



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

TSPSC
ASSISTANT EXECUTIVE ENGINEERS
Online Test Series

Mechanical Engineering - Schedule

No.of Tests : 21 + 30 <i>free</i> practice tests of TSPSC-AEE-2021 OTS		
	TSPSC-AEE-2022	Practice Tests TSPSC-AEE-2021
Subject Wise Tests	17	22
Full Length Mock Tests	4	8
Total Tests - 51		

Note:

- ★ The Syllabus considered as per Previous year Notification of TSPSC-AEE. ACE Engineering Academy does not take any responsibility for deviations in syllabus in the final exam.
- ★ The Dates of Tests may Change according to the TSPSC-AEE Exam schedule.
- ★ All Tests will be active till TSPSC-AEE Examination.
- ★ Tests will be activated at 06:00 pm on the scheduled day.

Subject wise Tests

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

Test No	Name of the Test	Max Marks	Date of Activation
Test-01	<p>Engineering Mechanics & Machine Design: Free-body diagrams and equilibrium; Trusses and Frames; Virtual work; Kinematics and Dynamics of Particles and Rigid Bodies in Plane Motion; Impulse and Momentum (Linear and Angular) and Energy Formulations; Impact.</p> <p>Design For Static and Dynamic Loading; Failure Theories; Fatigue Strength; S-N Diagram; Design of Machine Elements such as Bolted, Riveted and Welded Joints, Shafts, Spur Gears, Rolling and Sliding Contact Bearings, Springs, Brakes and Clutches.</p>	60	01-08-2022
Test-02	<p>Strength of Materials: Stress and Strain, Stress-Strain Relationship and Elastic Constants, Poisson's Ratio; Mohr's Circle For Plane Stress and Plane Strain; Thin Cylinders; Shear Force and Bending Moment Diagrams; Bending And Shear Stresses; Deflection Of Beams; Torsion Of Circular Shafts; Euler's Theory Of Columns; Energy Methods; Thermal Stresses; Testing Of Materials with Universal Testing Machine (UTM); Hardness And Impact Strength.</p>	60	06-08-2022
Test-03	<p>General Studies and General Abilities-1: Society, Culture, Heritage, Arts and Literature of Telangana. Policies of Telangana State.</p>	30	07-08-2022
Test-04	<p>Theory of Machines & Vibrations: Displacement, Velocity and Acceleration Analysis of Plane Mechanisms; Dynamic Analysis of Slider-Crank Mechanism; Gears and Gear Trains; Flywheels, Gyroscope and Governors; Balancing of Reciprocating and Rotating Masses.</p> <p>Vibrations: Free and Forced Vibration of Single Degree of Freedom Systems, Effect of Damping; Vibration Isolation; Resonance; Critical Speeds of Shafts.</p>	60	10-08-2022
Test-05	<p>Fluid Mechanics: Fluid Properties; Fluid Statics, Manometry, Buoyancy, Forces on Submerged Bodies, Stability of Floating Bodies; Fluid Acceleration; Differential Equations of Continuity and Momentum; Bernoulli's Equation; Viscous Flow of Incompressible Fluids, Boundary Layer, Elementary Turbulent Flow, Flow Through Pipes, Head Losses in Pipes and Bends.</p>	60	13-08-2022
Test-06	<p>General Studies and General Abilities-2: Economic and Social Development of India and Telangana. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.</p>	30	14-08-2022
Test-07	<p>Heat-Transfer: Modes of Heat Transfer; One Dimensional Heat Conduction, Resistance Concept, Electrical Analogy, Fins; Unsteady Heat Conduction, Dimensionless Parameters in Free and Forced Convective Heat Transfer, Various Correlations for Heat Transfer in Flow Over Flat Plates and Through Pipes, Effect of Turbulence; Radiative Heat Transfer, Black And Grey Surfaces, Shape Factors, Network Analysis, Heat Exchanger Performance, LMTD and NTU Methods.</p>	60	17-08-2022
Test-08	<p>General Studies and General Abilities-3: Physical, Social and Economic Geography of India. Physical, Social and Economic Geography and Demography of Telangana.</p>	30	18-08-2022
Test-09	<p>Thermodynamics: Thermodynamic systems and processes; properties of pure substances, behavior of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes; second law of thermodynamics; thermodynamics property, availability and irreversibility; thermodynamic relations.</p>	60	20-08-2022
Test-10	<p>General Studies and General Abilities-4: General Science; India's Achievements in Science and Technology. Environmental issues; Disaster Management- Prevention and Mitigation Strategies.</p>	30	21-08-2022
Test-11	<p>Power Engineering: Air compressors-Reciprocating and rotary compressors; Rankine, Brayton Cycles with Regeneration, Inter cooling and Reheat.</p> <p>I.C. Engines: Air-standard Otto & Diesel Cycles,</p> <p>Refrigeration and air-conditioning: Vapour Refrigeration Cycle, Heat Pumps, Gas Refrigeration; Reverse Brayton Cycle; Moist Air: Psychrometric Chart, Basic Psychrometric Processes.</p> <p>Turbomachinery: Pelton Wheel, Francis and Kaplan Turbines, Impulse and Reaction Principles, Velocity Diagrams.</p>	60	24-08-2022
Test-12	<p>General Studies and General Abilities-5: Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement. Indian Constitution; Indian Political System; Governance and Public Policy.</p>	30	25-08-2022
Test-13	<p>Engineering Materials: Structure and Properties of Engineering Materials, Heat Treatment, Stress-Strain Diagrams for Engineering Materials, Iron-carbon diagram.</p> <p>Metal Casting: Design of Patterns, Moulds and Cores; Solidification and Cooling; Riser and Gating Design.</p> <p>Metal Forming: Plastic Deformation and Yield Criteria; Fundamentals of Hot and Cold Working Processes; Load Estimation for Bulk (Forging, Rolling, Extrusion, Drawing) and Sheet (Shearing, Deep Drawing, Bending) Metal Forming Processes; Principles of Powder Metallurgy.</p> <p>Joining Processes: Principles (Gas, Arc, Resistance and Solid State) of Welding, Brazing, Soldering; Adhesive Bonding.</p>	60	27-08-2022
Test-14	<p>General Studies and General Abilities-6: Current affairs – Regional, National and International. International Relations and Events.</p>	30	28-08-2022

