uscontractorlicense.com

Providing Initial and Continuing Education Hours To The Wisconsin Construction Trades

COURSE 13908

Plumbing Design, Lead, Construction and Installation Trenching and Excavations

Exam Material

Uscontractorlicense LLC

PO Box 268 / Platteville, Wisconsin 53818 / 608.348.6688 / www.uscontractorlicense.com

Summary Of This Course

PLUMBING DESIGN, CONSTRUCTION & INSTALLATION; LEAD; TRENCHING & EXCAVATIONS

Approved by the

Wisconsin Department of Safety and Professional Services Safety and Buildings Division

Course Identification Number 13908

Educational Credit Hours: Various Hours (See Below)

Course Provider:

USCONTRACTORLICENSE LLC

P.O. Box 268

Platteville, WI 53818

(608) 348-6688

www.uscontractorlicense.com

This course is broken out into three sections and is intended to familiarize those involved in the plumbing trades with the current codes and regulations:

1. Plumbing Design, Construction and Installation (SPS 382) Review of the current plumbing codes.

2. Lead in Construction (OSHA)
Overview of the OSHA Lead Standards for construction.

3. Trenching and Excavations (OSHA)
Overview of the OSHA Trenching and Excavation Rule.

This Course is approved for the following Registrations/Certifications or Licenses:

Commercial Plumbing Inspector	12 Hours of Continuing Education	
Journeyman Plumber	12 Hours of Continuing Education	
Journeyman Plumber Restricted Appliance	9 Hours of Continuing Education	
Journeyman Plumber Restricted Service	3 Hours of Continuing Education	
Master Plumber	12 Hours of Continuing Education	
Master Plumber Restricted Appliance	9 Hours of Continuing Education	
UDC Plumbing Inspector	12 Hours of Continuing Education	
Utility Contractor	3 Hours of Continuing Education	
Master Plumber Restricted Service	3 Hours of Continuing Education	

Course Outline

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

SPS 382 Design, Construction and Installation

- Scope
- Intent and Basic Requirements
- Administration and Enforcement
- Drain and Vent Systems

Lead In Construction

- OSHA Introduction
  - Health Hazards of Lead Exposure
  - Symptoms of Chronic Overexposure
- Reproductive Risks
- Chelating Agents
- Worker Exposure

- Construction Workers and Lead Exposure
  - Most Vulnerable Workers
  - OSHA's Lead Standard
  - Exposure Limits
  - Applicability to Construction

- Employer Responsibilities
  - Elements of a Compliance Program
  - Initial Employee Exposure Assessment
  - Biological Monitoring Tests
  - Pending Employee Exposure Assessment
  - Test Results Showing No Overexposures
  - Employee Notification of Monitoring Results

- Medical Exams
  - Medical Surveillance
  - Information for the Examining Physician
  - When Monitoring Shows No Employee Exposures
  - After the Medical Examinations
  - Medical Removal Provisions

- Worker Protections and Benefits
  - Records Requirements Involving Medical Removal
- Recordkeeping
  - Employer Requirements
  - Exposure Assessment Records
  - Medical Surveillance Records
  - Documents for Employees Subject to Medical Removal
  - Employer Requirements Related to Objective Data
  - Documents for OSHA and NOISH Review
  - When Closing a Business

Exposure Reduction and Employee Protection
- Engineering Controls
- Exhaust Ventilation
- Enclosure or Encapsulation
- Substitution
- Component Replacement
- Process or Equipment Modification
- Isolation

Housekeeping Practices
- Personal Hygiene Practices
- Change Areas
- Showers and Washing Facilities
- Personal Practices
- End-Of-Day Procedures

Protective Clothing and Equipment
- Employer Requirements
- Handling Contaminated Protective Clothing
- Preventing Heat Stress
- Respiratory Protection
- Providing Adequate Respiratory Protection
- Respiratory Protection Programs
- Selecting a Respirator

Employee Information and Training
- Program Requirements
- Warning Signs

OSHA Assistance, Services and Products
- State Programs

Consultation Assistance
Safety and Health Achievement Recognition Program
Voluntary Protection Programs
Cooperative Partnerships
Alliance Program
Strategic Partnership Program
Occupational Safety and Health Training
- Training Grants
- Other Assistance Materials
- In Case of an Emergency Or To File A Complaint
  - OSHA Regional Offices
  - Blood Lead Laboratories-Wisconsin

<u>Trenches and Excavations</u>

Working Safely in Trenches
- Dangers of Trenching and Evacuation
- Protect Yourself

- Protective Systems
- Competent Person
- Access and Egress
- General Trenching and Excavation Rules

Excavations
- Introduction
- Difference between Excavation and Trench
- Dangers
- OSHA Standard Rule
- Exemptions

PrePlanning
- Why is it important?
- Utility Lines and Pipes
- Informing Workers

Protective Systems
- Preventing Cave-ins
- Most appropriate Protective System Design
- Other Safety Precautions
- Installation and Removal of Protective Systems

Additional Hazards and Protections
- Warning Systems
- Water Accumulation
- Hazardous Atmospheres
- Means of Egress
- Pier Holes
- Site Inspection

OSHA Assistance, Services and Programs
- State Plans
  - Consultation Assistance
    - Privacy
    - Cost
    - Violations
    - Voluntary Protection Programs
    - Strategic Partnership Program
- OSHA Training for Employers and Employees
  - Training Grants
- Contact OSHA

Exam

200 questions related to the reference materials are used to test the attendee on their comprehension of the materials. A 70% score will need to be attained in order to pass this course.

Answer Sheet(s)

2 bubble style answer sheet(s) are included. When you are finished with the exam, you may return the answer sheets for grading to:

By Mail: Uscontractorlicense LLC
PO Box 268
Platteville, Wisconsin 53818

By Email: michael@uscontractorlicense.com

By Fax: 608-571-0096

Once we get the answer sheets back, we will graded them, enter your hours into the attendance portal and email or mail you back your certificate of completion(s). You will be responsible for renewing your license with the DSPS at www.license.wi.gov website.

Any questions, please contact us at 608.348.6688

SPS 382 –
Plumbing Design, Construction and Installation

Review SPS 382.01 for Question 1

1. *Scope.* The provisions of this chapter apply uniformly to the design, _____, maintenance and inspection of plumbing, including but not limited to sanitary and storm drainage, water supplies, wastewater treatment, and dispersal or discharge for buildings, except for POWTS systems as regulated by ch. SPS 383.

a. construction
b. installation
c. supervision
d. construction, installation, supervision

Review SPS 382.015 for Question 2

2. *Purpose.* Pursuant to s. 145.02, Stats., the purpose of this chapter is to provide that all plumbing in connection with buildings and facilities in the state, including buildings _____ or any political subdivision thereof, shall be safe, sanitary and such as to safeguard the public health and the waters of the state.

a. owned by the federal government
b. owned by the state
c. owned by the county
d. none of the above (a, b or c)

Review SPS 382.03 for Questions 3 and 4

3. *Application* Pursuant to s. 145.13, Stats., this chapter is uniform in application and a municipality _____ enact an ordinance for the design, construction, installation, supervision, maintenance and inspection of plumbing which is more stringent than this chapter, except as specifically permitted by rule.

a. may
b. may not
c. shall
d. will

4. *Application.* A department interpretation of the requirements in this chapter shall supersede any differing interpretation by a lower level jurisdiction. A department decision on the application of the requirements in this chapter shall supersede any differing decision by a lower level jurisdiction.

a. True
b. False

Review SPS 382.10 for Questions 5 to 10

5. *INTENT.* Plumbing in connection with all buildings, public and private, intended for human occupancy, shall be _____ in such a manner so as to protect the health, safety and welfare of the public or occupants and the waters of the state.

a. maintained
b. installed
c. installed and maintained
d. constructed

6. *INTENT.* Plumbing fixtures, appliances and appurtenances, whether existing or to be installed, shall be supplied with water in sufficient volume and at pressures adequate to enable the fixtures, appliances and appurtenances to function properly and efficiently at all times and without undue noise under normal conditions of use. Plumbing systems shall be designed and adjusted to use the _____ quantity of water consistent with proper performance and cleaning.

