

# ROCKY MOUNTAIN WATER QUALITY ANALYST ASSOCIATION

## CERTIFICATION EXAM TOPICS

### LEVEL I – ENTRY LEVEL

#### General Analyses

Alkalinity, Temperature, Acidity, pH, BOD & COD, Hardness, Chloride, Dissolved Oxygen, Chlorine Residual, Conductance, Residues, (TS, TDS, TSS, VSS, Settleable Solids).

#### Microbiological Analyses

Sterile Techniques, Fecal & Total Coliforms (MF & MPN).

#### Other Topics

Quality Assurance, Basic Lab Calculations, Safety, Sampling and Sample Handling, and Laboratory Equipment.

### LEVEL II –INTERMEDIATE LEVEL

*May include all Level I topics plus the following:*

#### General Analyses

Sulfate, Taste & Odor, Turbidity, Oil & Grease, and Volatile Acids

#### Spectrophotometry

Phosphate, Nitrite & Nitrate, TKN, Ammonia, Boron, and Silica

#### Specific Ion Methods

Fluoride, Nitrate, and Ammonia

#### Microbiological Analyses

Fecal Strep, Standard Plate Count, and Algae

#### Other Topics

Intermediate Lab Calculations, Safe drinking water regulations, NPDES discharge permits, Environmental Issues, and Basic AAS (Atomic Absorption Spectrophotometry)

### LEVEL III –ADVANCED LEVEL

#### Major Emphasis

Gas Chromatography, Total Organic Carbon, Phenols, Quality Control, Quality Assurance, Toxicity, Atomic Absorption Spectrophotometry, and Cyanide

#### Lesser Emphasis – Basic Principles of:

Chlorophyll a, Activated Sludge Testing, Lab Calculations, Water Treatment, Ion Chromatography, Corrosion Control, (Langlier Index) Gas Chromatography with Mass Spectrophotometry Water Suitability, Safety, Total Organic Halides, Ion Balances and Analyst II Topics

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## REQUIREMENTS FOR CERTIFICATION TEST

EXAM LEVEL	MINIMUM EDUCATION	MINIMUM EXPERIENCE	NECESSARY PRIOR CERTIFICATION
LEVEL I	High School or GED	6 Months	None
LEVEL II	High School or GED or AA Degree or Bachelors Degree	4 Years 3 Years 2 Years	Level I
LEVEL III	High School or GED or AA Degree or Bachelors Degree	5 Years 4 Years 3 Years	Level II

### REFERENCE LIST

1. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020, Revised March 1983, U.S.E.P.A. (Available from N.T.I.S., PB84-128677, Order Desk Phone 703-487-4650).
2. Standard Methods for the Examination of Water and Wastewater. 20<sup>th</sup> ed., 1999, (Available from the American Public Health Association, 1015 15<sup>th</sup> Street NW, Washington DC 20005 or A.W.W.A. or W.P.C.F.).
3. Annual Book of ASTM Standards, Part 31, Water. American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.
4. Official Methods of Analysis of the Association of Official Analytical Chemists. 13<sup>th</sup> ed., 1980.
5. Chemistry for Sanitary Engineers. 3<sup>rd</sup> ed., Sawyer and McCarty, McGraw-Hill Book., New York, New York, 1978.
6. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms. EPA/600/4-85/013, March 1985, U.S.E.P.A. (Available from N.T.I.S.)
7. Annual Book of ASTM Standards, Part 11, Water and Environment Technology. 1986.