Test No	Name of the Test	Max Marks	Date of Activation
Test-15	<p>Machining and Machine Tool Operations: Mechanics of Machining; Basic Machine Tools; Single and Multi-Point Cutting Tools, Tool Geometry and Materials, Tool Life and Tool Wear; Economics of Machining; Principles of Non-Traditional Machining Processes; Principles of Work Holding Devices, Principals of Jigs and Fixtures.</p> <p>Metrology and Inspection: Limits, Fits and Tolerances; Linear and Angular Measurements; Comparators; Gauge; Interferometry; Form and Surface Finish Measurement; Alignment and Testing Methods; Tolerance Analysis in Manufacturing and Assembly.</p> <p>Computer Integrated Manufacturing: Basic concepts of CAD/CAM and their integration tools.</p>	60	31-08-2022
Test-16	<p>Production Planning and Control: Forecasting Models, Aggregate Production Planning, Scheduling, Materials Requirement Planning.</p> <p>Inventory Control: Deterministic Models; Safety Stock Inventory Control Systems.</p> <p>Operations Research: Linear Programming, Simplex Method Transportation, Assignment, Simple Queuing Models, PERT and CPM.</p>	60	03-09-2022
Test-17	<p>General Studies and General Abilities-7: Logical Reasoning; Analytical Ability and Data Interpretation. Basic English. (10th Class Standard)</p>	30	22-09-2022
Additional Test	<p>Engineering Mechanics and I.C. Engines: Friction, rolling friction, belt – pulley, screw jack, wedge. Combustion in S.I. & C.I. Engines, Performance & Testing of internal combustion engines.</p>	60	29-09-2022

