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Engineering Academy
Leading Institute for ESE/GATE/PSUs

APPSC

ASSISTANT ENGINEERS (Paper-I and Paper-II)

***Online* Test Series**

Civil and Mechanical Engineering - Schedule

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| No.of Tests : 25 | |
| Subject Wise Tests | 19 |
| Full Length Mock Tests | 6 |

All tests will be Active upto APPSC-AE Examination.

Subject wise Tests

(No. of Questions: 30, Max Marks: 30 and Time duration: 30 Minutes)

| Test No | Name of the Subject | Date of Activation |
|---------|--|--------------------|
| Test-01 | General Studies & Mental Ability-1: Social- economic and political history of modern India with emphasis on Andhra Pradesh. Economic development in India since independence with emphasis on Andhra Pradesh. | 25-10-2021 |
| Test-02 | Solid Mechanics-1: Forces: Different types of forces, gravitational, frictional, axial, tensile or compressive. Law of Parallelogram and triangle of forces, polygon of forces, problems. Centre of gravity and moment of inertia. Simple plane figures, Simple machines, law of machine, Mechanical advantage, velocity ratio and efficiency, wheel and axle, pulleys and simple screw jack-problems. Riveted and welded joints, different modes of failures, efficiency of joints. Simple plane and pin-jointed trusses: Stresses by method of joints and method of sections. | 26-10-2021 |
| Test-03 | Fluid Mechanics-1: Introduction: Scope of hydraulics in Engineering. Definition and properties of fluid. Fluid pressure and its measurement: Atmospheric pressure, Gauge pressure and absolute pressure. Piezometer, Manometer-U-tube, Inverted U-tube, and differential manometers. Pressure on plane surface immersed in liquid-Horizontal, vertical and inclined plane surface. | 27-10-2021 |
| Test-04 | General Studies & Mental Ability-2: General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology Indian polity and governance: constitutional issues, public policy, reforms and e-governance initiatives with specific reference to Andhra Pradesh. | 28-10-2021 |
| Test-05 | Solid Mechanics-2: Simple Stresses and strains: Different types of stresses and strains, stress-strain diagram for ductile materials. Factor of safety, ultimate strength and working strength, elastic constants, Poisson ratio. Deformations, volume changes. Relations between elastic constants. Hooke's Law. Compound rods, temperature stresses, strain energy, impact loading. | 29-10-2021 |
| Test-06 | Fluid Mechanics-2: Flow of fluids: Type of flow-uniform flow, non-uniform flow, streamline flow, Turbulant flow, steady flow and unsteady flow, Energies in fluid motion-Datum head, pressure head and velocity head. Total energy of fluid in motion - Bernoulli's theorem. Practical application of Bernoulli's theorem - flow measurement- pitot tube venturimeter - Orificemeter. | 30-10-2021 |
| Test-07 | General Studies & Mental Ability-3: Disaster management: vulnerability profile, prevention and mitigation strategies, Application of Remote Sensing and GIS in the assessment of Disaster. | 31-10-2021 |
| Test-08 | Solid Mechanics-3: Shear force and bending moment diagrams for simply supported, over hanging and cantilever beams. Relation between intensity of loading, shear force and bending moment. Theory of simple bending: Assumptions, basic flexure formula, bending stresses, modulus of section, moment of resistance. Circular bending. Distribution of shear stress in common structural sections. | 01-11-2021 |
| Test-09 | Fluid Mechanics-3: Flow through orifices and Mouth Pieces: Definition of orifice, types of orifices, Vena contracta, coefficient of velocity, coefficient of contraction, coefficient of discharge. Submerged and partially submerged orifices. Flow through orifices Notches and Weirs: Definition of notch, types of notches - Rectangular notch, Triangular notch and trapezoidal notch. Discharge over a rectangular, triangular and a trapezoidal notches. | 02-11-2021 |
| Test-10 | General Studies & Mental Ability-4: Physical geography of Indian sub-continent and Andhra Pradesh. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems. | 03-11-2021 |
| Test-11 | Solid Mechanics-4: Deflection in cantilever and simply supported beams under simple loading- propped cantilever beams subjected to simple loading, determination of reaction. SF and BM diagrams. Thin cylindrical shells, longitudinal and circumferential stresses and volume changes. Thin cylinders under internal pressure stresses and volume changes | 04-11-2021 |
| Test-12 | Fluid Mechanics-4: under variable heads - Time of emptying a rectangular tank through orifices. Mouth pieces - different types of problems. Flow through pipes: Major and minor losses - Loss of head at entrance, loss of head due to sudden enlargement, due to sudden contraction, loss of head at exit of the pipe. Frictional loss in pipe-Chezy formula and Daycy's formula. | 05-11-2021 |
| Test-13 | General Studies & Mental Ability-5: Sustainable Development and Environmental Protection | 06-11-2021 |
| Test-14 | Solid Mechanics-5: Torsion: Assumptions, basic formula of torsion, power transmission by shafts of uniform circular sections close-coiled springs, strain-energy in simple beams and shafts, sudden and impact loading. Principal stresses and principal planes. Mohr's circle of stress. | 07-11-2021 |

