IES, GATE & PSUs

APPSC

Andhra Pradesh
Public Service Commission

Assistant Executive Engineer
Prelims Examination

Online Test Series

for

- Civil Engineering
- Mechanical Engineering

Commencing from **23rd Dec'18**

Total 15 Tests (750 Questions)

Covering General Studies & Mental Ability + Technical Subjects

6

Part syllabus tests of 25 questions each
containing General Studies + Mental Ability.

+

6

Part syllabus tests of 25 questions each
containing Civil Engineering/Mechanical Engineering.

+

3

Full syllabus tests of 150 questions each
containing 50 questions of GS & Mental Ability +
100 questions of Civil/Mechanical Engineering.

Note: Each questions carry 1 Mark. Every wrong answer will attract 0.33 penalty mark.

Test no/ Type	Total Qs/ Max Marks/ Time	Syllabus	Activation Date
1 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	General science and its applications to the day to day life contemporary developments in science and technology and information technology. Social- economic and political history of modern India with emphasis on Andhra Pradesh.	23/12/18
2 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Strength of Material: Forces, moments, Equilibrium; Applying the Equation of Equilibrium, Planar Trusses; Friction; Simple Stresses & Strains: Elasticity and plasticity, Types of stresses & strains, Generalized Hooke's law – Stress-strain diagram for mild steel – Working stress – Factor of safety – Lateral strain, Poisson's ratio & volumetric strain – Elastic moduli & the relationship between them – Bars of varying section – composite bars – Temperature stresses. Strain energy – Resilience – Gradual, sudden, impact and shock loadings. Shear Force (S.F) and Bending Moment (B.M): Definition of beam – Types of beams – Concept of shear force and bending moment – S.F and B.M for cantilever, simply supported and overhanging beams subjected to point loads, U.D.L., uniformly varying loads and combination of these loads – Point of contra flexure – Relation between S.F., B.M and rate of loading at a section of a beam. Flexural Stresses: Theory of simple bending - Assumptions – bending equation: Neutral axis – bending stresses – section modulus of different sections – Design of simple beam sections.	23/12/18
3 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	Indian polity and governance : constitutional issues, public policy, reforms and e-governance initiatives and specific reference to Andhra Pradesh. Economic development in India since independence with emphasis on Andhra Pradesh.	23/12/18
4 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Fluid Mechanics and Machinery: Fluid statics: Dimensions and units: physical properties of fluids-specific gravity, viscosity, and surface tension - vapour pressure and their influence on fluid motion-atmospheric, Pascal's law, gauge and vacuum pressures – Measurement of pressure-Piezometer, U-tube and differential manometers..Hydrostatics, Fluid forces on planes and curved surfaces, submerged and floating bodies, Buoyancy and stability. Fluid kinematics: description of flow pattern and types of fluid flows – Velocity and acceleration: convective, temporal, tangential and normal accelerations, control volume-basic principles of fluid flow, continuity equation for 3-D, 2-D, 1-D flow. Rotational and irrotational motion, Velocity potential, stream function, flow net.	23/12/18
5 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	Physical geography of Indian sub-continent and Andhra Pradesh + Disaster management : vulnerability profile, prevention and mitigation strategies, application of remote sensing and GIS in the assessment of disaster.	30/12/18
6 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Shear Stresses: Derivation of formula – Shear stress distribution across various beam sections Principal Stresses and Strains: Stresses on an inclined section of a bar under axial loading – Compound stresses – Normal and tangential stresses on an inclined plane for biaxial stresses – Two perpendicular normal stresses accompanied by a state of simple shear – Mohr's circle of stresses – Principal stresses and strains – Analytical and graphical solutions. Different theories of Failure: Various theories of failure. Columns and struts – Euler's column theory – types of end conditions; critical load on the column - derivations – Rankin's formula for columns. Lifting machines, definitions, Law of machine, study of important lifting machines; virtual work principle.	30/12/18
7 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	Logical reasoning, analytical ability and data interpretation + Data analysis : tabulation of data, visual representation of data, basic data analysis (summary statistics such as mean, median, mode, variance and coefficient of variation and interpretation.	30/12/18
8 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Fluid dynamics: Surface and body forces – Euler's and Bernoulli's equations for flow along a stream line and its applications, momentum equation and its applications. Flow measurement devices – Gross measurement: Venturimeter, Orificemeter, Turbine flow meters, Rotameters; Pressure measurement: Pitot tubes, hot wire/film anemometer, their measurement principles and sources of errors; calibration. Closed conduit flow: Reynolds experiment - Major and Minor losses in pipes-pipes in series and pipes in parallel-total energy line-hydraulic gradient line, water hammer. Boundary Layer Concepts: Definition, thicknesses, characteristics along thin plate, laminar and turbulent boundary layers boundary layer in transition, separation of boundary layer, submerged objects – Drag and lift.	30/12/18