Full Length Mock Test

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

Test-18	Mock-1 PAPER-II (Engineering Discipline)	300	10-10-2022
Test-19	Mock-1 PAPER-I (General Studies & General Abilities)	150	23-10-2022
Test-20	Mock-2 PAPER-II (Engineering Discipline)	300	07-11-2022
Test-21	Mock-2 PAPER-I (General Studies & General Abilities)	150	20-11-2022

Free Practice Tests of TSPSC-AEE-2021 Online Test Series

Subject wise Tests

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

Test No	Name of the Test	Max Marks	Date of Activation
Test-01	Applied Mechanics and Design-1: Engineering Mechanics: Free-body diagrams and equilibrium; trusses and frames; virtual work; kinematics and dynamics of particles and of rigid bodies in plane motion; impulse and momentum (linear and angular) and energy formulations, collisions.	60	20-07-2022
Test-02	Applied Mechanics and Design-2: Mechanics of Materials: Stress and strain, elastic constants, Poisson's ratio; Mohr's circle for plane stress and plane strain; thin cylinders; shear force and bending moment diagrams; bending and shear stresses; deflection of beams; torsion of circular shafts; Euler's theory of columns; energy methods; thermal stresses; strain gauges and rosettes; testing of materials with universal testing machine; testing of hardness and impact strength.	60	
Test-03	General Studies and General Abilities-1: Society, Culture, Heritage, Arts and Literature of Telangana. Policies of Telangana State.	30	
Test-04	Applied Mechanics and Design-3: Theory of Machines: Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of linkages; cams; gears and gear trains; flywheels and governors; balancing of reciprocating and rotating masses; gyroscope. Vibrations: Free and forced vibration of single degree of freedom systems, effect of damping; vibration isolation; resonance; critical speeds of shafts.	60	
Test-05	Applied Mechanics and Design-4: Machine Design: Design for static and dynamic loading; failure theories; fatigue strength and the S-N diagram; principles of the design of machine elements such as bolted, riveted and welded joints, keys, shafts, gears, rolling and sliding contact bearings, brakes and clutches, springs.	60	
Test-06	General Studies and General Abilities-2: Economic and Social Development of India and Telangana. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.	30	
Test-07	Applied Mechanics and Design-5: Engineering Mechanics + Mechanics of Materials + Theory of Machines + Vibrations + Machine Design	60	
Test-08	Fluid Mechanics and Thermal Sciences-1: Fluid Mechanics: Fluid properties; fluid statics, manometry, buoyancy, forces on submerged bodies, stability of floating bodies; control-volume analysis of mass, momentum and energy; fluid acceleration; differential equations of continuity and momentum; Bernoulli's equation; dimensional analysis; viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends and fittings. Turbomachinery: Impulse and reaction principles, velocity diagrams, Pelton-wheel, Francis and Kaplan turbines.	60	
Test-09	General Studies and General Abilities-3: Physical, Social and Economic Geography of India. Physical, Social and Economic Geography and Demography of Telangana.	30	
Test-10	Fluid Mechanics and Thermal Sciences-2: Heat-Transfer: Modes of heat transfer; one dimensional heat conduction, resistance concept and electrical analogy, heat transfer through fins; unsteady heat conduction, lumped parameter system, thermal boundary layer, dimensionless parameters in free and forced convective heat transfer, heat transfer correlations for flow over flat plates and through pipes, effect of turbulence; heat exchanger performance, LMTD and NTU methods; radiative heat transfer, Stefan- Boltzmann law, Wien's displacement law, black and grey surfaces, view factors, radiation network analysis.	60	
Test-11	Fluid Mechanics and Thermal Sciences-3: Thermodynamics: Thermodynamic systems and processes; properties of pure substances, behavior of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes; second law of thermodynamics; availability and irreversibility; thermodynamic relations.	60	
Test-12	General Studies and General Abilities-4: General Science; India's Achievements in Science and Technology. Environmental issues; Disaster Management- Prevention and Mitigation Strategies.	30	
Test-13	Fluid Mechanics and Thermal Sciences-4: Power Engineering: Air compressors; vapour and gas power cycles, concepts of regeneration and reheat. I.C. Engines: Air-standard Otto, Diesel and dual cycles. Refrigeration and air-conditioning: Vapour and gas refrigeration and heat pump cycles; basic psychrometric processes.	60	
Test-14	Fluid Mechanics and Thermal Sciences-5: Fluid Mechanics + Heat-Transfer + Thermodynamics + Power Engineering + I.C. Engines + Refrigeration and air-conditioning + Turbomachinery	60	

