



A Non-Profit Educational Corporation

OCT ACADEMY
- A U.S. Government Education Contractor
Class Description submittal to OESAC

**Title: Water Distribution Certification
Examination Exercises**

☐ New Class, or ☐ Class Renewal

CEU Award requested: **0.7 CEUs/day**

OVERVIEW:

The purpose of the Certification Examination Preparation Exercises session is to help each operator develop his/her individual abilities such that each person has a better understanding of the basics of operating a water distribution system to successfully complete water distribution certification examinations at Grade level. The exercises offered concentrate on **a Range of Knowledge** that includes T/F, multiple choice, completion and problem solving in three (3) key areas; a) Operations, b) Mathematics, and c) State and Federal Regulations.

Candidates **preparing** to take the examination are aided by knowing the examination's **purpose** and general **objectives**. Information about the areas of academic knowledge, hands-on skills, and abilities tested is also needed to **prepare** properly.

By state and federal law, water distribution operators must be certified in order to operate and maintain a water distribution system. An operator has full and active responsibility for the day-to-day operations of a distribution system.

CLASS DESCRIPTION:

Each operator is provided a series of Grade appropriate distribution system practice examinations with multiple parts; T/F, Multiple choice, Completion and process Math problems. Each operator is provided 1 - 2 hours to complete each examination booklet. The Practice examination booklets are published with T/F, Multiple choice, and Completion letter code answer sheets at the end of each section. A Step-by-Step math solution is presented for every math problem that appears within an examination practice booklet.



Upon completion, each operator self-scores his/her work using the answer keys provided. Afterwards, every operator is given an opportunity to ask questions of the instructor with regard to incorrect answers in a verbal exchange that all members of the class can participate in. White board explanations and solutions are presented when required to better understand how math problems are correctly solved from selection of the proper formula to the solution of the problem.

OUTLINE:

This training session will allow operators to practice sample multiple choice, true/false, and math questions similar to what they will encounter on a state certification exam. Instructor-led discussions of questions allow participants to identify the topics in which they lack knowledge and understanding to build a stronger foundation of the principles of water distribution. Main areas of focus include:

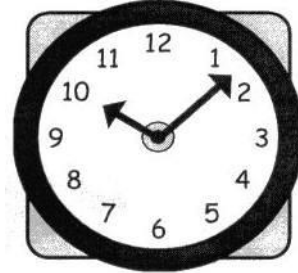
1. **Disinfection:**
Water Main Disinfection, Well Disinfection, Disinfectant By-Products, Chloramination, Chlorine Curve Chemistry, Storage Reservoir Disinfection, and Types of Disinfectants.
2. **Distribution Glossary of Words and Terms:**
Understanding of words and terms used within the water utility industry.
3. **Distribution System Design / Hydraulics:**
System Layout, Storage Facilities, Cross-Connection and Backflow Devices, Service Connections, Systems Map, Assess System Demand, Flow Rates and Velocity, Head Loss, Cavitation, Water Hammer, Water Pressure and Volume, Static and Dynamic Pressure Drinking
4. **Water Regulations/Management / Safety:**
Disinfection-By-Product Rule, Lead and Copper Rule, MCLs, Monitoring and Sampling Requirements, Public Notification, Safe Drinking Water Act, Total Coliform Rule, Operator Certification Regulations, Administer Compliance, Budgets, Emergency Response Planning, Future Planning, Maintenance Plan, Safety Plan, Water Conservation Planning, Water Rates.
5. **Equipment Operation / Maintenance / Inspections:**
Valves, Water Meters, Hydrants, Chemical Feeders, Corrosion, In-Line Sensors, Power Generators, SCADA, Pump Types, Uses, and Sizes, Troubleshoot and Repair Pumps and Motors, Water Horsepower, Inspection of Water Mains, Piping, Storage Tanks, and Equipment Installation and Repair, and Wells (new and abandoned).
6. **Water Mains and Piping:**
Cleaning and Maintenance, Excavation, Installation, and Repair, Joints and Fittings, Leak Detection and Repair, Pipe Selection, and Service Line Installation
7. **Water Quality / Water Sources:**
Coliform Group, Corrosivity, Heterotrophic Bacteria, Organic and Inorganic Contaminants, pH, Conductivity, Hardness, and Turbidity, Unidirectional Flushing, Waterborne Diseases, Groundwater, Wells, and Sanitary Survey.



Gate Valve.

TIME PRESENTATION OUTLINE:

8:00 a.m.	Introduction
8:15 a.m.	Practice Examination booklet #1
9:30 a.m.	Break – 10 minutes
9:40a.m.	Self-grading period.
10:00 a.m.	Questions / Explanations
10:30 a.m.	Practice Examination booklet #2
12:00 p.m.	Lunch
12:45 p.m.	Self-grading period,
1:15 p.m.	Questions / Explanations
1:45 p.m.	Practice Examination booklet #3
3:00 p.m.	Break – 10 minutes
3:10 p.m.	Self-grading period
3:20 p.m.	Questions / Explanations
4:00 p.m.	Close



END