

ENVE FE Review Questions

Fall 2024

Environmental Engineering FE Formatted Review Questions

1. Water Quality Characteristics can be categorized in four different ways. Match the provided characteristics with an appropriate category

<u>Water quality category</u>	<u>Characteristic</u>
Physical	Hardness
Chemical	Odor
Microbiological	Radon
Radiological	<i>Giardia</i>
	Lead
	Turbidity

2. A Jar test is used to evaluate the coagulation process and allows the plant operator to optimize which of the following parameters.
 - a.) Alum dosage
 - b.) Temperature
 - c.) Lime dosage
 - d.) Dissolved Oxygen

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3. Estimate the alkalinity, in mg/L as CaCO_3 , of water with a carbonate ion concentration of 17.0 mg/L and a bicarbonate ion concentration of 111.0 mg/L.
- a.) 119 mg/L as CaCO_3
 - b.) 128 mg/L as CaCO_3
 - c.) 148 mg/L as CaCO_3
 - d.) 146 mg/L as CaCO_3

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4. If the BOD_5 and ultimate BOD of a municipal wastewater are 200 mg/L and 457 mg/L respectively, what is the reaction rate constant?
- a.) 0.265 d^{-1}
 - b.) 0.050 d^{-1}
 - c.) 0.115 d^{-1}
 - d.) 0.165 d^{-1}