Test No	Name of the Test	Max Marks	Date of Activation
Test-15	General Studies and General Abilities-5: Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement. Indian Constitution; Indian Political System; Governance and Public Policy.	30	20-07-2022
Test-16	Materials, Manufacturing and Industrial Engineering-1: Engineering Materials: Structure and properties of engineering materials, phase diagrams, heat treatment, stress-strain diagrams for engineering materials. Metrology and Inspection: Limits, fits and tolerances; linear and angular measurements; comparators; gauge design; interferometry; form and surface finish measurement; machine tool; alignment and testing methods; tolerance analysis in manufacturing and assembly.	60	
Test-17	Materials, Manufacturing and Industrial Engineering-2: Casting, Forming and Joining Processes: Different types of castings, design of patterns, moulds and cores; solidification and cooling; riser and gating design. Plastic deformation and yield criteria; fundamentals of hot and cold working processes; load estimation for bulk metal forming processes such as forging, rolling, extrusion, drawing; and sheet metal forming processes such as shearing, deep drawing, bending; principles of powder metallurgy. Principles of welding, brazing, soldering and adhesive bonding.	60	
Test-18	General Studies and General Abilities-6: Current affairs – Regional, National and International. International Relations and Events.	30	
Test-19	Materials, Manufacturing and Industrial Engineering-3: Machining and Machine Tool Operations: Mechanics of machining; basic machine tools; single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, design of jigs and fixtures. Computer Integrated Manufacturing: Basic concepts of CAD/CAM and their integration tools.	60	
Test-20	Materials, Manufacturing and Industrial Engineering-4: Production Planning and Control: Forecasting models, aggregate production planning, scheduling, materials requirement planning. Inventory Control: Deterministic models; safety stock inventory control systems. Operations Research: Linear programming, simplex method transportation, assignment, network flow models, simple queuing models, PERT and CPM.	60	
Test-21	General Studies and General Abilities-7: Logical Reasoning; Analytical Ability and Data Interpretation. Basic English. (10th Class Standard)	30	
Test-22	Materials, Manufacturing and Industrial Engineering-5: Engineering Materials + Casting, Forming and Joining Processes + Machining and Machine Tool Operations + Metrology and Inspection + Computer Integrated Manufacturing + Production Planning and Control + Inventory Control + Operations Research	60	

Full Length Mock Test

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

Test-23	Mock-1 PAPER-I (General Studies & General Abilities)	150	25-07-2022
Test-24	Mock-1 PAPER-II (Engineering Discipline)	300	
Test-25	Mock-2 PAPER-I (General Studies & General Abilities)	150	
Test-26	Mock-2 PAPER-II (Engineering Discipline)	300	
Test-27	Mock-3 PAPER-I (General Studies & General Abilities)	150	
Test-28	Mock-3 PAPER-II (Engineering Discipline)	300	
Test-29	Mock-4 PAPER-I (General Studies & General Abilities)	150	
Test-30	Mock-4 PAPER-II (Engineering Discipline)	300	