

Knowledge, Skills Abilities -- Gap Analysis Tool

Electrical Instrumentation Technology Grade II	Do It All The Time	Limited Experience	Never Do This
200. Knowledge, skills and abilities identified on the Test Content Specifications for Plant Maintenance Grade I.			
201. Electrical and instrumentation principles, methods, tools, equipment and safety procedures.			
202. Safe and proper use of various hand and power tools, test meters and equipment to troubleshoot, repair, adjust and perform preventive maintenance on electronic process controls and measurement systems, instrumentation systems, electronic meters, programmable controllers and related equipment.			
203. Communicate effectively both orally and in writing, in the English language.			
204. Establish and maintain cooperative working relationships.			
205. Use electrical and instrumentation test equipment and record data regarding electrical/electronic equipment. (15%)			
206. Read and interpret P & ID drawings (Processing/Piping and Instrumentation diagrams), computer logic diagrams, programming guides, electrical drawings, control loop diagrams, schematics, blue prints, maintenance manuals, technical bulletins, PLC and electric relay, ladder diagrams, troubleshooting guides and preventive maintenance instructions. (20%)			
207. Diagnose, repair and calibrate defective electrical, electronic components. (20%)			
208. Design basic electrical and instrumentation control circuits. (10%)			
209. Troubleshoot electrical, electronic, mechanical, pneumatic, hydraulic, digital and analog control equipment and systems. (20%)			
210. Generate accurate and effective maintenance records, status reports, data and maintenance logs and effectively respond to oral directions and requests. (15%)			
Total Per Category			

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Electrical Instrumentation Technology Grade II	Do It All The Time	Limited Experience	Never Do This

If you have mostly "do it all the time" boxes checked, you may want to explore the next higher grade.

If you have a mix of the "do it all the time" & "limited experience", this is likely the right grade.

If you have mostly "never do this," you may want to explore a lower grade or get more experience.

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Electrical Instrumentation Technology Grade III	Do It All The Time	Limited Experience	Never Do This
300. Knowledge, skills and abilities identified on the Test Content Specifications for Plant Maintenance Grade I, and Electrical Instrumentation Technology Grade II.			
301. Advanced electrical and instrumentation principles and methods, precision measuring devices, special and general electrical and instrumentation test meters, and gauges and current generators.			
302. Safe and proper use of electrical and instrumentation test equipment, power and hand tools.			
303. Extensive knowledge of federal, state and local safety orders and NFPA (National Fire Protection Association) 70E regulations.			
304. Preventive maintenance and repair of electrical and instrumentation equipment related to power productions systems including large stationary internal engines, pumps, centrifugal blowers and compressors.			
305. The operation and maintenance requirements of water quality treatment plants and lift station equipment and motors.			
306. Establish and maintain effective working relationships.			
307. Communicate effectively both orally and in writing, in the English language.			
308. Use electrical and instrumentation test equipment and design basic electrical and instrumentation control loops.			
309. Read, interpret and follow complex blueprints, electrical and instrumentation schematics, plans and drawings, equipment troubleshooting guides and parts lists.			
310. Accurately detect, diagnose and repair electrical and instrumentation equipment problems.			
311. Supervise, train and develop plant maintenance personnel.			

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Electrical Instrumentation Technology Grade III	Do It All The Time	Limited Experience	Never Do This
312. Read, interpret, and follow complex servicing requirements, electrical and instrumentation			
Total Per Category			

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Electrical Instrumentation Technology Grade IV	Do It All The Time	Limited Experience	Never Do This
400. Knowledge, skills and abilities identified on the Test Content Specifications for Plant Maintenance Grade I, and Electrical Instrumentation Technology Grades II, and III.			
401. The methods, materials, equipment, and chemicals used in the maintenance, repair and construction of various types of mechanical, hydraulic, pneumatic, chemical, and electrical/instrumentation components in water quality treatment plants, complex pumping stations, potable water facilities, and chemical handling.			
402. Safety principles, state-OSHA NFPA (National Fire Protection Association) 70E and state safety orders requirements involved in all aspects of plant maintenance work, equipment usage, and confined space work performed.			
403. Leadership, supervisory principles and practices that include training, planning, budgeting and scheduling effective use of personnel, equipment and, materials			
404. Computer systems relevant to water quality treatment facilities.			
405. Pertinent federal, state and local laws, codes and regulations.			
406. Permit and regulatory requirements for the operation of a water quality facility.			
407. Principles of budget preparation and control.			
408. Establish and maintain effective working relationships with those contacted in the course of work including a variety of government officials and the general public. (30%)			
409. Direct operations of all mechanical, hydraulic, pneumatic, and electrical and instrumentation equipment used in water quality treatment plant operations. (40%)			
410. Communicate clearly and concisely, both orally and in writing, in the English language. (30%)			
411. Supervise, direct and coordinate the work of staff.			
412. Hire, supervise, train and evaluate staff.			
413. Interpret and explain applicable policies and procedures.			

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Electrical Instrumentation Technology Grade IV	Do It All The Time	Limited Experience	Never Do This
414. Prepare clear and concise reports.			
415. Plan and oversee complex jobs, including the utilization of personnel, materials, and equipment.			
416. Interpret and explain blueprints, specifications, and maps.			
417. Prepare and communicate budget information.			
418. Maintain facility to meet permit and regulatory requirements.			
Total Per Category			

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If you have mostly "never do this," you may want to explore a lower grade or get more experience.