a. maximum
b. minimum
c. greatest
d. highest

7. *INTENT.* The drain systems shall be so designed as to provide an adequate circulation of air in all pipes and no danger of _____ or forcing of trap seals under conditions of ordinary use.

a. leakage, siphonage
b. siphonage, aspiration
c. aspiration, leakage
d. explosion, leakage

8. *INTENT.* Proper protection shall be provided to prevent contamination of _____ and similar materials by backflow of wastewater.

a. food, water
b. water, sterile goods
c. food, water, sterile goods
d. bacteria, food, water

9. *BASIC REQUIREMENTS.* To fulfill the basic needs of sanitation and personal hygiene, each dwelling connected to a POWTS or public sewer shall be provided with at least the following plumbing fixtures: _____ and one bathtub or shower, except a system or device recognized under ch. SPS 391 may be substituted for the water closet. All other structures for human occupancy shall be equipped with sanitary facilities in sufficient numbers as specified in chs. SPS 360 to 366.

a. one water closet, sink or shower
b. one wash basin, one kitchen sink
c. one water closet, one wash basin
d. one water closet, one wash basin, one kitchen sink

10. *BASIC REQUIREMENTS.* Where plumbing fixtures exist in a building that is not connected to a public sewer system, suitable provision shall be made for _____ or holding the wastewater.

a. recycling, dispersing
b. treating, recycling
c. treating, recycling, dispersing
d. dispersing, treating

Review SPS 382.20 for Questions 11 to 31

382.20 (1) *GENERAL*. Plans and specifications shall be submitted to the department or to an approved agent municipality for review in accordance with pars. (a) and (b).

Which agency will review the following type plumbing installations?
Review Tables 382.20-1 and 382.20-2 to answer questions 11 to 15.

11. Plumbing, new installations, additions and alterations involving 16 or more plumbing fixtures, serving buildings owned by a metropolitan or sanitary sewer district.

a. Submittals to Department
b. Submittals to the Department of Licensing or Regulation
c. Submittals to the Department of Regulation
d. Submittals to Department or Agent Municipality

12. All plumbing, new installations, additions and alterations, regardless of the number of plumbing fixtures involved, serving hospitals, nursing homes and ambulatory surgery centers.

a. Submittals to Department
b. Submittals to the Department of Licensing or Regulation
c. Submittals to the Department of Regulation
d. Submittals to Department or Agent Municipality

13. Water supply systems and drain systems to be installed for manufactured home communities and campgrounds.

a. Submittals to Department
b. Submittals to the Department of Licensing or Regulation
c. Submittals to the Department of Regulation
d. Submittals to Department or Agent Municipality

14. Grease interceptors to be installed for public buildings.

a. Submittals to Department
b. Submittals to the Department of Licensing or Regulation
c. Submittals to the Department of Regulation
d. Submittals to Department or Agent Municipality

15. Alternate and experimental plumbing systems.

a. Submittals to Department
b. Submittals to the Department of Licensing or Regulation
c. Submittals to the Department of Regulation
d. Submittals to Department or Agent Municipality

16. *GENERAL.* Plan review and approval of one- and 2-family dwellings. Review and approval of plumbing plans for one- and 2 family dwellings shall be in accordance with the provisions specified in _____ .

a. DNR Regulations
b. EPA Regulations
c. s. SPS 320.09
d. s. SPS 316.01

17. *Cross connection control assembly registration.* The installation of each reduced pressure principle backflow preventer, reduced pressure fire protection principle backflow preventer, spill resistant vacuum breaker, reduced pressure detector fire protection backflow prevention assembly or pressure vacuum breaker shall be registered with the department no later than _____ after installation of the assembly.

a. 3 days
b. 5 days
c. 7 days
d. 10 days

18. *AGENT MUNICIPALITIES.* The department may designate to an approved municipality the authority to _____ plumbing plans and specifications for those plumbing installations to be located within the municipality's boundary limits and which require approval under sub. (1) (b).

a. review
b. approve
c. review and approve
d. none of the above (a, b or c)

19. *PLANS AND SPECIFICATIONS.* (a) At least _____ which are clear, legible and permanent copies shall be submitted for examination and approval.

a. 2 sets of plans and 2 copies of specifications
b. 2 sets of plans and one copy of specifications
c. 3 sets of plans and two copies of specifications
d. 1 set of plans and one copy of specifications

20. *PLAN REVIEW* (a*) Conditional approval.* If, upon review, the department determines that the plans substantially conform to the provisions of chs. SPS 382 to 384, a conditional approval, in writing, shall be granted. All noncode complying conditions stated in the conditional approval shall be corrected before or during installation.

a. True
b. False

21. *EVIDENCE OF APPROVAL.* The plumber responsible for the installation of the plumbing shall keep at the construction site at least _____ of plans bearing the department's or the agent municipality's stamp of approval and at least one copy of specifications. The plans and specifications shall be open to inspection by an authorized representative of the department.

a. One set
b. Two sets
c. Three sets
d. None of the above (a, b, or c) Approved plumbing plans are not required to be onsite.

22. *REVISIONS.* All changes or modifications, which involve the provisions of chs. SPS 382 to 384, made to plumbing plans and specifications, which have been granted approval under sub. (1), shall be submitted to the department or agent municipality for examination. All changes and modifications _____ by the department or agent municipality prior to installation of the plumbing.

a. can be verbally approved
b. shall be approved in writing
c. may be approved
d. should be verbally approved

23. *DEPARTMENT LIMITATION AND EXPIRATION OF APPROVAL.* (a) A conditional approval of a plan by the department _____ as an assumption by the department of any responsibility for the design; and the department does not hold itself liable for any defects in construction, nor for any damages that may result from the specific installation.

a. shall not be construed
b. shall be construed
c. may be construed
d. can be construed

24. *DEPARTMENT LIMITATION AND EXPIRATION OF APPROVAL* Plan approval by the department or its authorized representative shall expire _____ after the date indicated on the approval letter, if construction has not commenced within that _____ period.

a. 6 months, 6 month
b. 1 year, 1 year
c. 2 years, 2 year
d. 3 years, 3 year

25. *Revocation of Approval.* The department may revoke any approval, issued under the provisions of this chapter, for any _____ of facts on which the approval was based.

a. false statements
b. misrepresentation
c. false statements or misrepresentation
d. None of the above (a, b or c)

26. *ALTERNATE AND EXPERIMENTAL PLUMBING SYSTEM REVIEW AND APPROVAL.* The provisions of this chapter, ch. SPS 384 or ch. 145, Stats., _____ to prevent the design and use approved innovative plumbing systems.

a. are intended
b. are not intended
c. should be interpreted
d. should be construed

27. *Experimental Plumbing Systems.* For an experimental plumbing system, a separate approval _____ obtained for each system or project to be installed for the purpose of proving compliance with the intent of chs. SPS 382 and 384 and ch. 145, Stats. Approval for an experimental plumbing system shall be issued by the department in writing.

a. shall be
b. does not need to be
c. can be
d. is not required to be

28. *Experimental Plumbing Systems.* Pursuant to s. SPS 302.07 (3), the department shall review and make a determination on an application for an experimental plumbing system within _____.

a. 30 days
b. 90 days
c. 6 months
d. 12 months.

