

Operator Quiz Test No. 112 – Digesters

The following questions are designed for trainees as they prepare to take the ABC wastewater operator test. It is also designed for existing operators to test their knowledge. Each issue of *Clear Waters* will have more questions from a different section of wastewater treatment. Good luck!

- An anaerobic digester with a normal operating temperature of 95°F would be considered:
 - Psychrophilic
 - Mesophilic
 - Thermophilic
 - Atmospheric
- How many pounds of total solids are loaded into a digester given the following:
Sludge Feed = 5,000 gals
Digester Volume = 10,000 ft³
Total Solids = 5.8 percent
Volatile solids = 62 percent
 - 2,419 lbs.
 - 2,585 lbs.
 - 1,500 lbs.
 - 242 lbs.
- Anaerobic digesters should have a volatile acid to alkalinity ratio of:
 - 1:10
 - 1:2
 - 10:1
 - 2:1
- Two main gases produced by the breakdown of volatile matter in a digester are:
 - Oxygen and Methane
 - Methane and Carbon Dioxide
 - Hydrogen Sulfide and Carbon Monoxide
 - Carbon Dioxide and Oxygen
- If an aerobic digester that is 15' wide, 10' deep, and 100' long is fed 5,000 gallons of sludge per day, what is the detention time?:
 - 22.4 days
 - 3 days
 - 0.04 days
 - 2.24 days
- What course of action should a wastewater operator take if an anaerobic digester is "sour":
 - Increase the amount of sludge pumped to the digester
 - Add an acidic substance to decrease the alkalinity
 - Add a basic substance to increase the alkalinity
 - Remove the hatches to introduce oxygen to the digester
- The breakdown of wastes by microorganisms in the presence of dissolved oxygen is called:
 - Anaerobic Digestion
 - Endogenous Respiration
 - Aerobic Digestion
 - Stasis
- This type of bacteria grows and thrives in a temperature range above 113°F:
 - Mesophilic
 - Thermophilic
 - Psychrophilic
 - Supernatant
- A scale composed of soluble forms of ammonia, phosphate and magnesium formed from the digestion process commonly found in digested sludge lines and valves is known as:
 - Enzymes
 - Alkalinity
 - Saprophytes
 - Struvite
- What is the volatile matter reduction percentage of a digester that has an input sludge of 70 percent volatile matter and an output sludge of 55 percent volatile matter?
 - 4.7 percent
 - 21 percent
 - 15 percent
 - 48 percent

Answers: 1 B, 2 A, 3 A, 4 B, 5 A, 6 C, 7 C, 8 B, 9 D, 10 D



For those who have questions concerning operator certification requirements and scheduling, please contact Tanya May Jennings at 315-422-7811 ext. 4, tmj@nywea.org, or visit www.nywea.org/OpCert.