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37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

Colorado Certified Water Professionals

YTLQVUAH

Colorado Wastewater Treatment Operator Class C

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Colorado Certified Water Professionals YTLQVUAH , 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, YTLQVUAH
- the question number
- the email address on your order

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

QUESTION 1

TRUE FALSE

Primary treatment in a wastewater treatment plant is designed to remove dissolved organic matter through biological activity.

- ☐ A True
- ☒ B False

ANSWER B

WHY Primary treatment is a physical process that removes settleable solids and floating materials through sedimentation and skimming. The removal of dissolved organic matter through biological activity is the function of secondary treatment, not primary treatment.

QUESTION 2

SINGLE CHOICE

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

- ☐ A To remove dissolved organic matter
- ☒ B To remove large debris and rags that could damage downstream equipment
- ☐ C To add oxygen to the wastewater
- ☐ D To kill pathogenic bacteria

ANSWER B

WHY Screening at the headworks is a preliminary treatment step designed to remove large debris, rags, sticks, and other coarse materials that could damage or clog downstream pumps, pipes, and equipment. Dissolved organic matter removal is a secondary treatment function, aeration occurs in later processes, and disinfection kills pathogens.

QUESTION 3

SINGLE CHOICE

Which operational parameter is used to assess the settleability of activated sludge in the secondary clarifier?

- ☐ A Dissolved oxygen
- ☒ B Sludge Volume Index (SVI)
- ☐ C pH
- ☐ D Temperature

ANSWER B

WHY The Sludge Volume Index (SVI) is the standard operational parameter used to assess the settleability and compaction of activated sludge in the secondary clarifier. It is calculated as the volume (in mL) of settled sludge after 30 minutes divided by the dry weight (in grams) of the sludge. A high SVI indicates poor settling (bulking sludge), while a low SVI indicates good settling.

QUESTION 4

SINGLE CHOICE

In wastewater treatment, what term describes the mass of active microorganisms in the aeration tank?

- ☐ A Mixed Liquor Suspended Solids (MLSS)
- ☒ B Mixed Liquor Volatile Suspended Solids (MLVSS)
- ☐ C Total Suspended Solids (TSS)
- ☐ D Biochemical Oxygen Demand (BOD)

ANSWER B

WHY Mixed Liquor Volatile Suspended Solids (MLVSS) is the fraction of MLSS that is volatile (lost on ignition), which approximates the active biomass (microorganisms) in the aeration tank. MLSS includes both volatile and fixed (inert) solids, TSS measures total solids in the wastewater, and BOD measures the oxygen demand of organic matter.

QUESTION 5 SINGLE CHOICE

A wastewater treatment plant receives a flow of 4.0 million gallons per day (MGD). What is the flow rate in gallons per minute (gpm)?

- ☐ A 1,667 gpm
- ☒ B 2,778 gpm
- ☐ C 4,000 gpm
- ☐ D 96,000 gpm

ANSWER B

WHY To convert MGD to gpm, divide the MGD value by the number of minutes in a day divided by 1,000,000: $4.0 \text{ MGD} \times 1,000,000 \text{ gal/MG} \div 1440 \text{ min/day} = 4,000,000 \div 1440 = 2,778 \text{ gpm}$.

QUESTION 6 SINGLE CHOICE

Which disinfection method is most commonly used at municipal wastewater treatment plants for final effluent?

- ☐ A Ozone
- ☐ B Ultraviolet (UV) light
- ☒ C Chlorination
- ☐ D Peracetic acid

ANSWER C

WHY Chlorination is the most commonly used disinfection method at municipal wastewater treatment plants due to its effectiveness, relatively low cost, and ability to provide a residual that continues to disinfect in the collection system. UV and ozone are also used but are less common due to higher costs and lack of residual disinfection.

QUESTION 7

SINGLE CHOICE

Which gas produced in the wastewater treatment process is most likely to accumulate in confined spaces and poses an explosion hazard?

- ☐ A Oxygen
- ☐ B Nitrogen
- ☒ C Methane
- ☐ D Carbon dioxide

ANSWER C

WHY Methane (CH₄) is produced by anaerobic decomposition of organic matter in wastewater and is highly flammable/explosive when it accumulates in confined spaces such as digesters, wet wells, and covered tanks. This is why confined space entry procedures require gas testing and ventilation.

QUESTION 8

SINGLE CHOICE

What is the typical removal efficiency of Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) in a well-operated primary clarifier?

- ☐ A 10-20%
- ☒ B 25-40%
- ☐ C 50-70%
- ☐ D 85-95%

ANSWER B

WHY A well-operated primary clarifier typically removes 25-40% of BOD and 50-70% of TSS. The removal is primarily through sedimentation of settleable solids. Secondary treatment (biological processes) is needed to achieve higher removal efficiencies (typically 85-95% for BOD).

QUESTION 9

SINGLE CHOICE

At the headworks of a wastewater treatment plant, which component is specifically designed to remove inorganic grit, sand, and gravel while allowing organic matter to pass through for further treatment?

- ☐ A Bar screen
- ☐ B Comminutor
- ☒ C Grit chamber
- ☐ D Parshall flume
- ☐ E Influent pump

ANSWER C

WHY Grit chambers (or grit basins) are designed to settle out heavier inorganic materials such as sand, gravel, and cinders while keeping lighter organic solids in suspension so they can be carried forward to primary treatment. Bar screens remove larger debris, comminutors shred solids, and a Parshall flume is a flow measurement device.