29. *Modification.* If an approved alternate or experimental plumbing system is modified or additional assertions of function or performance are made, the approval shall be void, unless the system is resubmitted to the department for review and approval is granted.

a. True
b. False

30. *Limitations.* An approval issued by the department for an alternate or experimental plumbing system _____ as an assumption of any responsibility for defects in design, construction or performance of any system nor for any damages that may result.

a. may not be construed
b. shall be construed
c. may be construed
d. can be construed

31. *CROSS CONNECTION CONTROL REGISTRATION.* Upon _____ of any reduced pressure principle backflow preventer, reduced pressure fire protection principle backflow preventer, spill resistant vacuum breaker, reduced pressure detector fire protection backflow prevention assembly, or pressure vacuum breaker, the owner shall notify the department in writing using a format acceptable to the department.

a. temporary removal
b. temporary removal or replacement
c. permanent removal
d. permanent removal or replacement

Review SPS 382.21 for Questions 32 to 43

32. TESTING OF PLUMBING SYSTEMS. Except as provided in par. (a), all new plumbing and all parts of existing systems which have been _____ shall be tested as specified in sub. (2) to disclose leaks and defects before the plumbing is put into operation.

a. extended or repaired
b. altered or repaired
c. altered, extended or repaired
d. altered or repaired

33. Local inspection. Where the plumbing is installed in a municipality having a local inspector, the testing of the plumbing _____ done in the presence of a plumbing inspector, except as provided in subd. 1. b.

a. shall be
b. should be
c. say be
d. can be

34. *Preparations for inspection.'* When the installation is ready for inspection, the _____ shall make such arrangements as will enable the plumbing inspector to inspect all parts of the plumbing system. The plumber shall have present the proper apparatus and appliances for making the tests, and shall furnish such assistance as may be necessary in making the inspection.

a. general contractor
b. plumber
c. owner
d. landlord

35. *Inspection of one- and 2-family dwellings.* The inspection of plumbing installations for one- and 2-family dwellings shall be in accordance with ss. _____.

a. SPS 320.08 to 320.11
b. SPS 316.01 to 316.08
c. SPS 321.01 to 321.05
d. SPS 322.01 to 322.08

36. *'Exposure of work.'* Except as provided in pars. (b) and (e), all new, _____ plumbing shall be left uncovered and unconcealed until it has been tested. Where the work has been covered or concealed before it is tested, it shall be exposed for testing.

a. altered or replaced
b. extended and altered
c. altered, extended or replaced
d. extended or replaced

37. *Equipment, material and labor for tests.'* All _____ required for testing a plumbing system or part thereof shall be furnished by the plumber responsible for the installation.

a. labor and material
b. equipment and labor
c. equipment, material and labor
d. material and equipment

38. *Sanitary building sewer and sanitary private interceptor main sewer.* A _____ shall be tested for leaks and defects with water or air before or after being covered in accordance with either subd. 1. or 2. The test for leaks and defects may be applied to the entire building sewer or private interceptor main sewer or in sections. For the purposes of this subdivision, the testing of a building sewer or private interceptor main sewer is not required to include the manholes serving the sewer.

a. sanitary building sewer
b. sanitary private interceptor main sewer
c. sanitary building sewer and a sanitary private interceptor main sewer
d. None of the above (a, b or c)

39. *Sanitary building sewer and sanitary private interceptor main sewer.* The air test shall be made by attaching an air compressor testing apparatus to any suitable opening, and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 3 pounds per square inch. This pressure shall be held without introduction of additional air for a period of at least _____.

a. 5 minutes
b. 10 minutes
c. 15 minutes
d. 30 minutes

40. *Sanitary building sewer and sanitary private interceptor main sewer.* The building sewer or private interceptor main sewer shall be tested by insertion of a test plug at the point of connection with the public sewer. The sewer shall then be filled with water under a head of not less than 10 feet. The water level at the top of the test head of water shall not drop for at least _____.

a. 5 minutes
b. 10 minutes
c. 15 minutes
d. 30 minutes

41. *Private water mains and water services* Private water mains and water services shall be inspected before being covered. The private water mains and water services shall be tested and proven water tight under water pressure _____. The water used for testing shall be obtained from a potable source of supply.
Note: Standard NFPA 24 for combination water services and combination private water mains may include more stringent requirements for testing.

a. not less than the working pressure under which it is to be used
b. not less than 5 pounds of pressure
c. not more than 25 pounds of pressure
d. not more than the working pressure under which it is to be used

42. *Final test.* Where required by the local plumbing inspector, after the plumbing fixtures have been installed and the traps filled with water, the connections shall be tested and proved gas and watertight by either one of the methods specified in subd. 1. or 2.
1. The smoke test shall be made by introducing a pungent, thick smoke, produced by one or more smoke machines, into the completed system. When the smoke appears at stack openings on the roof, the openings shall be closed and a pressure equivalent to a _____ water column shall be built and maintained for the period of the inspection.

a. one inch
b. two inch
c. three inch
d. four inch

43. *Final test.* Where required by the local plumbing inspector, after the plumbing fixtures have been installed and the traps filled with water, the connections shall be tested and proved gas and watertight by either one of the methods specified in subd. 1. or 2.
2. The air test shall be made by attaching a gauge to any suitable opening and, after closing all other inlets and outlets in the system, adding air into the system until a pressure equivalent to a one inch water column exists. The pressure shall remain constant for at least a _____ test period without the introduction of additional air.

a. 1 minute
b. 2 minute
c. 5 minute
d. 10 minute

Review SPS 382.22 for Questions 44 to 50

44. *EXISTING SYSTEMS.* (a) Except as specified in par. (b), any existing plumbing system may remain and maintenance continue if the maintenance is in accordance with the original system design and _____ of the following:

1. The plumbing system was installed in accordance with the code in effect at the time of installation.

2. The plumbing system conforms to the present code.

(b) When a hazard to life, health or property exists or is created by an existing system, that system shall be repaired or replaced.

Note: A cross connection is considered a health hazard by the department.

(c)Existing sewers and water services may only be connected to new buildings when determined by examination and test to conform to the requirements of this chapter.

a. all
b. one
c. any
d. two

45. *FIXTURES REPLACED.* (a) When a fixture, appliance or section of pipe is replaced, the _____ shall conform to the provisions of this chapter.

(b) Where the existing drain or vent piping does not conform to the current provisions of this chapter, the department may require the new fixtures to be provided with deep seal traps.

a. replacement fixture
b. pipe or appliance
c. replacement fixture or pipe
d. replacement fixture, appliance or pipe

46. *PLUMBING REUSED.* The owner of the building or facility in which the reused materials are to be installed _____.

a. can be verbally notified
b. shall provide written consent
c. should be notified.
d. None of the above (a, b or c) (previous installed plumbing is not allowed to being reused)

47. *DEMOLITION OF STRUCTURES.* When a structure is demolished or removed, all _____ connections shall be sealed and plugged in a safe manner.

a. sanitary sewer
b. storm sewer and water supply
c. sanitary sewer and water supply
d. sanitary sewer, storm sewer and water supply

48. *REPAIRS.* All repairs to fixtures, devices or piping shall be completed in conformance with the provisions of this chapter, except repair clamps or bands may be used for emergency situations.

a. True
b. False

49. *TESTING OF CROSS CONNECTION CONTROL ASSEMBLIES.* (a) The performance testing requirements of this subsection apply to all cross connection control assemblies _____.
Note: For further clarification see Table 382.22–1.

a. regardless of date of installation
b. installed after June 1, 1978
c. installed after September 1, 1990
d. installed after December 31, 2004

50. *DEAD ENDS*. If a dead end is created in the removal of _____ of a drain system, all openings in the drain system shall be properly sealed.

a. any part
b. a major component
c. a minor component
d. a 4 foot section

Review SPS 382.30 for Questions 51 to 81

51. *SCOPE*. The provisions of this section set forth the requirements for the design and installation of sanitary drain systems, including building drains and building sewers.
Note: The provisions for _____ systems are specified in s. SPS 382.36.

a. storm drain
b. clear water drain
c. storm and clear water drain
d. gray water

52. *Minimum size of building sewers.* 1. Gravity flow sewers. The minimum size of a gravity flow sanitary building sewer shall be 4" in diameter. A _____ by ordinance may require that portion of the building sewer between the lot line and the public sewer to be larger than 4" in diameter.

a. municipality
b. sanitary district
c. municipality or sanitary district
d. none of the above

53. *Minimum size of building sewers.* Pressurized building sewers shall be sized not less than _____ for sewage ejectors and sewage pumps, and 1" in diameter for all sewage grinder pumps.

a. 2" in diameter
b. 3" in diameter
c. 3 ½" in diameter
d. 4" in diameter

54. *Pressurized sewers.* Sewers pressurized through the use of sewage ejectors, sewage pumps or sewage grinder pumps shall be sized to maintain a minimum flow velocity of _____ per second and shall be in accordance with the ejector or pump manufacturer's recommendations.

