



मध्य प्रदेश लोक सेवा आयोग

रेसीडेंसी क्षेत्र - इंदौर

शुद्धिपत्र क्रमांक 02/03/2017, दिनांक 10.04.2017

राज्य अभियांत्रिकी सेवा परीक्षा 2017


ऑनलाइन आवेदन की अंतिम तिथि :- 22.04.2017

- 01 मध्य प्रदेश लोक सेवा आयोग द्वारा राज्य अभियांत्रिकी सेवा परीक्षा 2017 का विज्ञापन क्रमांक 03/2017, दिनांक 08/03/2017 जारी किया गया है। तत्पश्चात शुद्धिपत्र क्रमांक 01/03/2017, दिनांक 20.03.2017 द्वारा सहायक यंत्री (सिविल) के पदों की संख्या में वृद्धि की गयी थी। उक्त विज्ञापन के अंतर्गत ऑनलाइन आवेदन पत्र दिनांक 16.03.2017 से 15.04.2017 तक आयोग की वेबसाइट www.mppsc.nic.in, www.mppscdemo.in तथा www.mppsc.com पर भरे जा रहे हैं।
- 02 उक्त विज्ञापन में उल्लेखित पद विवरण में सहायक यंत्री (विद्युत) के अतिरिक्त पद सम्मिलित किए जाते हैं। संशोधन पश्चात पद विवरण निम्नानुसार है:-

क्र.	विषय	रिक्त पदों की संख्या					रिक्तियों में से मध्य प्रदेश की मूल निवासी महिला अभ्यर्थियों हेतु आरक्षित पदों की संख्या				रिक्तियों में से मध्य प्रदेश के मूल निवासी निःशक्त अभ्यर्थियों हेतु आरक्षित पदों की संख्या		
		UR	SC	ST	OBC	कुल	UR	SC	ST	OBC	अ.बा.	द.बा.	श्र.बा.
1	2	3	4	5	6	7	8	09	10	11	12	13	14
सहायक यंत्री (सिविल Civil)													
1	लोक निर्माण विभाग	21	7	8	6	42	7	2	3	2	2	0	1
2	लोक स्वास्थ्य अभियान्त्रिकी विभाग	3	1	1	1	6	1	0	0	0	1	0	0
3	जल संसाधन विभाग	31	10	19	8	68	10	3	6	3	3	0	1
	योग	55	18	28	15	116	18	5	9	5	6	0	2
सहायक यंत्री (यांत्रिकी Mechanical)													
4	लोक स्वास्थ्य अभियान्त्रिकी विभाग	2	0	0	0	2	1	0	0	0	0	0	0
सहायक यंत्री (विद्युत Electrical)													
5	लोक निर्माण विभाग नवीन संयोजन (शुद्धिपत्र अनुसार)	3	1	1	1	6	1	0	0	0	0	0	0
6	जल संसाधन विभाग नवीन संयोजन (शुद्धिपत्र अनुसार)	2	1	2	0	5	1	0	0	0	1	0	1
	योग	5	2	3	1	11	2	0	0	0	1	0	1

