

**MADE EASY**

India's Best Institute for IES, GATE & PSUs

Detailed Schedule
Online Test Series
SSC-JE 2021
MECHANICAL ENGG.

Test No.	Activation Date	Subject	Marks/Time
1.	10 th Oct, 2021	History & Culture + Geography	50 M /30 min
2.		Indian Polity + Indian Economy	50 M /30 min
3.		Current Affairs + General Knowledge	50 M /30 min
4.		General Science & Technology + Environment	50 M /30 min
5.		Analogies or Similarity + Blood relationship + Symbols and Notations + Classification	50 M /30 min
6.		Directions and Distance Test + Series + Coding and Decoding + Word Formation	50 M /30 min
7.		Completion of Figure + Ranking Arrangement + Find the Missing Number + Arrangement of Words in Logical Order + Cubes and Dice	50 M /30 min
8.		Logical Venn Diagram + Paper Cutting, Folding and Mirror images + Matrix reasoning + Syllogism + Statement and Conclusions	50 M /30 min
9.		Theory of Machines: Concept of simple machine, Four bar linkage and link motion, Flywheels and fluctuation of energy, Cams, Governors – Principles and classification.	50 M /30 min
10.		Strength of Materials: 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	50 M /30 min
11.		Thermodynamics : 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) . First Law of Thermodynamics : Definition of stored energy & internal energy, 1 st 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 . Second Law of Thermodynamics : Definition of Sink, Source Reservoir of Heat, Heat Engine, Kelvin – Planck & Clausius Statements of 2 nd 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	50 M /30 min
12.		Fluid Mechanics & Machinery Properties & Classification of Fluid : 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 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	50 M /30 min

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13.	10 th Oct, 2021	Production Engineering : Welding – Arc Welding, Gas Welding, Resistance Welding, Special Welding Techniques i.e. TIG, MIG, etc (Brazing & Soldering), Welding Defects & Testing; NDT, Foundry & Casting – methods, defects, different casting processes, 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	50 M /30 min
14.		Internal Combustion 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 Power Plant : 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; Nozzles & Steam Turbines	50 M /30 min
15.		Material Science : Classification of Steels : mild steel & alloy steel, Heat treatment of steel Engineering Mechanics : Equilibrium of Forces, Law of motion, Friction	50 M /30 min
16.		Refrigeration & Air-conditioning : Heat Pump & Refrigerator; Thermal Efficiency of Heat Engines & co-efficient of performance of Refrigerators, Refrigeration cycles; Principle of a Refrigeration Plant; 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	50 M /30 min
17.	10 th Nov, 2021	Full Syllabus Test 1	200 M /120 min
18.	10 th Nov, 2021	Full Syllabus Test 2	200 M /120 min
19.	10 th Nov, 2021	Full Syllabus Test 3	200 M /120 min
20.	10 th Nov, 2021	Full Syllabus Test 4	200 M /120 min
21.	10 th Dec, 2021	Full Syllabus Test 5	200 M /120 min
22.	10 th Dec, 2021	Full Syllabus Test 6	200 M /120 min
23.	10 th Dec, 2021	Full Syllabus Test 7	200 M /120 min
24.	10 th Dec, 2021	Full Syllabus Test 8	200 M /120 min

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