a. 2 feet
b. 3 feet
c. 4 feet
d. 5 feet

55. *Minimum size of private interceptor main sewers.* Except as provided in subd. 3., the minimum size of a gravity flow private interceptor main sewer shall be _____ in diameter.

a. 3 inches
b. 3.5 inches
c. 4 inches
d. 6 inches

56. *Minimum size of private interceptor main sewers.* A municipality or a sanitary district may by ordinance, require the minimum size of a private interceptor main sewer to be larger than 4" in diameter.

a. True
b. False

57. *Future fixtures.* Where provisions are made for the future installation of fixtures, the drainage fixture unit values of such fixtures _____ considered in determining the required sizes of drain and vent pipes. Construction to provide for future installations shall be terminated with a plugged fitting or fittings.

a. can be
b. should be
c. may be
d. shall be

58. *PITCH OF HORIZONTAL DRAIN PIPING.* All horizontal drain piping 4" or larger in diameter shall be installed at a pitch which produces a computed velocity of at least 2 feet per second when flowing _____.

a. one quarter full
b. half full
c. three quarters full
d. completely full

59. *Horizontal branch drains.* The minimum pitch of horizontal branch drains _____ in diameter shall be ¼" per foot.

a. 2" or more
b. 2" or less
c. 3" or more
d. 3" or less

60. *Horizontal branch drains.* The minimum pitch of horizontal branch drains larger than 2" in diameter shall be _____ per foot.

a. 1/8"
b. 1/4"
c. 3/8"
d. 1/2"

61. *PIPING CHANGES IN DIRECTION. Fittings.* All changes in direction of flow in drain piping shall be made by the appropriate use of 45 degree wyes, long or short sweep quarter bends, sixth, eighth, or sixteenth bends, or by a combination of these or other equivalent fittings. Except as provided in subds. 1. to 3., fittings which change the direction of flow for drain piping _____ in diameter shall conform to the minimum radii specified in Table 382.30-4.
Note: See Appendix for further explanatory material.

a. 8" or more
b. 8" or less
c. 10" or more
d. 10" or less

62. *DRAIN FITTINGS AND CONNECTIONS.* Drain fittings, connections, devices and methods of installation shall not obstruct or retard the flow of _____ or air in the drain system or venting system in an amount greater than the normal frictional resistance to flow, unless as otherwise permitted in this chapter or unless approved by the department.

a. water
b. wastes and sewage
c. water and sewage
d. water, wastes, sewage

63. *Prohibited fittings and connections.* The types of fittings and connections specified in subds. 1. to 4. shall not be used for drain piping:

1. A heel inlet bend when the heel inlet is in the horizontal position;
2. A fitting or connection which has an enlargement chamber or recess with a ledge or shoulder, or reduction in pipe area in the direction of flow;
3. A fitting which has running threads; and
4. A connection by means of drilling and tapping of a drain or vent pipe, unless as otherwise approved by the department.

a. True
b. False

64. *SUMPS, EJECTORS AND PUMPS. Sumps.* 'General.' All sanitary building subdrains shall discharge into an approved, vented sump with an airtight cover. The sump shall be so located as to receive the wastewater by gravity flow, and shall be located at least _____ from any water well or as otherwise approved by the department of natural resources.

a. 10 feet
b. 15 feet
c. 20 feet
d. 25 feet

65. *Capacity.* The capacity of the sump shall be such that the pump when actuated by the lowest "pump on" switch runs at least _____ .

a. 10 seconds
b. 15 seconds
c. 20 seconds
d. 30 seconds

66. *Capacity.* The low water level shall be maintained in accordance with the pump manufacturer's requirements, but shall not be less than _____ above the sump bottom.

a. 2″
b. 4″
c. 6″
d. 8″

67. *Capacity.* Sumps containing one pump shall have an inside diameter of at least 24" . Sumps containing 2 pumps shall have an inside diameter of at least _____ .
Note: See Appendix for further explanatory material.

a. 24″
b. 28″
c. 30″
d. 36″

68. *Ejectors and pumps.* Where duplex pumping equipment is installed, an audible or visual alarm system with a _____ shall be installed to indicate pump failure.

a. manual control reset
b. automatic control reset
c. programmable control reset
d. None of the above (a, b or c)

69. *Ejectors and pumps.* All sewage grinder pumps shall have a _____ diameter discharge opening and discharge piping.

a. minimum 1″
b. maximum 1″
c. minimum 1 ¼″
d. minimum 1 ½″

70. *BUILDING DRAINS AND BUILDING SEWERS. Limitations.* No building sewer may pass through or under a building to serve another building, unless:

1. **The building sewer serves farm buildings or farm houses, or both, which are all located on one property;**
2. **The building sewer or private interceptor main sewer serves buildings located on the same property and a document, which indicates the piping and distribution arrangement for the property and buildings, shall be recorded with the register of deeds no later than 90 days after installation.**

a. a. #1 only
b. b. #2 only
c. #1 or #2
d. None of the above (a, b or c)

71. *'Floor drain required.'*. Where a plumbing fixture or appliance is located on a floor which is entirely below grade, _____.

a. a floor drain should be installed to serve that floor
b. a floor drain can be installed to serve that floor
c. a floor drain is optional to serve that floor
d. a floor drain shall be installed to serve that floor

72. *Building sewers.* 'Minimum depth.' The top of a building sewer shall be located at a depth of _____ below finished grade, except as provided in subd. 1. b. or subd. 2.

a. not more than 36″
b. not less than 36″
c. not less than 42″
d. not more than 42″

73. *Building sewers* 'Minimum depth' The top of a building sewer which discharges to a septic tank, holding tank or grease interceptor shall be located at a depth of _____ below finished grade.

a. not less than 12″
b. not less than 18″
c. not less than 24″
d. not less than 30″

74. *Building sewers* 'Protection from frost.' a. Except as provided in subd. 2. c. to e., a building sewer or private interceptor main sewer shall be protected from frost in accordance with subd. 3. in areas where the top of the building sewer or private interceptor main sewer is located less than _____ below a surface area from which snow will be cleared.

a. 24″
b. 36″
c. 48″
d. 60″

75. *Building sewers* 'Protection from frost.' Except as provided in subd. 2. c. to e., a building sewer or private interceptor main sewer shall be protected from frost in accordance with subd. 3. in areas where the top of the building sewer or private interceptor main sewer is located less than _____ below a surface area which snow will not be cleared.

a. 24″
b. 36″
c. 42″
d. 60″

76. *Building sewers* "Protection from frost.' Frost protection for a building sewer _____ where the predicted depth of frost as determined from Figure 382.30-1 and Table 382.30-6 does not extend below the top of the building sewer.

a. shall be required
b. shall not be required
c. should be required
d. can be required

77. *Building sewers* 'Protection from frost.' Where a building sewer or private interceptor main sewer is installed to serve summer use public facilities, frost protection requirements _____.

a. shall apply
b. shall not apply
c. can apply
d. should apply

78. *Building sewers* 'Insulation for building sewers.' Where required by subd. 2. a. or b., building sewer or private interceptor main sewer insulation for frost protection shall be provided in accordance with one of the methods specified in subd. 3. a. to d.

a. True
b. False

79. *Building sewers* 'Insulation for building sewers.' Extruded polystyrene foam insulation shall be installed at a depth of _____ and at least 6" above the top of the sewer pipe. The minimum thickness and width of the foam insulation shall be determined from Figure 382.30-1 and Tables 382.30-5 to 382.30-7. If the insulation is to be installed more than 6" above the top of the sewer, the number of inches exceeding 6" shall be added to the width of insulation determined from Table 382.30-7.

a. at least 12"below finished grade
b. at least 18" below finished grade
c. at least 24" below finished grade
d. at least 30" below finished grade

80. *'Insulation for building sewers.'* Extruded polystyrene foam insulation shall be installed using a box method. The 3- sided box shall be formed with 3 lengths of polystyrene foam insulation where the top of the box extends horizontally to the farthest edge of both vertical sides. The insulation shall be installed at or below a depth of _____ and 6" above the top and 6" from each side of the building sewer or private interceptor main sewer. The minimum thickness of the foam insulation shall be determined from Figure 382.30-1 and Table 382.30-5.

