

ROCKY MOUNTAIN WATER QUALITY ANALYST ASSOCIATION

CERTIFICATION EXAM TOPICS

LEVEL I – ENTRY LEVEL

Alkalinity
Temperature
pH
Biological Oxygen Demand (BOD)
Chemical Oxygen Demand (COD)
Hardness
Dissolved Oxygen
Chlorine Residual
Conductivity
Solids (TS, TDS, TSS, VSS, Settleable Solids)
Turbidity
Colilert (including Total, Fecal, E. coli, & sterile technique)
Heterotrophic Plate Count
Quality Assurance (spike, blank, dup, precision/accuracy, why QA/QC is important)
Basic Lab Calculations (making solutions/dilutions)
Safety (working with acids/bases, PPE)
Sampling and Sample Handling (preservation and relevant definitions)
Laboratory Equipment (basics that you work with daily)

LEVEL II –INTERMEDIATE LEVEL

May include all Level I topics plus the following:

Oil & Grease
Cyanide
Volatile Acids
Total & Dissolved Organic Carbon
Nutrients (Nitrogen, Phosphorus, Nitrite & Nitrate, TKN, Ammonia) – Major methods and why they are important
Ion Chromatography (Fluoride, Chloride, Sulfate, etc...) – Principles on how it works and basics on the specific ions measured
Spectrophotometric Theory – General principals and why it is important
Ion Selective Electrode – General principals and why it is important
Quality Control (control charts)

LEVEL III –ADVANCED LEVEL

May include all Level I & Level II topics plus the following:

Gas Chromatography

Toxicity – Very basic
 Inductively Coupled Plasma
 Inductively Coupled Plasma-Mass Spectrometry
 Activated Sludge Testing
 Water Treatment
 Algae
 Corrosion Control (Langlier Index)
 Safe drinking water regulations
 NPDES discharge permits
 Quality Control (MDL Studies, DMRQA, Proficiency Testing)

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REQUIREMENTS FOR CERTIFICATION TEST

EXAM LEVEL	MINIMUM EDUCATION	MINIMUM EXPERIENCE	NECESSARY PRIOR CERTIFICATION
LEVEL I	High School or GED	0-6 Months	None
LEVEL II	High School or GED or Associates Degree or Bachelors Degree	4 Years 3 Years 2 Years	Level I
LEVEL III	High School or GED or Associates Degree or Bachelors Degree	5 Years 4 Years 3 Years	Level II