| Test No | Name of the Subject | Date of Activation |
|---------|--|--------------------|
| Test-15 | Fluid Mechanics-5: Hydraulic gradient and total energy line. Discharge through parallel pipes and branched pipes connected to a reservoir. Flow through syphon pipe. Hydraulic transmission of power-flow through nozzle at the end of a pipe line- diameter of 20 nozzle for Max H.P. available. Water hammer and its effect. Laminar and turbulent flow in pipes-Critical velocity and Reynold number. | 08-11-2021 |
| Test-16 | General Studies & Mental Ability-6: Events of national and international importance. Current affairs- international, national and regional. | 09-11-2021 |
| Test-17 | Solid Mechanics-6: Columns and struts: Direct and bending stresses, core of section. Short and long columns under axial loading-various end-conditions. Euler and Rankine formulae, Slenderness ratio, simple built-up columns. | 10-11-2021 |
| Test-18 | Fluid Mechanics-6: Impact of jets: Formulae for the force of jet on a fixed vertical flat plate, fixed inclined flat plates, moving flat plates, series of flat plates fixed on the rim of a wheel. Force of jet striking at the centre and at the top of a fixed curved blade and moving curved blade, velocity triangles. Work done, power and efficiency in the above cases. Simple problems. Water turbines: Introduction to water turbines. Use of water turbines in Hydroelectric power stations line sketch showing layout of hydro-electric power plant with head race, dam, sluice gate, pen stock turbine, generator and tail race. Classification of turbines - impulse and reaction turbines brief sub-classification of axial, radial and tangential flow type. Pelton wheel, Francis turbine and Kaplan turbine, power and efficiency of turbines. Centrifugal pump: Installation, mountings and other accessories. Priming of centrifugal pump. Efficiency, cavitation. Simple problems on work, power and efficiency | 11-11-2021 |
| Test-19 | General Studies & Mental Ability-7: Logical reasoning, analytical ability and data interpretation. Data Analysis: a) Tabulation of data b) Visual representation of data c) Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation | 12-11-2021 |

Full Length Mock Test

(No. of Questions: 150, Max Marks: 150 and Time duration: 150 Minutes)

| Test No | Name of the Mock | Date of Activation |
|---------|---|--------------------|
| Test-20 | Mock-1 PAPER-I (General Studies & Mental Ability) | 17-11-2021 |
| Test-21 | Mock-1 PAPER-II (Engineering Discipline) | |
| Test-22 | Mock-2 PAPER-I (General Studies & Mental Ability) | 22-11-2021 |
| Test-23 | Mock-2 PAPER-II (Engineering Discipline) | |
| Test-24 | Mock-3 PAPER-I (General Studies & Mental Ability) | 27-11-2021 |
| Test-25 | Mock-3 PAPER-II (Engineering Discipline) | |

Note: The Syllabus considered as per Notification of APPSC. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final exam. The Dates of above Tests may Change according to the APPSC-AE Exam schedule. As per Notification of APPSC each question carries '1' mark and negative marking of 1/3rd (i.e. 0.33 Marks) for each wrong answer.