a. at least 12" below finished grade
b. at least 18" below finished grade
c. at least 24" below finished grade
d. at least 30" below finished grade

81. *'Insulation for building sewers.'* Lightweight insulating concrete shall be installed to the depth of the spring line of the sewer and shall extend laterally at least 6" on both sides of the sewer. The minimum thickness of the insulating concrete shall be determined from Figure 382.30-1 and Table 382.30-5. The thickness shall be measured from the top of the sewer. The top of the insulation shall be installed _____ .

a. at least 8" below finished grade
b. at least 12" below finished grade
c. at least 16" below finished grade
d. at least 20" below finished grade

Review Table 382.30-1 for Questions 82 to 85

82. Milwaukee County is in Frost Protection Zone _____?

a. Zone A
b. Zone B
c. Zone C
d. Zone D

83. Grant County is in Frost Protection Zone _____?

a. Zone A
b. Zone B
c. Zone C
d. Zone D

84. Douglas County is in Frost Protection Zone _____?

a. Zone A
b. Zone B
c. Zone C
d. Zone D

85. La Crosse County is in Frost Protection Zone _____?

a. Zone A
b. Zone B
c. Zone C
d. Zone D

Review Table 382.30-6 for Questions 86 to 91

86. What is the predicted depth of frost in Milwaukee County for [soil type] Clay, Clay Loam?

a. 2.5 feet
b. 3.5 feet
c. 4 feet
d. 4.5 feet

87. What is the predicted depth of frost in La Crosse County for [soil type] Silt Loam, Silty Clay Loam?

a. 3.5 feet
b. 4.5 feet
c. 5.5 feet
d. 6 feet

88. What is the predicted depth of frost in Grant County for [soil type] Sandy Clay Loam?

a. 3 feet
b. 4 feet
c. 4.5 feet
d. 5 feet

89. What is the predicted depth of frost in Douglas County for [soil type] Sandy Loam, Loamy Sand?

a. 4 feet
b. 5.5 feet
c. 6 feet
d. 6.5 feet

90. What is the predicted depth of frost in Milwaukee County for [soil type] Sand?

a. 4 feet
b. 4.5 feet
c. 5 feet
d. 6 feet

91. What is the predicted depth of frost in La Crosse County for [soil type] Gravelly Sand?

a. 5.5 feet
b. 6 feet
c. 6.5 feet
d. 9 feet

Review Table 382-30-1 and 382.30-5 for Questions 92 to 95

92. What is the minimum thickness of insulation required in Frost Protection Zone A to insulate a building sewer with Extruded Polystyrene Foam?

a. 1 inch
b. 1.5 inches
c. 2 inches
d. 2.5 inches

93. What is the minimum thickness of insulation required in Grant County to insulate a building sewer with Insulating Concrete?

a. 6 inches
b. 9 inches
c. 12 inches
d. 15 inches

94. What is the minimum thickness of insulation required in La Crosse County to insulate a building sewer with Extruded Polystrene Foam?

a. 1 inch
b. 1.5 inches
c. 2 inches
d. 2.5 inches

95. What is the minimum thickness of insulation required in Douglas County to insulate a building sewer with Insulating Concrete?

a. 6 inches
b. 9 inches
c. 12 inches
d. 15 inches

Review Table 382.30-7 for Questions 96 to 100

96. What is the minimum width of extruded polystyrene foam insulation if the predicted depth of frost is 2.5 feet and the depth of the sewer is 2 feet?

a. 2 feet
b. 3 feet
c. 4 feet
d. 5 feet

97. What is the minimum width of extruded polystyrene foam insulation if the predicted depth of frost is 3.5 feet and the depth of the sewer is 3 feet?

a. 2 feet
b. 3 feet
c. 4 feet
d. 5 feet

98. What is the minimum width of extruded polystyrene foam insulation if the predicted depth of frost is 4 feet and the depth of the sewer is 2 feet?

a. 2 feet
b. 3 feet
c. 4 feet
d. 5 feet

99. What is the minimum width of extruded polystyrene foam insulation if the predicted depth of frost is 4 feet and the depth of the sewer is 4 feet?

a. not required
b. 2 feet
c. 3 feet
d. 4 feet

100. What is the minimum width of extruded polystyrene foam insulation if the predicted depth of frost is 3.5 feet and the depth of the sewer is 2.5 feet?

a. not required
b. 2 feet
c. 3 feet
d. 4 feet

Review SPS 382.30 & 331 for Questions 100 to 120

101. *Installation of building drains and building sewers.* 'Trenching.' All excavations for building drains and building sewers shall be _____, unless otherwise permitted by local ordinance or accepted by the local inspector.

a. closed trench work
b. open trench work
c. rigid trench work
d. none of the above (a, b or c)

102. *Installation of building drains and building sewers.* 'Stable bottom.' Where the _____ of the trench can be maintained in a stable condition and free of water during the time of installation the building drain and the building sewer shall be bedded and initially backfilled to comply with all the following requirements:

a. top
b. bottom
c. sides
d. vertical surface

103. *Installation of building drains and building sewers.* 'Stable bottom.' Where the trench bottom does not contain stone larger than _____ in size or where bedrock is not encountered, the trench may be excavated to grade.

a. 1 inch
b. 1.5 inches
c. 2 inches
d. 2.5 inches

104. *Installation of building drains and building sewers.* 'Stable bottom.' Where stone larger than one inch size or when bedrock is encountered, the trench shall be evacuated to a depth of at least 3 inches below the grade elevation and shall be brought back to grade with a bedding of sand, gravel or crushed stone that shall be of a size that all material shall pass a _____.

a. ¼" sieve
b. ½" sieve
c. ¾" sieve
d. 1" sieve

105. *Installation of building drains and building sewers* 'Stable bottom.' Initial backfill to a depth of 12 inches over the pipe shall be sand, crushed stone or excavated material which is _____.

a. organic in nature
b. corrosive in nature
c. corrosive or organic in nature
d. neither corrosive nor organic in nature

106. *Installation of building drains and building sewers* 'Stable bottom.' A concrete floor may be placed over a building drain having less than _____.

a. 12 inches of initial backfill
b. 14 inches of initial backfill
c. 16 inches of initial backfill
d. 18 inches of initial backfill

107. *Installation of building drains and building sewers* 'Stable bottom.' Initial backfill shall be placed in increments not to exceed _____.

a. 2 inches in depth
b. 4 inches in depth
c. 6 inches in depth
d. 8 inches in depth

108. ***Installation of building drains and buildings sewers.*** **'Unstable bottom'. Where a mucky or unstable bottom is encountered in the trench, the required dry and stable foundation conditions shall be provided by providing _____ of the following options:**

a. Sheating shall be driven and left in place to a depth of 48 inches below the trench bottom or to solid foundation to a lesser depth.

b. Removal of wet and yielding material to a depth of 24 inches or to solid material and replacement of the unstable material with limestone screenings, pea gravel or equivalent material.

c. Install a longitudinally reinforced concrete cradle the width of the trench and at least 3 inches thick.

d. Install a longitudinally reinforced concrete slab the width of the trench and at least 3 inches thick.

e. Backfill and bedding shall comply with subd. 2.d to h.

a. one
b. two
c. three
d. four

109. ***Installation of building drains and building sewers.*** **'Backfill completion'. Care shall be exercised in placing the balance of the backfill to prevent breakage of the pipe. _____ shall not be used in the backfill. At least 36" of backfill cover shall be provided over the top of the pipe before the pipe trench is wheel-loaded.**

a. Large boulders or rock
b. concrete slabs
c. frozen masses
d. All the above (a, b and c)

110. ***Installation of building drains and building sewers.*** **'Pipe openings protected'. The ends of all pipes not immediately connected shall be closed so as to prevent the introduction of _____ from an excavation**.

