

**\*\*\* EXAMINATION \*\*\***

**MONITORING WELL DESIGN, INSTALLATION, AND DOCUMENTATION  
AT HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE SITES**

1. **The percussive drilling method is also known as:**
  - a) direct-push
  - b) auger, hollow- and solid stem
  - c) jetting
  - d) cable-tool
  
2. **A drilling method have quick setup time and fairly simple**
  - a) operation is direct-push
  - b) operation is auger-, hollow-, and solid stem
  - c) operation is jetting
  - d) operation is cable-tool
  
3. **A drilling method that minimizes disturbance of geochemical**
  - a) conditions is direct-push
  - b) conditions is auger-, hollow- and solid stem
  - c) conditions is jetting
  - d) conditions is cable-tool
  
4. **A drilling method limited to fairly soft materials is:**
  - a) direct-push
  - b) auger, hollow- and solid stem
  - c) jetting
  - d) cable-tool
  
5. **A drilling method difficult to use in coarse materials is:**
  - a) direct-push
  - b) auger, hollow- and solid stem
  - c) jetting
  - d) cable-tool
  
6. **The water approval form includes that the owner/telephone number**
  - a) is in the category water source
  - b) is in the category water tap location
  - c) is in the category type of access
  - d) is in the category type of source

7. **The water approval form includes the well depth in category:**
- a) water source
  - b) water tap location
  - c) type of access
  - d) type of source
8. **All well screen should be fabricated:**
- a) on-site
  - b) by a certified welder
  - c) commercially
  - d) under the direction of a registered mechanical engineer
9. **Thermal or solvent welded couplings on plastic pipe:**
- a) should be lubricated before coupling
  - b) should not be used
  - c) should be ASME certified
  - d) None of the above
10. **Pop rivets or screws:**
- a) should not be used on monitor wells
  - b) should be capped with lock nuts
  - c) will give superior analytical results
  - d) None of the above
11. **Well development:**
- a) improves the aquifer's hydraulic conductivity
  - b) generally requires drilling deeper
  - c) improves the aquifer's generic geology
  - d) None of the above
12. **The tops of all well casings should be:**
- a) capped with a swivel assembly
  - b) telescopically covered with a slip-joint-type cap
  - c) shut with lock nuts
  - d) None of the above
13. **The use of well centralizers should be considered for wells**
- a) deeper than 10 feet
  - b) deeper than 20 feet
  - c) deeper than 50 feet
  - d) deeper than 90 feet
14. **The use of glues and solvents in monitoring well installation:**
- a) is recommended
  - b) is permitted outside of the well
  - c) is permitted inside of the well
  - d) should be prohibited

15. **A granular filter pack approval form should include:**
- a) filter material brand name
  - b) lithology
  - c) grain size distribution
  - d) All of the above
16. **Lubricants used on threads or couplings of downhole drilling**
- a) equipment should be biodegradable and nontoxic
  - b) equipment should be solvent
  - c) equipment should be insolvent
  - d) None of the above
17. **Surface runoff such as spilled drilling fluid can be prevented by:**
- a) berms around the bore hole
  - b) surficial bentonite packs
  - c) recirculation tanks
  - d) All of the above
18. **Drilling through a contaminated area is done with a:**
- a) impermeable casing
  - b) single casing
  - c) double casing
  - d) Any of the above
19. **The detection of odors during drilling:**
- a) should signal the need to slow the drilling
  - b) should signal the need to speed the drilling
  - c) should signal to stop drilling
  - d) None of the above
20. **All sampling equipment should be decontaminated between samples by:**
- a) acetone
  - b) a hot-water pressure washer
  - c) alcohol
  - d) Any of the above

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<p>*** ANSWER SHEET *** U58</p> <p>MONITORING WELL DESIGN, INSTALLATION,          DOCUMENTATION AT HAZARDOUS, TOXIC,          AND RADIOACTIVE WASTE SITES</p>	<p>STATE BOARD</p>	<p>COURSE NO.</p>	<p>VALUE</p>
	<p>Office Use Only</p>		<p>8 PDH</p>

FILL IN ONE BOX FOR EACH ANSWER.

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I hereby certify that I studied the course materials, and the above answers are my own. No other person has helped me to complete this exam.

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 Signature

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Printed or typed name

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**Name** \_\_\_\_\_

**Company** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Telephone** \_\_\_\_\_ **E-Mail** \_\_\_\_\_

**Fax** \_\_\_\_\_ ( ) **24-Hour Fax**

( ) **Yes** ( ) **No**      **If fax and telephone are the same number, shall we call first?**

**Mail certificates to above address** \_\_\_\_\_ **check address** \_\_\_\_\_ **envelope address** \_\_\_\_\_

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