Registration Form

WASTEWATER COLLECTION CEU TRAINING COURSE $100.00

48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL $50.00

Start and finish dates: _____
You will have 90 days from this date in order to complete this course

List number of hours worked on assignment must match State Requirement. _____

Name_____**Signature**_____
I have read and understood the disclaimer notice on page 2. Digitally sign XXX

Address: _____

City: _____**State:** _____ **Zip:**_____

Email_____ **Fax (**_____**)**_____

Phone:
Home (_____**)**_____ **Work (**_____**)**_____

Operator ID #_____ **Exp Date**_____

Please circle/check which certification you are applying the course CEU's.

Collection___ Wastewater Treatment ___ Other _____

Technical Learning College PO Box 3060, Chino Valley, AZ 86323
Toll Free (866) 557-1746 Fax (928) 272-0747 e-mail info@tlch2o.com

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We will stop mailing the certificate of completion we need your e-mail address. We will e-mail the certificate to you, if no e-mail address; we will mail it to you.

DISCLAIMER NOTICE
I understand that it is my responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. I understand State laws and rules change on a frequent basis and I believe this course is currently accepted in my State for CEU or contact hour credit, if it is not, I will not hold Technical Learning College responsible.

I fully understand that this type of study program deals with dangerous, changing conditions and various laws and that I will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable in any fashion for any errors, omissions, advice, suggestions or neglect contained in this CEU education training course or for any violation or injury, death, neglect, damage or loss of your license or certification caused in any fashion by this CEU education training or course material suggestion or error or my lack of submitting paperwork. It is my responsibility to call or contact TLC if I need help or assistance and double-check to ensure my registration page and assignment has been received and graded. It is my responsibility to ensure all information is correct and to abide with all rules and regulations.

Professional Engineers; Most states will accept our courses for credit but we do not officially list the States or Agencies. Please check your State for approval.

http://www.abctlc.com/downloads/PDF/CEU%20State%20Approvals.pdf

You can obtain a printed version of the course manual from TLC for an additional $89.95 plus shipping charges.

AFFIDAVIT OF EXAM COMPLETION
I affirm that I personally completed the entire text of the course. I also affirm that I completed the exam without assistance from any outside source. I understand that it is my responsibility to file or maintain my certificate of completion as required by the state or by the designation organization.

Grading Information
In order to maintain the integrity of our courses we do not distribute test scores, percentages or questions missed. Our exams are based upon pass/fail criteria with the benchmark for successful completion set at 70%. Once you pass the exam, your record will reflect a successful completion and a certificate will be issued to you.

For security purposes, please fax or e-mail a copy of your driver's license and always call us to confirm we've received your assignment and to confirm your identity.

Do not solely depend on TLC's Approval list for it may be outdated.

Some States and many employers require the final exam to be proctored.
http://www.abctlc.com/downloads/PDF/PROCTORFORM.pdf

All downloads are electronically tracked and monitored for security purposes.

For Texas Wastewater Licensed Operators

Wastewater/Collections Rule Changes (Texas Only)

Rule Changes and Updates for Domestic Wastewater Systems
On Nov. 4, 2014, TCEQ commissioners adopted revisions to 30 Texas Administrative Code (TAC), Chapter 217, Design Criteria for Domestic Wastewater Systems, and "re-adopted" previously repealed rules in 30 TAC, Chapter 317, Design Criteria Prior to 2008.

Some of the changes to Chapter 217 include:

- Adding new definitions and clarifying existing definitions;
- Adding design criteria and approval requirements for rehabilitation of existing infrastructure;
- Adding design criteria for new technologies, including cloth filters and air lift pumps;
- Making changes to reflect modern practices, standards and trends;
- Modifying rule language to improve readability and enforceability; and
- Modifying the design organic loadings and flows for a new wastewater treatment facility.

SUBCHAPTER A: ADMINISTRATIVE REQUIREMENTS §§217.1 - 217.18
Effective December 4, 2015 §217.1. Applicability. (a) Applicability. (1) This chapter applies to the design, operation, and maintenance of: (A) domestic wastewater treatment facilities that are constructed with plans and specifications received and approved by the executive director after the effective date of the amendments to this chapter; (B) treatment units that are altered, constructed, or re-rated with plans and specifications received and approved by the executive director after the effective date of the amendments to this chapter; (C) collection systems that are constructed with plans and specifications received and approved by the executive director after the effective date of the amendments to this chapter; (D) collection system units that are altered, constructed, or re-rated with plans and specifications received and approved by the executive director after the effective date of the amendments to this chapter; (E) existing domestic wastewater treatment facilities that do not have a current Texas Pollutant Discharge Elimination System permit or a Texas Land Application Permit and are required to have an active wastewater permit; (F) existing wastewater treatment facilities and collection systems that never received approval for plans and specifications from the executive director; and (G) collection system rehabilitation projects covered in §217.56(c) and §217.69 of this title (relating to Trenchless Pipe Installation; and Maintenance, Inspection, and Rehabilitation of the Collection System). (2) Domestic wastewater treatment facilities, treatment units, collection systems, and collection system units with plans and specifications approved by the executive director that were received on or after August 28, 2008 and before the effective date of this chapter must comply with the rules in this

chapter, as they existed immediately before the effective date of the amendments to this chapter.

The rules in Texas Commission on Environmental Quality Page 2 Chapter 217 - Design Criteria for Domestic Wastewater Systems effect immediately before the effective date of the amendments to this chapter are continued in effect for that purpose. (3) This chapter does not apply to: (A) the design, installation, operation, or maintenance of domestic wastewater treatment facilities, treatment units, collection systems, or collection system units with plans and specifications that were approved by the executive director on or before August 27, 2008, which are governed by Chapter 317 of this title (relating to Design Criteria Prior to 2008) or design criteria that preceded Chapter 317 of this title; and (B) systems regulated by Chapter 285 of this title (relating to On-Site Sewage Facilities); or collection systems or wastewater treatment facilities that collect, transport, treat, or dispose of wastewater that does not have the characteristics of domestic wastewater, although the wastewater may contain domestic wastewater.
(b) The executive director may grant variances from new requirements added by the amendments of this chapter to a person who proposes to construct, alter, or re-rate a collection system or wastewater treatment facility if the plans and specifications for the project are submitted within 180 days after the date the amendments to this chapter are effective, provided the plans and specifications comply with the rules in effect immediately prior to the amendment. Adopted November 4, 2015 Effective December 4, 2015

The link to the rules is available on the TCEQ website at
https://www.tceq.texas.gov/rules/indxpdf.html

For Texas Students Only….

Please sign and date this notice

Printed Name

_____

Signature Date

_____

Texas Students Only
Acknowledgement of Notice of Potential Ineligibility for License

You are required to sign and return to TLC or your credit will not be reported.

Name:
_____

Date of Birth:
_____

Email Address:
_____

By signing this form, I acknowledge that Technical Learning College notified me of the following:

- the potential ineligibility of an individual who has been convicted of an offense to be issued an occupational license by the Texas Commission on Environmental Quality (TCEQ) upon completion of the educational program;
- the current TCEQ Criminal Conviction Guidelines for Occupational Licensing, which describes the process by which the TCEQ's Executive Director determines whether a criminal conviction:
- renders a prospective applicant an unsuitable candidate for an occupational license;
- warrants the denial of a renewal application for an existing license; or
- warrants revocation or suspension of a license previously granted.
- the right to request a criminal history evaluation from the TCEQ under Texas Occupations Code Section 53.102; and
- that the TCEQ may consider an individual to have been convicted of an offense for the purpose of denying, suspending or revoking a license under circumstances described in Title 30 Texas Administrative Code Section 30.33.

Enrollee Signature: _____ Date: _____

Name of Training Provider/Organization: Technical Learning College

Contact Person: Melissa Durbin Role/Title: Dean

Wastewater Collections Answer Key

Name _____ Phone_____

Did you check with your State agency to ensure this course is accepted for credit?

Method of Course acceptance confirmation. Please fill this section

Website __ Telephone Call___ Email____ Spoke to_____

Did you receive the approval number, if applicable? _____

What is the course approval number, if applicable? _____

You are responsible to ensure that TLC receives the Assignment and Registration Key. Please call us to ensure that we received it.

Please circle, underline, bold or X only one correct answer

Please Circle, Bold, Underline or X, one answer per question. A **felt tipped pen** works best.

1. A B C D	18. A B C D	35. A B C D	52. A B C D
2. A B C D	19. A B C D	36. A B C D	53. A B C D
3. A B C D	20. A B C D	37. A B C D	54. A B C D
4. A B C D	21. A B C D	38. A B C D	55. A B C D
5. A B C D	22. A B C D	39. A B C D	56. A B C D
6. A B C D	23. A B C D	40. A B C D	57. A B C D
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8. A B C D	25. A B C D	42. A B C D	59. A B C D
9. A B C D	26. A B C D	43. A B C D	60. A B C D
10. A B C D	27. A B C D	44. A B C D	61. A B C D
11. A B C D	28. A B C D	45. A B C D	62. A B C D
12. A B C D	29. A B C D	46. A B	63. A B C D
13. A B C D	30. A B C D	47. A B	64. A B C D
14. A B C D	31. A B C D	48. A B	65. A B C D
15. A B C D	32. A B C D	49. A B	66. A B C D
16. A B C D	33. A B C D	50. A B	67. A B C D
17. A B C D	34. A B C D	51. A B	68. A B C D

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199. A B C D
200. A B C D

Please write down any questions you were not able to find the answers or that have errors.