a. earth
b. drainage
c. earth or drainage
d. drainage or rodents

111. ***Connection to public sewer.*** **When the public sewer is concrete or clay, the end of the connecting sewer may be set upon or in an opening cut into the top half of the public sewer, but shall not protrude into the public sewer. The connection shall be secured by encasing the main sewer pipe and the connection in concrete _____ so as to assure permanency of the connection and adequate backing of the public sewer pipe.**

a. at least 2 inches thick
b. at least 3 inches thick
c. not more than 2 inches thick
d. not more than 3 inches thick

112. ***Connection to public sewer.*** **In lieu of the use of a fitting and in the event that an opening cannot be located in the top half of the public sewer, a length of concrete or clay public sewer pipe may be removed and a section with a wye fitting shall be inserted in its place. The joints at the ends of the section shall be encased in concrete at least 3" thick. The connection or insertion shall be made under the supervision of the _____.**

a. journeyman plumber
b. master plumber
c. owner of the property
d. authorized representative of the municipality or the sanitary district

113. *Prohibited installations.*1.'Harmful discharge'. No person may connect to a public sewer any building drain or building sewer through which is discharged any substance likely to cause undue corrosion, obstruction, nuisance, explosion or interference with sewage treatment processes.

a. True
b. False

114. *Prohibited installations.* 'Storm water and clear water connections'. Except as provided in s. SPS 382.36(3), storm drain piping and clear water drain piping _____ to a sanitary building drain which connects to a publicly-owned treatment works.
Note: See s. SPS 382.36 for provisions relative to storm sewers.

a. may discharge
b. may not discharge
c. shall discharge
d. should discharge

115. *Locating requirements.* Tracer wire shall be located directly above and _____ of the non metallic-pipe.

a. within 6 inches
b. within 8 inches
c. within 10 inches
d. within 12 inches

1**16. *Locating requirements.* Global positioning system data shall be recorded with the municipality where the non-metalic pipe is installed.**

a. True
b. False

117. *Private Interceptor Main Sewers.* No private interceptor main sewer may pass through or under a building to serve another building, unless _____ :

1. The private interceptor main sewer serves farm buildings, farm houses or both which are located on one property.
2. The private interceptor main sewer serves buildings that are located on one property and a document, which indicates the piping and distribution arrangement for the property and buildings, shall be recorded with the register of deeds no later than 90 days after installation.

a. one of the following conditions are met
b. both of the following conditions are met
c. none of the above (a or b)
d. approved by the local inspector

118. *Location of Drain Piping.* Drain piping located below the ceilings of areas where food, ice or potable liquids are _____ shall be installed with the least number of joints and shall be installed in accordance with the subds. 1 to 5.

a. prepared
b. handled
c. stored or displayed
d. all the above (a, b and c)

119. *Location of Drain Piping.* Plumbing fixtures, except bathtubs and showers, shall be of the wall mounted type. Bathtubs shall have _____ made above the floor and piped to a trap below the floor.

a. waste connections
b. overflow connections
c. waste and overflow connections
d. drain connections

120. *Location of Drain Piping*. Where drain piping is located in ceilings of areas where food, ice or potable liquids are prepared, _____ , the ceilings shall be of the removable type, or shall be provided with access panels in order to provide an access for inspection of the piping.

a. handled
b. stored
c. displayed
d. all the above (a, b and c)

FOR QUESTIONS 121 to 160 REFER TO LEAD IN CONSTRUCTION

121. HEALTH HAZARDS OF LEAD EXPOSURE: Lead can damage the _____.

a. kidneys
b. hematological and reproductive system
c. cardiovascular and central nervous system
d. All of the above

122. REPRODUCTIVE RISKS: Lead can alter the structure of sperm cells and there is evidence of miscarriage and stillbirth in women exposed to lead or whose partners have been exposed.

a. True
b. False

123. PERCENT OF CHILDREN WITH ELEVATED BLOOD LEAD LEVELS BY COUNTY – WISCONISN, 2008: In 2008 Wisconsin had _____ counties with children that had an elevated blood lead levels of 1.8 -2.8% percent.

a. One
b. Two
c. Three
d. Four

124. WORKER EXPOSURE: A significant portion of the lead inhaled or ingested gets into the bloodstream. Once in the bloodstream, lead circulates through the body and _____. Some of this lead is filtered out of the body quickly and excreted, but some remains in the blood and tissues. As exposure continues, the amount stored will increase if the body absorbs more lead than it excretes.

a. stored in organs only
b. stored in body tissue only
c. stored in organs and body tissue
d. is filtered out

125. HOW WIDESPREAD IS LEAD BASED PAINT IN HOUSING? _____ of homes built during 1940 to 1959 have lead based paint components.

a. 87%
b. 69%
c. 24%
d. None of the above

126. MOST VULNERABLE WORKERS: Workers potentially at risk for lead exposure include those involved in iron work; demolition work; painting; lead-based paint abatement; plumbing; heating and air conditioning maintenance and repair; electrical work; and carpentry, renovation, and remodeling work. _____ are among those workers most exposed to lead.

a. Plumbers
b. Welders
c. Painters
d. All of the above

127. EXPOSURE LIMITS: PEL is the abbreviation for:

a. Permissible Exposure Limit
b. Probable Exposure Limit
c. Possible Exposure Limit
d. None of the above

128. EXPOSURE LIMITS: AL is the abbreviation for:

a. Allowable level
b. Appropriate level
c. Action Level
d. Accountability level

129. WORKER PROTECTION: Because lead is a cumulative and persistent toxic substance and health effects will result from a onetime exposure, employers may use these precautions where feasible to maximize employee exposure to lead.

a. True
b. False

130. ELEMENTS OF A COMPLIANCE PROGRAM: For each job where employee exposure is below the PEL, the employer can implement a compliance program to increase employee exposure to stay under the PEL.

a. True
b. False

131. INITIAL EMPLOYEE EXPOSURE ASSESSMENT: According to the Wisconsin Dept. of Health Services (DHS 163) "Lead exposure" means a level of lead in the blood of 10 or more micrograms per _____.

a. 100 milliliters of blood
b. 125 milliliters of blood
c. 150 milliliters of blood
d. 200 milliliters of blood

132. BIOLOGICAL MONITORING TESTS: Analysis of blood lead samples must be conducted by an OSHA approved lab and be accurate (to a confidence level of 95 percent) _____, or 6 µg/dl, whichever is greater.

a. within plus or minus 10 percent
b. within plus or minus 15 percent
c. within plus or minus 20 percent
d. within plus or minus 25 percent

133. TEST RESULTS SHOWING NO OVEREXPOSURES: If the initial assessment indicates that no employee is exposed above the AL, the employer may discontinue monitoring.

a. True
b. False

134. EMPLOYEE NOTIFICATION OF MONITORING RESULTS: The employer must notify each employee in writing of employee exposure assessment results within _____ of receiving them.

a. ten working days
b. ten days
c. five working days
d. five days

135. MEDICAL SURVEILLANCE: When an employee's airborne exposure is at or above the AL for more than 30 days in any consecutive 12 months, an immediate medical consultation is required when the employee notifies the employer that he or she:

a. Has developed signs or symptoms commonly associated with lead-related disease;
b. Has demonstrated difficulty in breathing during respirator use or a fit test;
c. Desires medical advice concerning the effects of past or current lead exposure on the employee's ability to have a healthy child.
d. All of the above

136. WHEN MONITORING SHOWS NO EMPLOYEE EXPOSURES ABOVE THE AL: Which renovation activity creates the most airborne leaded dust?

a. Hand Sanding
b. Interior Demolition
c. Power Sanding
d. All of the above

137. WORKER PROTECTIONS AND BENEFITS: The employer must provide up to 6 months of medical removal protection (MRP) benefits only the first time an employee is removed from lead exposure or medically limited.

a. True
b. False

138. RECORDS REQUIREMENTS INVOLVING MEDICAL REMOVAL: In the case of medical removal, the employer's records must include:

a. The worker's name and social security number,
b. The date of each occasion that the worker was removed from current exposure to lead and the date when the worker was returned to the former job status,
c. A brief explanation of how each removal was or is being accomplished, and a statement indicating whether the reason for the removal was an elevated blood lead level.
d. All of the above

