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39	A	B	C	D	E

PRACTICE QUESTIONS

Alabama Department of Environmental Management

ERGLDDC7

Alabama Wastewater Operator Grade 1C

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Alabama Department of Environmental Management ERGLDDC7 , each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, ERGLDDC7
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

SINGLE CHOICE

What is the primary purpose of preliminary treatment at a wastewater treatment plant?

- ☐ A To remove dissolved organic matter from the wastewater
- ☒ B To remove large objects, rags, and grit that could damage downstream equipment
- ☐ C To kill pathogenic bacteria before discharge
- ☐ D To stabilize the sludge produced during treatment

ANSWER B

WHY Preliminary treatment is designed to protect downstream processes and equipment by removing large debris, rags, sticks, and grit (sand and gravel) through bar screens and grit chambers. Dissolved organic removal is the role of secondary treatment, disinfection kills pathogens, and sludge stabilization is a separate solids-handling process.

QUESTION 2

SINGLE CHOICE

In a primary clarifier, what physical process is primarily responsible for removing settleable solids from incoming wastewater?

- ☐ A Flocculation
- ☒ B Gravity sedimentation
- ☐ C Floatation
- ☐ D Aeration

ANSWER B

WHY Primary clarifiers rely on gravity sedimentation: the wastewater flow is slowed down in a quiescent basin, allowing heavier settleable solids to drop to the bottom as primary sludge. Flocculation is a chemical mixing step used elsewhere, floatation is used in dissolved air flotation systems (typically for thicker sludges), and aeration belongs to activated-sludge secondary treatment.

QUESTION 3 SINGLE CHOICE

Which parameter is most commonly used to control the amount of active biomass in the aeration tank of a conventional activated sludge system?

- ☒ **A Mixed liquor suspended solids (MLSS)**
- ☐ B Dissolved oxygen in the effluent
- ☐ C Influent pH
- ☐ D Effluent turbidity

ANSWER A

WHY Mixed liquor suspended solids (MLSS) is the standard measure of biomass concentration in the aeration tank; operators maintain it within a target range (commonly 1,500–4,000 mg/L depending on the variation) to ensure proper treatment. Dissolved oxygen, pH, and turbidity are monitored for other control purposes but do not directly quantify biomass.

QUESTION 4 SINGLE CHOICE

What is the most common disinfectant used for wastewater effluent at municipal treatment plants in Alabama?

- ☐ A Ozone
- ☐ B Ultraviolet (UV) light
- ☒ **C Chlorine**
- ☐ D Hydrogen peroxide

ANSWER C

WHY Chlorine (typically as sodium hypochlorite or chlorine gas) is the most widely used wastewater disinfectant in the United States, including in Alabama municipal plants, because it is effective, relatively inexpensive, and provides a residual that helps protect the receiving stream. UV and ozone are used but are far less common; hydrogen peroxide is generally not used as a primary wastewater disinfectant.

QUESTION 5 SINGLE CHOICE

Under the Clean Water Act, what permit is required to discharge treated wastewater from a municipal treatment plant to a surface water in the United States?

- ☒ **A** NPDES permit
- ☐ **B** UIC permit
- ☐ **C** RCRA permit
- ☐ **D** Title V air permit

ANSWER A

WHY The National Pollutant Discharge Elimination System (NPDES) permit program, authorized under the Clean Water Act, regulates point-source discharges to waters of the United States, including municipal wastewater effluents. UIC (Underground Injection Control) permits regulate deep-well injection, RCRA regulates hazardous waste, and Title V regulates air emissions.

QUESTION 6 SINGLE CHOICE

Which gas is most likely to accumulate in confined spaces such as manholes, wet wells, and digesters at a wastewater treatment plant?

- ☐ **A** Oxygen
- ☒ **B** Methane
- ☐ **C** Carbon dioxide
- ☐ **D** Helium

ANSWER B

WHY Wastewater collection systems and treatment processes generate methane through anaerobic decomposition. Methane is flammable (4–5% to 15% LEL in air) and can displace oxygen, creating both explosion and asphyxiation hazards in confined spaces like manholes, wet wells, and digesters. Operators must follow confined-space entry procedures and continuously monitor the atmosphere.

QUESTION 7

SINGLE CHOICE

What is the purpose of an air/vacuum relief valve on a wastewater force main?

- ☐ A To increase the pumping pressure in the line
- ☐ B To prevent the buildup of odor at the treatment plant
- ☒ C To release accumulated air during filling and to admit air during draining to prevent vacuum conditions
- ☐ D To measure the flow rate through the force main

ANSWER C

WHY Air and vacuum relief valves serve a dual role on pressurized sewer force mains: they vent trapped air when the line is being filled (preventing air pockets that reduce capacity) and they admit air when the line is being drained or experiences negative pressure (preventing vacuum that could collapse the pipe). They do not increase pressure, control odor at the plant, or measure flow.

QUESTION 8

SINGLE CHOICE

Why are lift stations required at various points in a wastewater collection system?

- ☐ A To remove grit and large debris from the flow
- ☒ B To raise wastewater to a higher elevation so it can continue flowing by gravity toward the treatment plant
- ☐ C To disinfect the wastewater before it enters the collection system
- ☐ D To treat the wastewater before it reaches the treatment plant

ANSWER B

WHY Lift stations pump wastewater from a lower elevation to a higher one when gravity flow is no longer possible (for example, when a sewer line must cross a ridge or reach an interceptor). They do not perform grit removal, disinfection, or treatment — those are functions of the treatment plant.

QUESTION 9

MULTIPLE CHOICE

Which of the following are common laboratory tests performed on wastewater samples at a Grade 1C level plant? (Choose two.)

- ☒ **A** Biochemical oxygen demand (BOD)
- ☒ **B** Total suspended solids (TSS)
- ☐ **C** Total trihalomethane formation potential
- ☐ **D** Dissolved oxygen (DO)

ANSWER **A • B**

WHY Biochemical oxygen demand (BOD) and total suspended solids (TSS) are two of the most common routine wastewater tests used to evaluate plant performance and comply with NPDES permit reporting requirements. Trihalomethane formation potential is associated with drinking-water treatment, not wastewater. Dissolved oxygen is typically a field measurement, not a laboratory test, and is not generally performed on routine wastewater samples.