Test no/ Type	Total Qs/ Max Marks/ Time	Syllabus	Activation Date
9 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	Sustainable development and environmental protection, bifurcation of Andhra Pradesh and its administrative, economic, social, cultural, political and legal implications/problems.	06/01/19
10 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Torsion of Circular Shafts: Theory of pure torsion – Torsion Equations: Assumptions made in the theory of pure torsion – Torsional moment of resistance – Polar section modulus – Power transmitted by shafts – Combined bending and torsion and end thrust. Springs-Helical and leaf springs. Thin & Thick Cylinders and Spherical shells: Thin seamless shells – formula for longitudinal and circumferential stresses and max shear stresses – hoop, longitudinal and volumetric strains – changes in diameter, and volume of thin shells.	06/01/19
11 Part syllabus Non Technical	25 Qs. 25 Marks 25 Minutes	Events of national and international importance, current affairs-international, national and regional.	06/01/19
12 Part syllabus Technical	25 Qs. 25 Marks 25 Minutes	Basics of turbo machinery: Hydrodynamic force of jets on stationary and moving flat, inclined, and curved vanes, velocity diagrams, work done and efficiency, Hydraulic Turbines: Classification of turbines, Heads and efficiencies, impulse and reaction turbines, Pelton wheel, Francis turbine and Kaplan turbine - working proportions, work done, efficiencies, hydraulic design – Draft tube theory-functions and efficiency. Performance of hydraulic turbines: Geometric similarity, Unit and specific quantities, characteristic curves, governing of turbines, selection of type of turbine, cavitation. Centrifugal pumps: Classification, working, work done – barometric head-loss and efficiencies, specific speed - Performance characteristic curves, NPSH. Selection of pumps and economic evaluation of pumping. Hydraulic Directional Control – Check Valves, Shuttle Valves, two- three- and four-Way Directional Control Valves, Directional Control Valve Actuation. Hydraulic Pressure Control – Pressure Relief Valves, Unloading Valves, Pressure Reducing Valves, Sequence Valves, Counterbalance Valves, Pressure Compensated Pumps. Hydro Projects And Plant: Classification – Typical layouts – plant auxiliaries – plant operation, pumped storage plants. Hydro Electric Power Plant: Water power – Hydrological cycle / flow measurement – drainage area characteristics – Hydrographs – Storage and Pondage – Classification of dams and spill ways.	06/01/19
13 Full Syllabus Mock Test	150 Qs. 150 Marks 150 Minutes	50 Qs of General Studies and Mental Ability +100 Qs of Civil/Mechanical Engineering (common)	13/01/19
14 Full Syllabus Mock Test	150 Qs. 150 Marks 150 Minutes	50 Qs of General Studies and Mental Ability +100 Qs of Civil/Mechanical Engineering (common)	13/01/19
15 Full Syllabus Mock Test	150 Qs. 150 Marks 150 Minutes	50 Qs of General Studies and Mental Ability +100 Qs of Civil/Mechanical Engineering (common)	20/01/19

Fee : ₹400/- (for all)

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