139. EMPLOYER REQUIREMENTS: The employer must maintain any employee exposure and medical records to document ongoing employee exposure, medical monitoring, and medical removal of workers. This data provides a baseline to evaluate the employee's health properly.

a. True
b. False

140. EMPLOYER REQUIREMENTS RELATED TO OBJECTIVE DATA: The employer must maintain the record of objective data relied on for _____.

a. at least 7 years
b. at least 15 years
c. at least 20 years
d. at least 30 years

141. WHEN CLOSING A BUSINESS: When an employer ceases to do business, the successor employer must receive and retain all required records. If no successor is available, these records must be sent to the Director of NIOSH.

a. True
b. False

142. EXHAUST VENTILATION: Equip power tools used to remove lead-based paint with dust collection shrouds or other attachments so that paint is exhausted through a _____.

a. Central Air vacuum system
b. high-efficiency particulate air (HEPA) vacuum system
c. Shop vac system
d. None of the above

143. ENCLOSURE OR ENCAPSULATION: One way to reduce the lead inhalation or ingestion hazard posed by lead-based paint is to encapsulate it with a material that bonds to the surface, such as _____(1)_____ or flexible wall coverings. Another option is to enclose it using systems such as gypsum wallboard, plywood paneling, and aluminum, _____(2)_____. Floors coated with lead-based paint can be covered using _____(3)_____.

	1	2	3
a.	acrylic and	vinyl tile or	carpeting
b.	vinyl tile or	fiber cement	6 mil plastic
c.	vinyl or wood	or Tyvek	fiber cement
d.	acrylic or	vinyl or wood	vinyl tile or

144. SUBSTITUTION: Using a paint stripper containing methylene chloride is a prohibited practice in Wisconsin.

a. True
b. False

145. PROCESS OR EQUIPMENT MODIFICATION: When using a heat gun to remove lead-based paints in _____, be sure it is of the flameless electrical softener type. Heat guns should have electronically controlled temperature settings to allow usage below 700 degrees F. Equip heat guns with various nozzles to cover all common applications and to limit the size of the heated work area.

a. Commercial units
b. Residential housing units
c. Commercial and residential units
d. None of the above

146. HOUSEKEEPING PRACTICES: An effective housekeeping program involves a regular schedule to remove accumulations of lead dust and lead-containing debris.

a. True
b. False

147. HOUSEKEEPING PRACTICES: Put all lead-containing debris and contaminated items accumulated for disposal into _____. Label bags and containers as lead-containing waste.

a. Sealed, impermeable bags only
b. closed impermeable containers only
c. Sealed, impermeable bags or other closed impermeable containers
d. None of the above

148. PERSONAL HYGIENE PRACTICES: Provide and ensure that workers _____ washing facilities.

a. are aware of
b. know about
c. are informed about the
d. use

149. CHANGE AREAS: The employer _____ provide a clean change area for employees whose airborne exposure to lead is above the PEL. The area _____ be equipped with storage facilities for street clothes and a separate area with facilities for the removal and storage of lead-contaminated protective work clothing and equipment.

a. must/must
b. may / can
c. should/ may
d. can/ may

150. PERSONAL PRACTICES: In all areas where employees are exposed to lead above the _____, employees must observe the prohibition on the presence and consumption or use of food, beverages, tobacco products, and cosmetics.

a. AL
b. PEL
c. MSDS
d. None of the above

151. END-OF-DAY PROCEDURES: Employers must ensure that workers who are exposed to lead above the permissible exposure limit follow these procedures at the end of their workday:

a. Place contaminated clothes, including work shoes and personal protective equipment to be cleaned, laundered, or disposed of, in a properly labeled closed container.
b. Take a shower and wash their hair. Where showers are not provided, employees must wash their hands and face at the end of the work shift.
c. Change into street clothes in clean change areas.
d. All of the above

152. EMPLOYER REQUIREMENTS: Employers must provide workers who are exposed to lead above the PEL or for whom the possibility of skin or eye irritation exists with clean, dry protective work clothing and equipment that are appropriate for the hazard. Employers must_____ to employees.

a. provide these items at no cost
b. offer these items at a reduced rate
c. provide a vendor name
d. None of the above

153. PREVENTING HEAT STRESS: When heat stress is a concern, the employer should choose lighter, less insulating protective clothing over heavier clothing, as long as it provides adequate protection. Other measures the employer _____ take include: discussing the possibility of heat stress and its signs and symptoms with all workers; using appropriate work/rest regimens; and providing heat stress monitoring that includes measuring employees' heart rates, body temperatures, and weight loss.

a. shall
b. will
c. can
d. must

154. RESPIRATORY PROTECTION: Respirators also must be provided upon employee request. A requested respirator is included as a requirement to provide increased protection for those employees who wish to reduce their lead burden below what is required by the standard, particularly if they intend to have children in the near future. In addition, respirators must be used when performing previously indicated high exposure or "trigger" tasks, before completion of the initial assessment.

a. True
b. False

155. PROVIDING ADEQUATE RESPIRATORY PROTECTION: Before any employee first starts wearing a respirator in the work environment, the employer must perform a fit test. For all employees wearing _____tight-fitting face piece respirators, the employer must perform either qualitative or quantitative fit tests using an OSHA-accepted fit testing protocol.

a. only negative pressure
b. only positive pressure
c. negative or positive pressure
d. None of the above

156. SELECTING A RESPIRATOR: A NIOSH-certified respirator may be selected and may be used in compliance with the conditions of its certification.

a. True
b. False

157. WARNING SIGNS: Employers are required to post warning signs in each work area where employee exposure to lead is above the PEL:

a. Warning / Lead Work Area
b. Poison / No Smoking or Eating
c. Both a. and b. are needed
d. No special signs are needed

158. CONSULTATION ASSISTANCE: Consultation assistance is available on request to employers who want help establishing and maintaining a safe and healthful workplace. Funded largely by OSHA, the service is provided _____ to small employers and is delivered by state authorities through professional safety and health consultants.

a. for a minimal fee
b. at no cost
c. at a $25.00 per hour fee
d. in conjunction with a larger employer

159. COOPERATIVE PARTNERSHIPS: OSHA has learned firsthand that voluntary, cooperative partnerships with employers, employees, and unions can be a useful alternative to traditional enforcement and an _____ way to reduce worker deaths, injuries, and illnesses. This is especially true when a partnership leads to the development and implementation of a comprehensive workplace safety and health management system.

a. effective
b. forceful
c. weak
d. unproductive

160. BLOOD LEAD LABORATORIES – WISCONSIN (AS OF 2/17/2012): Monitoring _____ for lead and zinc protoporphyrin (or free erythrocyte protoporphyrin) in blood. The employer is required to have these analyses performed by a laboratory that meets accuracy requirements specified by OSHA.

a. must be provided
b. can be provided
c. should be provided
d. may be provided

FOR QUESTIONS 161 to 200 REFER TO TRENCHING AND EXCAVATIONS

Working Safely In Trenches

161. A safe means of egress shall be provided within _____ of workers in a trench.

a. 20 feet
b. 25 feet
c. 30 feet
d. 35 feet

Trenching and Evacuation Safety

162. OSHA defines an excavation as any _____, or depression in the earth's surface formed by earth removal.

a. man-made cut
b. cavity
c. trench
d. All of the above

163. A trench is defined as a narrow underground excavation that is deeper than it is wide, and no wider than _____.

a. 15 feet
b. 20 feet
c. 25 feet
d. None of the above

164. Trenches 5 feet (1.5 meters) deep or greater require a protective system unless the excavation is made entirely in stable rock.

a. True
b. False

165. OSHA standards require that trenches be inspected _____ by a competent person prior to worker entry to ensure elimination of excavation hazards.

a. only as conditions change
b. daily and as conditions change
c. weekly or monthly, depending on the work being performed
d. weekly and as conditions change

166. Safe access and egress devices _____ be located within 25 feet (7.6 meters) of all workers.

a. should
b. may
c. can
d. must

Excavations

167. Examples of general Trenching and Excavation Rules:

a. Know where underground utilities are located.
b. Test for low oxygen, hazardous fumes and toxic gases.
c. Inspect trenches following a rainstorm.
d. All of the above

