

Need To Know for Wastewater Operator License Exams

Class I Curriculum

Operation of Wastewater Treatment Plants, Volume I:

Chap 1 – The Treatment Plant Operator
Chap 2 – Why Treat Wastes
Chap 3 – Wastewater Treatment Facilities
Chap 4 – Racks, Screens, Comminutors, and Grit Removal
Chap 5 – Sedimentation and Flotation, Lesson 1
Chap 6 – Trickling Filters, Lesson 1
Chap 8 – Activated Sludge, Lesson 1
Chap 9 – Waste Treatment Ponds, Lessons 1 & 2
Chap 10 – Disinfection, Lesson 1 & 3
Appendix – Math

APC&EC Regulation 3 (PDF File)

The following items are subjects and skills a person should know and understand before taking the Class I examination:

1. What waters are protected by the operator?
2. What term is used to describe water and solids in waste treatment?
3. What types of water enter a wastewater treatment plant?
4. What does a successful wastewater treatment programs protect?
5. What will the duties of a wastewater treatment plant operator include?
6. Describe the term "Receiving Waters."
7. Describe the term "Influent and Effluent."
8. Describe which industry has the worst safety record.
9. What are the mental and physical duties of the waste treatment operator?
10. Be able to name three types pathogenic organisms.
11. Be able to name three or more effluent limitations specified by the NPDES permit.
12. Describe the main goal of Primary and Secondary treatment.
13. What are the main differences between "Organic and Inorganic" wastes?
14. Know which treatment plant process kills pathogenic bacteria.
15. Be able to know and describe what can cause oxygen depletion for fish and the treatment plant processes.
16. Be able to describe the terms and how it relates to the treatment processes:
 - a. Total Solids
 - b. Imhoff Cone
 - c. The Nutrient Cycle
 - d. Types of screening
 - e. Comminutor
 - f. Grit chamber
 - g. Influent and Effluent
 - h. Preliminary Treatment
 - i. Secondary Treatment
 - j. Biochemical Oxygen Demand
 - k. Zoogeal film
 - l. Mass Flocc
 - m. pH
17. Be able to describe the "Nutrient Cycle"
18. Be able to know what the "NPDES" permit regulates.
19. Be able to describe what happens if the wastewater stays to long in the collection system.
20. Be able to know and understand the various types of "Trickling" filters.

21. Be able to calculate mathematics problems in the areas of:
 - a. Velocity
 - b. Volume in Cubic feet and gallons
 - c. Pounds of chemicals required
 - d. BOD
 - e. Detention Time
22. Be able to know and understand the basic knowledge of the "Activated Sludge" process.
23. Be able to describe three types of wastewater ponds used for waste treatment.
24. Be able to describe the safety factors when working with the collection system and the various parts of the treatment plant.
25. Know and understand the requirements under APC&EC Regulation 3 (*PDF File*) on certification of wastewater operators and classifications of wastewater treatment plants.