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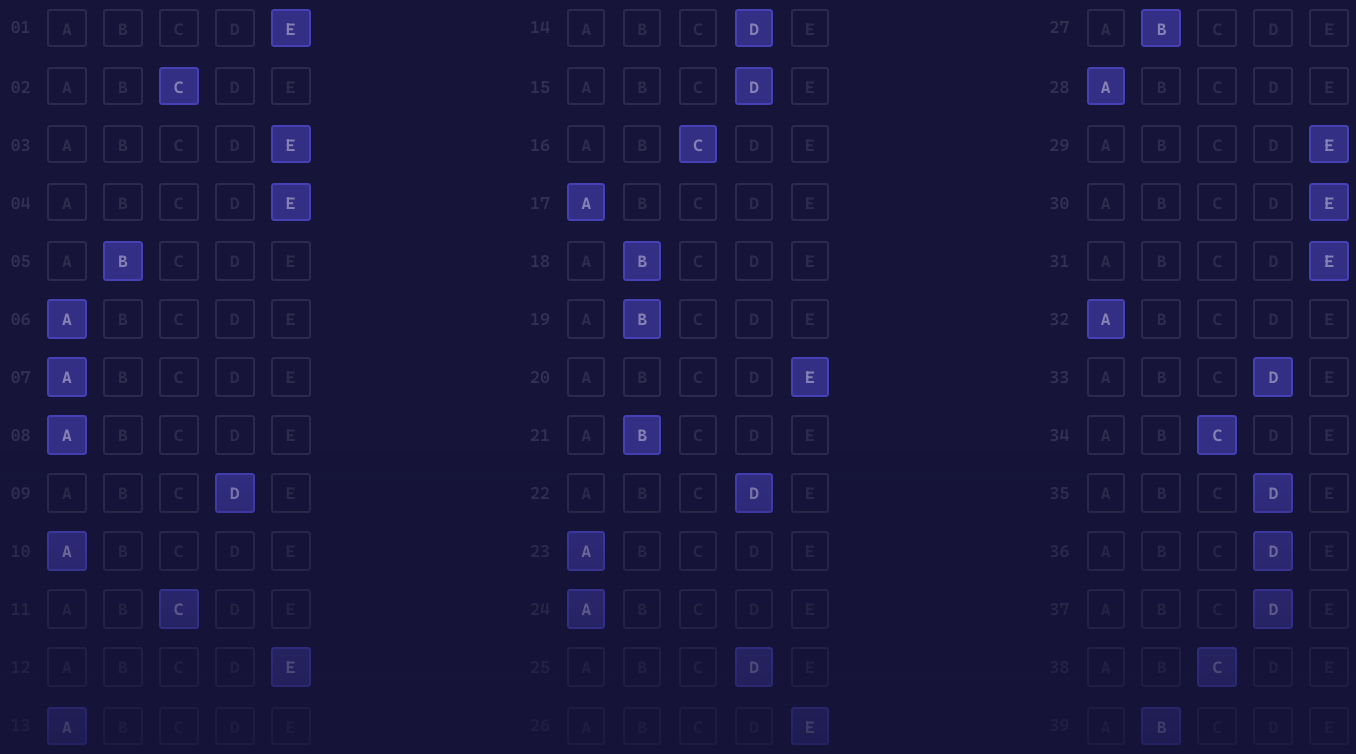

PRACTICE QUESTIONS

Association of Boards of Certification

SBFGKTN2

WPI Water Treatment Class 1-OIT

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

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Before you begin

What this is

9 practice questions for Association of Boards of Certification `SBFGKTN2`, 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, `SBFGKTN2`
- the question number
- the email address on your order

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

QUESTION 1 SINGLE CHOICE

An operator notices that a sedimentation basin is producing turbid water with very small flocs carrying over the effluent weir. Which adjustment is most appropriate first?

A Increase the filter backwash rate

B Reduce the chlorine dose at the clearwell

C **Adjust the flocculator to provide slower, longer mixing and verify coagulant dose**

D Increase the high-service pump discharge pressure

E Drain the basin and recoat the weir with fresh paint

ANSWER C

WHY Small, weak flocs that carry over a sedimentation basin weir usually indicate the floc is not forming or growing properly. The first response is to check and adjust coagulation chemistry and flocculation mixing intensity/time so larger, settleable flocs form. Filter, chlorination, pumping, and cosmetic basin changes do not address the root cause.

QUESTION 2 SINGLE CHOICE

A rapid sand filter has just been backwashed and placed back into service. Which condition indicates that the filter is working correctly and is ready to be returned to the filter effluent (common) header?

A The filter-to-waste water appears cloudy and the head loss is still climbing rapidly

B The filter influent valve is fully closed and the filter is isolated

C The filter effluent turbidity has stabilized at a low value and the clearwell is accepting finished water

D The backwash pump is still running at full speed

E The surface of the filter media is muddy and rippling

ANSWER C

WHY After backwashing, a filter is typically placed into filter-to-waste until the effluent turbidity drops and stabilizes at a low value; only then is it opened to the common (effluent) header to send water to the clearwell. Cloudy filter-to-waste water, closed influent, a still-running backwash pump, and a muddy, rippling media surface all indicate the filter is NOT ready to be returned to service.

