

**Time Schedule for Written Test and Skill Test for Administrative & Technical positions**

<b>CADRES</b>	<b>DATE</b>	<b>Hours Scheduled for written test</b>	<b>Hours scheduled for skill test</b>	<b>TIME FOR WRITTEN EXAM</b>	<b>TIME FOR SKILL TEST</b>
<b>Administration</b>					
Clerk	06.12.2020	2 hours	1 hour	9.00 am to 11.00 am	11.30 am to 12.30 pm
Junior Management Assistant (JMA)	06.12.2020	2 hours	1 hour	1.30 pm to 3.30 pm	4.00 pm to 5.00 pm
<b>Technical</b>					
Senior Technical Officer-Civil	06.12.2020	2 hours	-	9.00 am to 11.00 am	-
Senior Technical Officer-Instrumentation	06.12.2020	2 hours	-	9.00 am to 11.00 am	-
Senior Technical Officer-Computer	06.12.2020	2 hours	-	9.00 am to 11.00 am	-
Senior Technical Officer-HVAC	06.12.2020	2 hours	-	9.00 am to 11.00 am	-
Technical Officer-1-Civil	06.12.2020	2 hours	-	1.30 pm to 3.30 pm	-
Technical Officer-1-HVAC	06.12.2020	2 hours	-	1.30 pm to 3.30 pm	-
Technical Officer-1-Electronic Workshop	06.12.2020	2 hours	-	1.30 pm to 3.30 pm	-

**SYLLABUS FOR ADMINISTRATIVE POSITIONS**

<b>SYLLABUS FOR CLERK (LEVEL-3) EXAMINATION</b>	
<b>General &amp; Subject Paper:</b>	<b>Skill Test (Qualifying in nature)</b>
<b>General Knowledge</b> 10 Marks	<b>MS Office Proficiency</b> Total 25 Marks
<b>Language Awareness –English and Hindi</b> 10 Marks	
<b>Numerical Ability and Quantitative Aptitude</b> 20 Marks	
<b>Logical Reasoning</b> 10 Marks	
<b>Office Procedures as per Central Govt. rules</b> 50 Marks	
<b>Basic Admin and Accounts knowledge (Rules and Procedures) as per Central Govt. rules</b> 25 Marks	
<b>Total 125 Marks</b>	<b>Total 25 Marks</b>

Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>SYLLABUS FOR JUNIOR MANAGEMENT ASSISTANT (LEVEL-6) EXAMINATION</b>	
<b>General and Subject Paper:</b>	<b>Skill Test (Qualifying in nature)</b>
<b>General Knowledge</b> 5 Marks	<b>MS Office Proficiency and Letter Drafting Skill</b> 25 Marks
<b>Language Awareness –English and Hindi</b> 5 Marks	
<b>Numerical Ability and Quantitative Aptitude</b> 10 Marks	
<b>Logical Reasoning</b> 5 Marks	
<b>Admin &amp; Establishment (Rules and Procedures) as per Central Govt. Rules</b> 50 Marks	
<b>Accounts proficiency</b> 50 Marks	
<b>Total 125 Marks</b>	<b>Total 25 Marks</b>

Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

## SYLLABUS FOR TECHNICAL POSITIONS

<b>Senior Tech Officer (Level-9) – CIVIL</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>15 Marks</b>
<b>Public health &amp; Environmental</b>	<b>15 Marks</b>
<b>Subject &amp; Experience Based</b>	<b>70 Marks</b>
<p>Basics &amp; IS codes , Design basic – Civil, structural, PH, Hydraulics, Construction, Construction Materials Testing , Maintenance of laboratories, Landscape, General civil engineering buildings/construction, Pollution control board norms, compliances, CFO procedures , Water proofing technologies, applications, Office procedures, estimates, approvals, Tenders, post Tendering actions, execution procedures, extra items, substitute items, running account bills, final bills, post completion procedures.</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>Senior Tech Officer (Level-9) – HVAC</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>30 Marks</b>
<b>Subject &amp; Experience Based (Electrical/Mechanical)</b>	<b>70 Marks</b>
<p>Field theory, Machine design, Transformers, Power distribution, power quality, fault protection, level discrimination, power electronics, Reactive power management, E&amp;E measurements &amp; Instrumentation</p> <p>Basic thermodynamics, Heat &amp; mass transfer, Refrigeration, mechatronics, machine design, material science and metallurgy, fluid mechanics, energy engineering</p> <p>Refrigerants (efficiency, ODP, GWP, phase out protocols), Refrigeration cycles, psychrometry, Refrigeration system selection (Chiller, compressors, pumps, CT, AHU, controls, air distribution) TFA systems, Containment facility AC systems, Data center AC systems Energy economy, New trends of economic cooling designs</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>Senior Technical Officer (Level-9) – Instrumentation</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>15 Marks</b>
<b>Basic Electronics</b>	<b>15 Marks</b>
<p>Instrumentation Engineering, Basic of Telecom Networking/EPABX, Audio – Visual System, Access Control/Audio-Video Conference, Centralized gas line/Compressed air line/Vacuum line.</p>	
<b>Subject &amp; Experience Based</b>	<b>70 Marks</b>
<p>Biological research equipment. Basic Principle, function &amp; application of following equipment:- Centrifuge, FPLC/HPLC, Spectrophotometer, LCMS/GCMS, NMR,FTIR, Microscopes, Stereo/Inverted/Confocal/AFM/Electron Microscope (TEM&amp; SEM), Cryo Electron Microscopes, CCD Cameras, PCR/RT PCR Basic Principles, Laser, Incubators, Deep Freezers</p> <p>Measurement of voltage, current, temperature, pressure, flow, light, intensity, phase velocity, acceleration: Grounding, shielding, earthing and instrumentation grounding, Sensors &amp; Transducers – Resistive, Capacitive, inductive, piezoelectric, Hall effect, Thermocouple, RTD etc.</p> <p>Designing of Projection and Sound system in Lecture, AV cables and Protocols, Type of Projectors etc.</p> <p>Designing of Centralize Gas, Vacuum and Compressed air line. Cylinder pressure, regulators, auto changeover, RF ID based Access control system principle and design.</p> <p>Basic of telecom networking and EPABX, PRI/BRI etc.</p> <p>Basic Electronics/ Electronics &amp; Telecommunication</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>Senior Technical Officer (Level-9)–INFORMATION TECHNOLOGY</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>30 Marks</b>
<b>Subject Knowledge &amp; Experience based -</b>	<b>70 Marks</b>
<p>Working knowledge of Linux/Open Source Software/CMS. Systems/Server Analysis/Administration and Design. Programming, Development in PHP, My SQL System. Good knowledge of HPC, Centralized storage's, Scheduler</p> <p>Extensive experience in Linux Environments for server maintenance</p> <p>Knowledge and experience with system administration of heterogeneous networks including Linux/Windows.</p> <p>Manage operating system upgrades and patching (Linux/Windows)</p> <p>Perform guidance and management for hardware diagnostics, troubleshooting and maintenance on multiple architectures</p> <p>Ensure the integrity and availability of applications and coordinate new application installations, upgrades</p> <p>Responsible for implementing effective backup/recovery</p> <p>Establishes system security designs</p> <p>Experience configuring and maintaining Mail/DNS/DHCP/Proxy/Mail</p> <p>Scripting ability to support system administration</p> <p>Implements security designs in hardware, software, data, and procedures</p> <p>Experience in Web development using open source CMS</p> <p>Experience in High Performance Computing (HPC)</p> <p>Experience with HPC workload managers such as PBS Pro, SLURM, Torque, Oracle Grid Engine, etc. along with cluster management utilities such as xCAT, Bright Cluster Manager etc.</p> <p>Strong troubleshooting and problem solving skills</p> <p>Familiarity with mass storage technologies such as NAS, SAN and data strategy concepts such as tiering data and HSM</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>Syllabus for Technical Officer-1 (Level-7) – CIVIL</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>15 Marks</b>
<b>Public health &amp; Environmental</b>	<b>15 Marks</b>
<b>Subject &amp; Experience Based</b>	<b>70 Marks</b>
<p>Basics &amp; IS codes , Design basic – Civil, structural, PH, Hydraulics, Construction, Construction Materials Testing , Maintenance of laboratories, Landscape, General civil engineering buildings/construction, Pollution control board norms, compliances, CFO procedures , Water proofing technologies, applications, Office procedures, estimates, approvals, Tenders, post Tendering actions, execution procedures, extra items, substitute items, running account bills, final bills, post completion procedures.</p>	

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<b>Technical Officer-1 (Level-7) – ELECTRONIC WORKSHOP</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>30 Marks</b>
<b>Subject &amp; Experience Based</b>	<b>70 Marks</b>
<p>Basic Electronics, Active/Passive Components, Analog and Digital Electronic Circuits, Transistors, Amplifiers, wave shaping circuits and applications, Basic Power electronics and Application, Optoelectronics, Basic Gates and circuits, Flip-flops, counters, shift registers. Op-Amp and application, Timers circuits and applications, Analog to Digital converter &amp; Digital to Analog Converter, Microprocessor / Micro Controller (8051), Analog and Digital communication, ADC/DAC, PCB Design Software (ORCAD. KiCAD), Programming of Raspberry Pi/ Arduino</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer

<b>Technical Officer-1 (Level-7) – HVAC</b>	<b>Total 100 Marks</b>
<b>General Aptitude</b>	<b>30 Marks</b>
<b>Subject &amp; Experience Based (Electrical/Mechanical)</b>	<b>70 Marks</b>
<p>Power electronics, Industrial drives and control, motor controls, Switchgear installation, Electrical engineering materials, estimation &amp; costing, Fundamentals of digital electronics</p> <p>Strength of materials, applied thermal engineering, Heat exchangers, hydraulics and pneumatics, CNC machines, Estimation &amp; costing</p> <p>Principles of Air conditioning. Framing requirements. Principles of Air conditioning. Fundamentals of HVAC, IAQ, Thermal comfort. Clean room air-conditioning, Air filtrations, Air distribution, insulation</p>	

Note: Negative marking of 1/4<sup>th</sup> Mark for each wrong answer