- 03 नवीन संयोजित पद सहायक यंत्री (विद्युत) हेतु अनिवार्य अर्हता/ वेतनमान निम्नानुसार है :-
अनिवार्य अर्हता: किसी मान्यता प्राप्त विश्वविद्यालय से इलेक्ट्रिकल या इलेक्ट्रिकल एण्ड इलेक्ट्रॉनिक्स इंजीनियरिंग में उपाधि (बी. ई. या बी. टेक.) । पत्राचार द्वारा प्राप्त उपाधि स्वीकार नहीं होगी।
समतुल्य अर्हता: Associate Member of Institution of Engineers (AMIE)
वेतनमान:- 15600-39100+5400 ग्रेड पे
- 04 एतदद्वारा राज्य अभियांत्रिकी सेवा परीक्षा 2017 हेतु ऑनलाइन आवेदन करने की अंतिम तिथि दिनांक 22.04.2017 तथा ऑनलाइन आवेदनों में त्रुटि सुधार की अंतिम तिथि दिनांक 24.04.2017 निर्धारित की जाती है।
- 05 नवीन संयोजित सहायक यंत्री (विद्युत) पद की मुख्य परीक्षा के प्रथम तथा द्वितीय प्रश्न-पत्र का पाठ्यक्रम इस शुद्धिपत्र के परिशिष्ट के रूप में प्रकाशित किया जा रहा है । प्रारम्भिक परीक्षा में विषय के प्रश्नपत्र में इसी पाठ्यक्रम से 50-50 प्रश्न पूछे जाएंगे।
- 06 विज्ञापन की शेष शर्तें पूर्ववत् रहेंगी। अभ्यर्थी आयोग के विज्ञापन क्रमांक 03/2017 दिनांक 08.03.2017 हेतु रोजगार और निर्माण समाचार पत्र के दिनांक 13.03.2017 के अंक का अवलोकन करें। उक्त विज्ञापन आयोग की वेबसाइट www.mppscdemo.in, www.mppsc.nic.in तथा www.mppsc.com पर भी उपलब्ध है।

Vau
उप सचिव

 परिशिष्ट

ELECTRICAL ENGINEERING (CODE NO. 03)

PAPER - I

1. Circuit theory

Circuit Components, Network graphs, KCL, KVL, Circuit analysis methods: Nodal analysis, mesh analysis, basic network theorems; transient analysis : RL, RC and RLC Circuits; sinusoidal steady state analysis, resonance, Quality factor, balanced three phase circuit analysis. Frequency domain analysis Laplace's transform, Fourier series (trigonometric & exponential). two port networks and their various parameters; Poles and Zeros driving point & transfer function. Passive filter design theory.

2. Electro Magnetic field Theory and Materials

Electrostatic and Magneto static field Laplace's and Poisson's equations, Boundary value problems and solutions; Maxwell's equation, Electromagnetic wave propagation : Reflection and refraction of plane waves. Poynting vector, wave propagation through dielectrics and conductors. Electrical/electronic behaviour of materials : conductivity; free-electrons and band-theory; intrinsic and extrinsic semiconductor, p-n junction; solar cells, super-conductivity. Dielectric behaviour of materials : polarization phenomena; piezo-electric phenomena. Magnetic material:, superconductivity.

3. Measurement and Instrumentation

Error analysis, Measurement of current, voltage, power, energy, power factor, resistance, inductance, capacitance and frequency Analysis of Bridges. Electronic measuring instruments: Multimeter, CRO, digital volt meter, frequency counter, Q-meter. transducers, measurements of non-electrical quantities by electrical methods, measurement of displacement, temperature, velocity, pressure, Signal conditioning, Data acquisition system.

4. Analog and Digital Electronics

Characteristics and equivalent Circuits (for small & large signals) of Diode, BJT, JFET and MOSFET Clipping, clamping and rectifier circuits, Biasing and bias stability. Amplifiers : single and multi-stage, differential, operational, feedback and power. Analysis of amplifiers; frequency-response of amplifiers. OPAMP circuits. Filters; sinusoidal oscillators : criterion for oscillation; single-transistor and OPAMP configurations. Function generators and wave-shaping circuits. Power supplies.

Boolean Algebra, Boolean function minimization. Logic gates, Combinatorial Circuits : arithmetic circuits, code converters. multiplexers and decoders, sequential circuit : latches and flip flops, Counters, Shift registers, Comparators, timers, multivibrators, Sample and hold circuits, ADCs and DACs. Semiconductor memories, logic implementation using programmable devices (ROM, PLA etc.)

5. Power Electronics

Semiconductor power devices: diode, transistor, SCR, triac, GTO, MOSFET & IGBT, triggering circuits. Phase Control rectifiers. bridge converters : fully Controlled and half Controlled, principles of choppers and inverters.

