

WASTEWATER TREATMENT PLANT OPERATOR SPRAY IRRIGATION SYSTEM - GRADE 1 & 2 EXAMINATION STUDY GUIDE

The following is a general outline to serve as a study guide in preparing for the Spray Irrigation System - Grade 1&2 Wastewater Treatment Plant Operators Certification Exam. All subjects may not be covered on every exam but the exam will contain the number of questions in each broad category shown in bold type.

1. General Need to Know - 30 percent

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| A. Sources of Wastewater - Identification | D. Basic and Applied Math |
| B. Wastewater Characteristics - physical, chemical, biological | E. Safety |
| C. Wastewater Treatment Processes - sequence, purpose, goals, and impact of each process on wastewater. | F. Common Parameters and Conversion between them |
| | G. Electrical Concepts |
| | H. Hydraulics |

2. Support Systems- 25 percent

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| A. Mechanical Equipment | E. Measuring Systems & Instrumentation |
| B. Electrical Equipment | F. Control Systems |
| C. Engines | G. Preventive Maintenance - Pumps |
| D. Plumbing | H. Preventive Maintenance - Motors |

3. Treatment Unit Processes & Process Control - 30 percent

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| A. Primary Treatment - Sedimentation | D. Flow Measurement |
| B. Secondary Treatment - Lagoons | E. Sampling & Analysis / Laboratory Tests |
| C. Effluent Disposal and Reuse | F. Record Keeping |

4. Safety, Security and Administration – 15 percent

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| A. Planning including Strategies, Objectives, and Financial Support | E. Rules and Regulations (Clean Water Act, Maine Pollution Discharge Elimination System Permits, Maine Wastewater Discharge License Requirements, Occupational Safety and Health Administration rules, etc.) |
| B. Maintenance Management Systems | |
| C. Emergency Response Systems | |
| D. Safety Systems | |

There are several publications which you may find useful as you study for the exam. It is not necessary to study all of these publications to do well on the test. This is by no means a complete list of publications which might help your studies.

Operation of Wastewater Treatment Plants, Volumes I & II (The *Sacramento Course*)

- Chapters 3, 4, 5 & 9 Treatment unit processes
- Chapter 1 & 2 – General need to know
- Chapters 15 – Support systems
- Chapters 14 - Safety, security and administration

The MEPDES Permit and Maine Wastewater Discharge License for a Spray Irrigation Wastewater Treatment Facility

The *Sacramento Course* can be obtained from:

The Office of Water Programs
California State University, Sacramento
6000 J Street
Sacramento, CA 95819-6025