



ACE[®]
Engineering Academy
Leading Institute for ESE/GATE/PSUs



STAFF SELECTION COMMISSION

JUNIOR ENGINEER(Paper-II) EXAMINATION-2023

Online Test Series

Mechanical Engineering - Schedule

No.of Tests : 13	
Subject Wise Tests	10
Full Length Mock Tests	3

Note:

- ❖ The Syllabus considered as per Notification of SSC-JE-2023. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final SSC-JE-2023 exam. As per Notification of SSC-JE-2023 each question carries '3' mark and negative marking of '1' Mark for each wrong answer.
- ❖ The Dates of tests may change according to the SSC-JE-2023(Paper-II) Exam schedule.
- ❖ Tests will be activated at 6:00 pm on scheduled day.
- ❖ All tests will be Active upto SSC-JE-2023 (Paper-II) Examination.

Subject-wise Tests

(No. of Questions: 50, Time duration: 60 Minutes and Marks: 150 M)

Test No	Name of the Test	Date of Activation
Test-01	Theory of Machines: Concept of simple machine, Four bar linkage and link motion, Flywheels and fluctuation of energy, Governors – Principles and classification, Cams.	19-10-2023
Test-02	Machine Design: Power transmission by belts – V-belts and Flat belts, Clutches – Plate and Conical clutch, Gears – Type of gears, gear profile and gear ratio calculation, Riveted joint, Bearings, Friction in collars and pivots	21-10-2023
Test-03	Engineering Mechanics and Strength of Materials: Equilibrium of Forces, Law of motion, Friction, Concepts of stress and strain, Elastic limit and elastic constants, Bending moments and shear force diagram, Stress in composite bars, Torsion of circular shafts, Buckling of columns–Euler’s and Rankin’s theories, Thin walled pressure vessels	23-10-2023
Test-04	Thermal Engineering: Properties of Pure Substances: p-v & P-T diagrams of pure substance like H ₂ O, Introduction of steam table with respect to steam generation process; definition of saturation, wet & superheated status Definition of dryness fraction of steam, degree of superheat of steam H-s chart of steam (Mollier’s Chart) 1st Law of Thermodynamics: Definition of stored energy & internal energy, 1st Law of Thermodynamics of cyclic process, Non Flow Energy Equation, Flow Energy & Definition of Enthalpy, Conditions for Steady State Steady Flow; Steady State Steady Flow Energy Equation 2nd Law of Thermodynamics: Definition of Sink, Source Reservoir of Heat, Heat Engine, Heat Pump & Refrigerator; Thermal Efficiency of Heat Engines & co-efficient of performance of Refrigerators, Kelvin – Planck & Clausius Statements of 2nd Law of Thermodynamics, Absolute or Thermodynamic Scale of temperature, Clausius Integral, Entropy, Entropy change calculation of ideal gas processes Carnot Cycle & Carnot Efficiency, PMM-2; definition & its impossibility	25-10-2023
Test-05	Air standard Cycles for IC engines: Otto cycle; plot on P-V, T-S Planes; Thermal Efficiency, Diesel Cycle; Plot on P-V, T-S planes; Thermal efficiency. IC Engine Performance, IC Engine Combustion, IC Engine Cooling & Lubrication	27-10-2023
Test-06	Rankine cycle of steam: Simple Rankine cycle plot on P-V, T-S, h-s planes, Rankine cycle efficiency with & without pump work Boilers; Classification; Specification; Fittings & Accessories: Fire Tube & Water Tube Boilers Air Compressors & their cycles; Refrigeration cycles; Principle of a Refrigeration Plant; Nozzles & Steam Turbines	29-10-2023
Test-07	Fluid Mechanics & Machinery-1: Properties & Classification of Fluid: ideal & real fluids, Newton’s law of viscosity, Newtonian and Non-Newtonian fluids, compressible and incompressible fluids Fluid Statics: Pressure at a point Measurement of Fluid Pressure: Manometers, U-tube, Inclined tube Fluid Kinematics: Stream line, laminar & turbulent flow, external & internal flow, continuity equation	31-10-2023

Test No	Name of the Test	Date of Activation
Test-08	Fluid Mechanics & Machinery-2: Dynamics of ideal fluids: Bernoulli's equation, Total head; Velocity head; Pressure head; Application of Bernoulli's equation Measurement of Flow rate Basic Principles: Venturimeter, Pilot tube, Orifice meter Hydraulic Turbines: Classifications, Principles Centrifugal Pumps: Classifications, Principles, Performance	02-11-2023
Test-09	Production Engineering-1: Mild steel & alloy steel, Heat treatment of steel, Welding – Arc Welding, Gas Welding, Resistance Welding, Special Welding Techniques i.e. TIG, MIG, etc (Brazing & Soldering), Welding Defects & Testing; Foundry & Casting – methods, defects, different casting processes,	04-11-2023
Test-10	Production Engineering-2: Forging, Extrusion, etc, Metal cutting principles, cutting tools, Basic Principles of machining with (i) Lathe (ii) Milling (iii) Drilling (iv) Shaping (v) Grinding, Machines, tools & manufacturing processes. NDT.	06-11-2023

Full Length Mock Test Series

(No. of Questions: 100, Time duration: 120 Minutes and Marks: 300 M)

Test-11	Full Length Mock Test-1	11-11-2023
Test-12	Full Length Mock Test-2	18-11-2023
Test-13	Full Length Mock Test-3	25-11-2023