6. Signals and Systems

Representation and continuous time and discrete time signals and systems; Linear ime Invariant systems; Convolution, impulse response; time domain analysis of LTI systems based on convolution and differential equations, Fourier transform, Laplace transform, Z transform, transferfunction, sampling of signals, DFT, FFT, processing of analog signals through discrete time systems.

ELECTRICAL ENGINEERING (CODE NO. 03)

PAPER - II

PART -I

1. Control System

Fundamental of control systems, block diagram algebra, Signal flow graph and Mason's gain formulae, Linear Time Invariant Systems; Time domain and frequency response. Proportional, PI and PID Control strategies. Stability analysis; Routh Hurwitz Criterion, Nyquist criterion, Design of lead-lag compensators. State Space models, Controllability and observability. Principles of discrete Control systems.

2. Microprocessors and Microcomputers

8 bit microprocessor 8085 : Architecture, CPU, module design, memory interfacing and I/O, interrupts, PPI 8255.

PART -II

Heavy Currents

1. Electromechanical energy Conversion

Principles of electromechanical energy conversion, Torque and emf in rotating machines, characteristics and performance analysis of DC machines and their starting and speed control. Transformers: Principles of operation and analysis, regulation, Three phase transformer, Three phase induction machines, and synchronous machines: Their characteristics and performance analysis, speed control. Special machines : Stepper motors, Brushless DC motors, switched reluctance motors, permanent magnet motors, Single phased induction motor (FHP motors) : Performance and analysis;

2. Industrial Drives & Utilisation

Basic Concepts of speed control of dc and ac motor drives. Applications of Variable speed drives V/f control, Quadrant operation of drives, Concept of Cycloconverters & Dual Converters fed AC & DC drive.

Rating & characteristic of traction motors, dielectric & induction heating.

3. Power Systems Analysis and control

Performance evaluation of overhead transmission lines and cables, fundamentals of active and reactive power transfer, voltage control and power factor correction, per unit representation, Bus admittance and impedance matrices, Load flow study, Economic operation of power system, Symmetrical components, Analysis of symmetrical and unsymmetrical faults, concept of stability, swing curve and equal area criterion, static VAR systems, basic concepts of HVDC transmission, series and shunt compensation, FACTS. speed control of generators, tie line control and frequency control.

4. Switch gear and protection

Principle of over current, differential and distance protection, concept of solid state relays and circuit breakers various protection scheme for transmission lines, generator and transformer. Protection against surges.

PART - III

Light Current

1. Analog communication

Random variables - continuous, discrete, probability density functions, statistical averages, random signals, and noise, noise equivalent bandwidth, signal transmission with noise, signal to noise ratio, amplitude modulation, DSB, DSB-SC and SSB, modulators and demodulators, phase and frequency modulation, PM and FM signals, narrowband FM, generation and detection of FM and PM.

2. Digital communication

Pulse code modulation (PCM), differential pulse code modulation (DPCM), Delta modulation (DM), Digital modulation and demodulation schemes : Amplitude phase and frequency, keying schemes, (ASK, PSK, FSK), Error control coding, error detection and correction, linear block codes, convolution codes.

3. Satellite Communication, Radar and T

Satellite communication, general overview and technical characteristics earth station equipments, satellite link design, CNR of satellite systems, Radar : basic principles, pulsed systems : CW Doppler radar, FMCW radar, Phase array radar, television systems and standards, colour TV transmission and receiver systems.

4. Microwaves & Antenna

Electromagnetic radiation, Propagation of waves - ground waves, sky wave, space wave, tropospheric scatter propagation. Extraterrestrial communications. Antenna : Various types, gain, resistance, bandwidth, beam width and polarization, effect of ground. Antenna coupling; high frequency antennas; microwave antennas; special purpose antennas. Microwave Services : Klystron, magnetron, TWT, gun diodes, Impatt, Bipolar and FETs, Microwave integrated circuits. Microwave measurements.

5. Fiber Optic Systems

Multiplexing - Time division multiplexing, frequency division multiplexing, optical properties of materials, refractive index absorption and emission of light, optical fibers lasers and optoelectronic materials, fiber optic links.