QUESTION 3 SINGLE CHOICE

Which statement about chlorination as a drinking water disinfectant is correct?

A Free chlorine residual provides no ongoing protection in the distribution system

B Chlorine demand is the amount of chlorine remaining after reacting with water constituents

C Free chlorine residual is the amount of chlorine available to disinfect after the demand has been satisfied

D Breakpoint chlorination refers to stopping chlorine feed before a residual is reached

E Chlorine is ineffective against Giardia and viruses at any dose

ANSWER C

WHY Free chlorine residual is the active chlorine (HOCl/OCl-) remaining after the chlorine demand has been satisfied, and it continues to protect the water through the distribution system. Chlorine demand is the chlorine consumed by reactions with organics, ammonia, etc., not what remains. Breakpoint chlorination is achieved when ammonia is fully oxidized and a free residual is established. Chlorine is effective against both Giardia and viruses at proper CT values.

QUESTION 4 SINGLE CHOICE

Surface water (such as a river or reservoir) typically differs from groundwater in which way?

A Surface water has a more constant temperature and composition year-round

B Surface water generally has lower turbidity than groundwater

C Surface water is more likely to be exposed to contamination and typically has higher turbidity and microbial content

D Surface water requires no treatment before distribution

E Surface water is always softer than groundwater

ANSWER C

WHY Surface waters are open to the environment and typically show higher turbidity, color, and microbial loads (including pathogens), and they vary with weather and season. Groundwater is generally more consistent in temperature and composition and is naturally filtered. Surface water always requires treatment (at least disinfection, often coagulation/filtration) and is not automatically softer than groundwater.

QUESTION 5 SINGLE CHOICE

A treatment plant pumps 1,200,000 gallons in a 24-hour period. What is the average flow rate in gallons per minute (gpm)?

A 500 gpm

B 833 gpm

C 1,200 gpm

D 50,000 gpm

E 28,800 gpm

ANSWER B

WHY Convert hours to minutes: 24 hours × 60 min/hr = 1,440 minutes. Flow rate = 1,200,000 gal ÷ 1,440 min = 833.33 gpm, which rounds to about 833 gpm. The other choices use incorrect conversions or arithmetic.

QUESTION 6 SINGLE CHOICE

What is the primary purpose of an intake screen at a surface water treatment plant?

A To add chlorine to the raw water before it enters the plant

B To remove large debris such as leaves, branches, and fish from the raw water

C To pump finished water into the distribution system

D To store treated water before distribution

E To measure the turbidity of the finished water

ANSWER B

WHY The intake screen is the first barrier at a surface water plant; it keeps large objects (debris, fish, branches) out of the raw water pumps and conduit. Chlorination, high-service pumping, clearwell storage, and turbidity measurement all happen later in the process.

QUESTION 7 SINGLE CHOICE

An operator is about to enter a confined space such as a clearwell or chemical feed vault. Which of the following is the FIRST action that must be taken?

A Begin the entry wearing only a hard hat and safety glasses

B Test the atmosphere for oxygen level and toxic or flammable gases before entry

C Light a match to check for the smell of sewer gas

D Open the hatch and immediately climb down

E Fill the space completely with water to displace any gas

ANSWER B

WHY OSHA confined-space entry rules (and standard utility practice) require testing the atmosphere for oxygen content and the presence of toxic or flammable gases before anyone enters, and continuously during entry. Entering without testing, lighting a match, climbing in immediately, or filling the space with water are all unsafe and violate confined-space procedures.

QUESTION 8 SINGLE CHOICE

Why is finished (treated) water turbidity monitored continuously at a surface water treatment plant?

A It is a direct measurement of chlorine residual

B **It indicates how effectively coagulation, sedimentation, and filtration are removing suspended particles, and it is regulated as a key indicator of microbial safety**

C It determines the plant's water temperature

D It is used to calculate the chemical feed pump setting directly

E It is only required once per shift, not continuously

ANSWER B

WHY Turbidity is a continuous, online measurement of how well the treatment processes (coagulation, sedimentation, filtration) are removing suspended particles; it is also a regulated indicator of treatment performance and is tied to microbial credit under surface water treatment rules. Turbidity does not measure chlorine residual, water temperature, pump rates, and it must be monitored continuously, not just once per shift.

QUESTION 9 MULTIPLE CHOICE

An operator at a surface water treatment plant is adjusting the coagulant dose. Which two outcomes are the primary goals of coagulation followed by flocculation? (Choose two.)

A **Destabilize and aggregate fine suspended and colloidal particles into larger settleable flocs**

B Disinfect the water by inactivating bacteria and viruses

C Add alkalinity to buffer pH and prevent corrosion of distribution mains

D **Promote particle collisions so microflocs grow into flocs large enough to settle or be filtered**

E Strip dissolved gases such as carbon dioxide and hydrogen sulfide from the raw water

ANSWER **A · D**

WHY Coagulation chemically destabilizes fine suspended and colloidal particles (for example, by adding alum or polymer), while flocculation provides gentle mixing so destabilized particles collide and aggregate into larger flocs that can be removed in sedimentation basins or on filters. Disinfection is a separate process (B), adding alkalinity relates to stabilization/corrosion control (C), and degasification is performed by aeration or stripping towers (E).