

Operator Quiz Summer 2020 – Pumping Safety

The following questions are designed for individuals/trainees pursuing certification 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 process of wastewater treatment. Good luck!

1. Coliform bacteria and the procedures used to test for them are divided into the two categories of:
 - a. MF and MTF.
 - b. LTB and BGB.
 - c. Total and fecal coliforms.
 - d. M-Endo and M-FC.

2. Assume that the typical pH of the influent at your treatment plant is about 7.2. As you are reviewing new lab data, you notice that the pH in the influent this morning was measured to be 6.1. This decrease is most likely caused by:
 - a. A caustic substance in the influent.
 - b. A corrosive – acidic substance in the influent.
 - c. A change in outside temperature.
 - d. Too much alkalinity in the influent.

3. Which is a type of positive displacement pump?
 - a. Axial.
 - b. Turbine.
 - c. Eductor.
 - d. Gear.

4. What is the vertical distance between the elevation of the free water surface at the suction and that of the free water surface at the discharge of a pump called?
 - a. Discharge head.
 - b. Dynamic head.
 - c. Velocity head.
 - d. Static head.

5. What is an air gap device used for?
 - a. Backflow prevention.
 - b. Insulation.
 - c. To prime pumps.
 - d. To seal valves.

6. How often should inactive valves be exercised?
 - a. Daily.
 - b. Weekly.
 - c. Monthly.
 - d. Quarterly.

7. In a circular clarifier, what is the function of the centrally located drive unit?
 - a. To operate the RAS/WAS pumps.
 - b. To adjust the height of the effluent weirs.
 - c. To rotate the sludge collection mechanism.
 - d. To rotate the catwalk to a desired location.

8. What pair of parameters is most typically used to adjust chlorine feed rates?
 - a. Chlorine residual and temperature.
 - b. Chlorine residual and pH.
 - c. Chlorine supply and flow rate.
 - d. Chlorine residual and wastewater flow.

9. When using a progressing cavity pump to pump sludge, in what condition must the pump intake be to ensure safe operation?
 - a. Submerged.
 - b. Primed.
 - c. Dry.
 - d. Hot.

10. What is the primary operational concern for using a float level indicator in an open channel?
 - a. Heavy flows.
 - b. Turbulent flow.
 - c. Solids, debris or ice.
 - d. The type of counterweight used.

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.

1. (c) Total and fecal coliforms.
2. (b) A corrosive-acidic substance in the influent is typically the cause of such a large pH drop in the influent.
3. (d) Gear.
4. (d) Static head.
5. (a) Backflow prevention.
6. (d) Quarterly.
7. (c) To rotate the sludge collection mechanism.
8. (d) Chlorine residual and wastewater flow.
9. (a) Submerged.
10. (c) Solids, debris or ice. The accumulation of these on the float or well can drastically skew the reading from this type of unit.

Answers: