



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

TSPSC

**LECTURERS IN GOVERNMENT POLYTECHNICS IN TECHNICAL
EDUCATION SERVICE**

Online Test Series

Electrical and Electronics Engineering - Schedule

| | |
|-------------------------------|-----------|
| No.of Tests : 21 | |
| Subject Wise Tests | 17 |
| Full Length Mock Tests | 4 |

Note:

- ★ The Syllabus considered as per Notification of TSPSC-PL. 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-PL Exam schedule.
- ★ All Tests will be active till TSPSC-PL Examination.
- ★ Test series available in ENGLISH medium only.
- ★ Tests will be activated at 06:00 pm on the scheduled day.

☎ **040-40136222**

<https://support.ace.online/support/home>

Subject wise Tests

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

| Test No | Name of the Test | Max Marks | Date of Activation |
|---------|--|-----------|--------------------|
| Test-01 | Electric Circuits and Fields: Network graph, KCL, KVL, node and mesh analysis, transient response of dc and ac networks; sinusoidal steady-state analysis, resonance, basic filter concepts; ideal current and voltage sources, Thevenin's, Norton's, Superposition, Maximum Power Transfer and Reciprocity theorems; two-port networks, three phase circuits; Star, Delta connections, Measurement of power in 3-phase by two-wattmeter method; Fourier, Laplace and Z transforms; Gauss Theorem, electric field and potential due to point, line, plane and spherical charge distributions; Ampere's and Biot-Savart's laws; inductance; dielectrics; capacitance. | 60 | 30-01-2023 |
| Test-02 | Electrical Machines-1: Transformer: Single phase transformer - equivalent circuit, phasor diagram, tests, regulation and efficiency; three phase transformers - connections, parallel operation; auto-transformer. DC machines: Energy conversion principles; DC machines - types, windings, generator and motor characteristics, losses and efficiency, armature reaction and commutation, starting and speed control of motors, tests. | 60 | 02-02-2023 |
| Test-03 | General Studies and General Abilities-1: Society, Culture, Heritage, Arts and Literature of Telangana. Policies of Telangana State. Social Exclusion; Rights issues such as Gender, Caste, Tribe, Disability etc. and inclusive policies. | 30 | 04-02-2023 |
| Test-04 | Electrical Machines-2: Induction motors: Three phase induction motors - principles, types, performance characteristics, starting and speed control; single phase induction motors. Synchronous machines: Synchronous machines - performance, regulation and parallel operation of alternators, motor starting, characteristics and applications; servo motors. | 60 | 06-02-2023 |
| Test-05 | Analog Electronics: Characteristics of p-n junction diode, Zener diode, BJT, FET; amplifiers - biasing, equivalent circuit and frequency response; oscillators and feedback amplifiers; operational amplifiers - characteristics and applications; simple active filters; VCOs and timers. Digital Electronics and Microprocessor: Boolean Algebra, minimization of switching functions combinational and sequential logic circuits; schmitt trigger, multi vibrators Flip flops, counters and registers, sample and hold circuits; A/D and D/A converters; microprocessor basics.(8085 & 8086), architecture, programming and interfacing, 8051 mc BASICS (Architectures. Addressing modes and instruction set). | 60 | 09-02-2023 |
| 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 | 11-02-2023 |
| Test-07 | Control Systems: Principles of feedback; transfer function; block diagrams; steady state errors; Routh and Nyquist techniques; Bode plots; root loci; lag, lead and lead-lag compensation; state space model; state transition matrix, controllability and observability. | 60 | 13-02-2023 |
| Test-08 | Power Systems-1: Basic power generation concepts, Economic aspects, per-unit quantities; bus impedance and admittance matrices; load flow study; symmetrical components; symmetrical & unsymmetrical fault analysis; Power system stability concepts, swing equation, power angle curve, solution of swing equation, equal area criterion. | 60 | 16-02-2023 |
| 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 | 18-02-2023 |
| Test-10 | Power Systems-2: Types of Tariffs; transmission line models and performance; cable performance, insulators, Sag and Tension; corona and radio interference; distribution systems; voltage control; power factor correction. Economic operation; Load Frequency Control; principles of over-current, differential and distance protection; Generator protection, Transformer protection, Feeder protection, static relays; circuit breakers. | 60 | 20-02-2023 |
| Test-11 | General Studies and General Abilities-4: General Science; India's Achievements in Science and Technology. Environmental issues; Disaster Management- Prevention and Mitigation Strategies. | 30 | 22-02-2023 |
| Test-12 | Electrical and Electronic Measurements: DC, AC Bridges, potentiometers; PMMC, moving iron, dynamometer and induction type instruments; measurement of voltage, current, power, energy and power factor; shunts, multipliers; instrument transformers; digital voltmeters, CRO; phase, time and frequency measurements using lissajous patterns; error analysis. | 60 | 23-02-2023 |
| Test-13 | 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 | 25-02-2023 |
| Test-14 | Power Electronics: Semiconductor power diodes, transistors, thyristors, triacs, GTOs, MOSFETs and IGBTs - static characteristics and principles of operation; triggering circuits commutation circuits; phase control rectifiers; bridge converters - fully controlled and half controlled; dual converters, principles of choppers, inverters, cyclo-converters and ac voltage controllers. Electric Drives: Four quadrant operation, Types of loads, Energy loss during starting and braking of dc and ac motors, Types of braking in dc & ac motors, Basis concepts of converter and chopper fed dc drives; V/f control, static rotor resistance control and slip power recovery scheme of 3-phase induction motor drives. | 60 | 27-02-2023 |

| Test No | Name of the Test | Max Marks | Date of Activation |
|---------|--|-----------|--------------------|
| Test-15 | General Studies and General Abilities-6: Current affairs – Regional, National and International. International Relations and Events. | 30 | 01-03-2023 |
| Test-16 | Utilization: High frequency eddy current heating, dielectric heating, Arc furnace, electric arc welding & electric resistance welding, Illumination: Laws of illumination, MSCP, SV & MV lamps, Factory, street & flood lighting, Electric traction and track electrification, Speed-time curves, Tractive effort, Specific energy consumption, Mechanism of train movement, adhesive weight and coefficient of adhesion. DC motor series parallel control, energy saving. | 60 | 02-03-2023 |
| Test-17 | General Studies and General Abilities-7: Logical Reasoning; Analytical Ability and Data Interpretation. Basic English. (10th Class Standard) | 30 | 04-03-2023 |

Full Length Mock Test

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

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| Test-18 | Mock-1 PAPER-II (Engineering Discipline) | 300 | 08-03-2023 |
| Test-19 | Mock-1 PAPER-I (General Studies & General Abilities) | 150 | 11-03-2023 |
| Test-20 | Mock-2 PAPER-II (Engineering Discipline) | 300 | 15-03-2023 |
| Test-21 | Mock-2 PAPER-I (General Studies & General Abilities) | 150 | 18-03-2023 |