168. OSHA defines an excavation as any man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal. This can include excavations for anything from cellars to highways.

a. True
b. False

169. Cave-ins pose _____ and are _____ than other excavation-related accidents to result in worker fatalities.

a. the greatest risk/ much more likely
b. a minimal risk / less likely
c. no risk / not as likely
d. a slight risk / statistically less likely

Excavation and Trenching Standard

170. The OSHA Evacuation and Trenching Standard Rule applies to small excavations made in the earth's surface, excluding trenches.

a. True
b. False

171. The standard does not apply to house foundation/ basement excavations, including those that become trenches by definition when constructing formwork, foundations, or walls. For this exemption to apply, which of the following conditions must exist?

a. No water, surface tension cracks, or other environmental conditions reduce the excavation's stability;
b. Soil, equipment, and material surcharge loads are no closer to the top edge of the excavation than the excavation is deep. When you use front-end loaders to dig the excavations, place the soil surcharge load as far back from the edge of the excavation as possible, but never closer than 2 feet (.61 meters);
c. The fewest crew members possible are performing the work; and Workers spend the minimum time possible in the excavation.
d. All of the above

Preplanning

172. Many on-the-job accidents result directly from inadequate initial planning. Waiting until after the work has started to correct mistakes in shoring or sloping slows down the operation, adds to the cost, and increases the possibility of a cave-in or other excavation failure.

a. True
b. False

173. Ask the utility companies or owners to find the exact location of underground installations. If they cannot respond within _____ (unless the period required by state or local law is longer) or cannot find the exact location of the utility installations, you may proceed with caution.

a. 48 hours
b. 36 hours
c. 24 hours
d. 12 hours

174. When you share the details of your safety and health program with employees, it is important to emphasize the critical role you expect them to play in keeping the jobsite safe. You _____ emphasize specific rules to help reduce the risk of on-the-job injuries.

a. have to
b. are required to
c. may want to
d. obligated to

Protective Systems

175. You are _____ the most practical design approach for any particular circumstance.

a. required to choose
b. free to choose
c. obligated to choose
d. None of the above

176. All simple slope excavations _____ deep should have a maximum allowable slope of 1-1/2:1.

a. 30 feet or more
b. 30 feet or less
c. 20 feet or more
d. 20 feet or less

177. At least one copy of the data, including the identity of the registered professional engineer who approved it, _____ be kept at the worksite during construction of the protective system. After the system is completed, the data may be stored away from the jobsite, but a copy _____ be provided upon request to the Assistant Secretary of Labor for OSHA.

a. must/ can
b. must/ must
c. can / must
d. can / should

178. OSHA standards permit the use of a trench shield (also known as a welder's hut) if it provides the same level of protection or more than the appropriate shoring system.

a. True
b. False

179. Excavations under sidewalks and pavements are _____ you provide an appropriately designed support system or another effective means of support.

a. discouraged even if
b. prohibited even if
c. prohibited unless
d. never approved even if

180. The standard requires you to provide support systems such as shoring, bracing, or underpinning to ensure that adjacent structures such as _____ remain stable.

a. buildings and walls
b. sidewalks
c. pavement
d. All of the above

181. In addition, the standard permits excavation of _____ below the bottom of the members of a support or shield system of a trench if the system is designed to resist the forces calculated for the full depth of the trench. In addition, there must be no indications, while the trench is open, of a possible cave-in below the bottom of the support system.

a. 3 feet or less
b. 2 feet or more
c. 2 feet or less
d. 4 feet or less

182. Defective and damaged materials and equipment _____ failure of a protective system and other excavation hazards.

a. may cause
b. can cause
c. will cause
d. are known to cause

Additional Hazards and Protections

183. In addition to cave-ins and related hazards, workers involved in excavation work also are exposed to hazards involving falls, falling loads, and mobile equipment.

a. True
b. False

184. Prohibit employees from standing or working under loads being handled by lifting or digging equipment. _____ to stand away from vehicles being loaded or unloaded to protect them from being struck by any spillage or falling materials.

a. Suggest to workers
b. Ask workers
c. Require workers
d. None of the above

185. OSHA standards also require the use of diversion ditches, dikes, or other suitable means to prevent surface water from entering an excavation and to provide _____ of the adjacent area.

a. some drainage
b. adequate drainage
c. protection
d. coverage

186. _____ any excavation deeper than 4 feet (1.22 meters) or where an oxygen deficiency or a hazardous atmosphere is present or could reasonably be expected, such as a landfill or where hazardous substances are stored nearby, before an employee enters it.

a. A competent person can test
b. A competent person should test
c. A competent person may test
d. A competent person must test

187. If unhealthful atmospheric conditions exist or develop in an excavation, you _____ provide emergency rescue equipment such as a breathing apparatus, safety harness and line, and basket stretcher and ensure that it is readily available. This equipment _____ be attended when in use.

a. must/must
b. must/ should
c. should/ should
d. should/ must

188. OSHA requires you to provide safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations _____ or deeper. These devices must be located in the excavation within _____ of all workers.

a. 3 feet/ 25 feet
b. 3 feet / 20 feet
c. 4 feet / 25 feet
d. 4 feet / 20 feet

189. An employee who enters a bell-bottom pier hole or similar deep and confined footing excavation may wear a harness with a lifeline. The lifeline should be attached securely to the harness and can be separate from any line used to handle materials.

a. True
b. False

190. The standard requires that a competent person inspect an excavation and the areas around it _____ for possible cave-ins, failures of protective systems and equipment, hazardous atmospheres, or other hazardous conditions.

a. daily
b. weekly
c. bi-weekly
d. as needed (no regular schedule)

191. Larger and more complex operations should have a _____ safety official who makes recommendations to improve implementation of the safety plan. In a smaller operation, the safety official may be _____ and usually will be a supervisor.

a. full-time / full-time
b. part-time / part-time
c. full-time / part-time
d. part-time / full-time

OSHA Assistance, Services and Programs

192. OSHA can provide extensive help through a variety of programs, including assistance about safety and health programs, _____, and more.

a. state plans & strategic partnerships
b. training and education
c. workplace consultation & voluntary protection programs
d. All of the above

193. State plans are OSHA-approved job safety and health programs operated by individual states or territories instead of Federal OSHA. There are 26 state plans: 23 cover both private and public (state and local government) employment, and 3 (Connecticut, New Jersey, and New York) cover only the public sector.

a. True
b. False

194. In addition to helping employers identify and correct specific hazards, OSHA's consultation service provides _____, onsite assistance in developing and implementing effective workplace safety and health management systems that emphasize the prevention of worker injuries and illnesses.

a. low cost
b. free
c. flat fee
d. sliding scale (depending on the size of the company)

195. What does VPP stand for?

a. Voluntary Partnership Program
b. Vocational Provisionary Partnership
c. Voluntary Protection Program
d. Visionary Partnership Plan

196. OSHA Strategic Partnerships are alliances among labor, management, and government to foster improvements in workplace safety and health. These partnerships are federally regulated/mandated relationships between OSHA, employers, employee representatives, and others such as trade unions, trade and professional associations, universities, and other government agencies. OSPPs are the some of the oldest of OSHA's regulatory compliance programs.

a. True
b. False

197. Whereas OSHA's Consultation Program and VPP entail one-on-one relationships between OSHA and individual worksites, most strategic partnerships seek to have a broader impact by building cooperative relationships _____.

a. with groups of employers only.
b. with groups of employees only.
c. with groups of employers and employees.
d. None of the above

198. OSHA's _____ are full-service centers offering a variety of informational services such as personnel for speaking engagements, publications, audiovisual aids on workplace hazards, and technical advice.

a. 43 area offices
b. 53 area offices
c. 63 area offices
d. 73 area offices

199. OSHA Regional offices. States with approved programs must have a standard that is identical to, or at least as effective as, the federal standard. Which regional office / region is Wisconsin part of?

a. Region VII / Kansas City
b. Region V / Chicago
c. Region III / Philadelphia
d. Region VIII / Denver

200. OSHA Area Offices. Wisconsin has _____ area office(s).

a. four
b. three
c. two
d. one