This course contains general EPA's CWA federal rule requirements. Please be aware that each state implements wastewater/safety/environmental /building regulations that may be more stringent than EPA's regulations. Check with your state environmental/health agency for more information. These rules change frequently and are often difficult to interpret and follow. Be careful to not be in non-compliance and do not follow this course for proper compliance.

Please fax the answer key to TLC Western Campus
Fax (928) 272-0747.
Always call us to confirm we received the paperwork.

Rush Grading Service
If you need this assignment graded and the results mailed to you within a 48-hour period, prepare to pay an additional rush service handling fee of $50.00. This fee may not cover postage costs. If you need this service, simply write RUSH on the top of your Registration Form. We will place you in the front of the grading and processing line. *Thank you…*

Please e-mail or fax this survey along with your final exam

WASTEWATER COLLECTIONS CEU TRAINING COURSE

CUSTOMER SERVICE RESPONSE CARD

NAME: _____

E-MAIL_____PHONE_____

PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE APPROPRIATE ANSWER IN THE AREA BELOW.

Please rate the difficulty of your course.
Very Easy 0 1 2 3 4 5 Very Difficult

Please rate the difficulty of the testing process.
Very Easy 0 1 2 3 4 5 Very Difficult

Please rate the subject matter on the exam to your actual field or work.
Very Similar 0 1 2 3 4 5 Very Different

How did you hear about this Course? _____

What would you do to improve the Course? _____

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How about the price of the course?

Poor_____ Fair ____ Average ____ Good____ Great_____

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Any other concerns or comments.

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Wastewater Collection CEU Training Assignment

You will have 90 days from the start of this assignment to finish it. Only one answer per question. Please utilize the Answer Key. Please fax or e-mail your completed answer key and registration form to TLC.

You are expected to circle or mark the correct answer on the enclosed answer key. Please include your name and address on your exam. The answer key is in the front. There are no intentional trick questions. (s) means the answer may be plural or singular in nature.

You can e-mail or fax your Answer Key along with the Registration Form to TLC.

Please write down any questions you were not able to find the answers or that have errors.

Collection Rules and Regulation Section

Clean Water Act (Rule) Summary
What are Sanitary Sewer Overflows?

1. Sanitary Sewer Overflows (SSOs) are discharges of raw sewage from?

A. Deteriorating Sewer Systems
B. Pipe Failure(s)
C. Municipal sanitary sewer systems
D. None of the above

Why do Sewers Overflow?

2. Which of the following occasionally occur in almost every sewer system, even though systems are intended to collect and contain all the sewage?

A. SSOs
B. Undersized Systems
C. Poor sewer collection system management
D. None of the above

Problems that Can Cause Chronic SSOs Include:

3. Which of the following is too much rainfall or snowmelt infiltrating through the ground into leaky sanitary sewers?

A. Infiltration and Inflow (I&I)
B. Destructive compounds
C. Sanitary Sewer Overflows or (SSOs)
D. None of the above

Why are SSOs a Problem?

4. Many municipalities have asked for national consistency in the way permits are considered for wastewater discharges, including _____, and in enforcement of the law prohibiting unpermitted discharges.

A. Deteriorating Sewer System
B. SSOs
C. Badly connected sewer service lines
D. None of the above

Combined Sewer Overflows

5. Which of the following are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe?

A. Combined sewer systems
B. Decentralized sewer systems
C. Centralized sewer systems
D. None of the above

6. A SSO is a release of untreated wastewater before the flow reaches a treatment plant. SSOs pose a significant threat to public health and?
A. Dissolved organics C. Certain compounds and undesirable solids
B. Water quality D. None of the above

Treatment Balance and the Effects of Undesirable Solids
7. Which of the following to operate properly, the operator has to maintain a skillfully balanced mixture of microorganisms which contact and digest the organics in the wastewater, and bacteria then grows on this media to treat the wastewater?
A. Sanitary sewage overflows (SSOs) C. Wastewater treatment plant
B. Decentralized sewer systems D. None of the above

8. The wastewater treatment process leaves extremely clean and reusable water that can be injected back into the ground, sent to ponds or used for?
A. Irrigation C. Clean decantible water
B. Wastewater D. None of the above

Purpose of CMOM Programs
9. The CMOM approach helps the owner or operator provide a high level of service to customers and reduce _____.
A. Performance goals C. Regulatory noncompliance
B. Overflows and backups D. None of the above

10. On a periodic basis, utility activities should be reviewed and adjusted to better meet the _____.
A. Performance goals C. Regulatory noncompliance
B. Overflows and backups D. None of the above

11. Once the GIS is complete, a new goal might be to use the GIS to track emergency calls and use the information to improve _____.
A. Maintenance planning C. A matter of policy
B. Performance goals D. None of the above

12. CMOM can help utilities optimize use of human and material resources by shifting maintenance activities from “reactive” to “proactive”–often leading to savings through avoided costs due to overtime, reduced emergency construction costs, lower insurance premiums, changes in financial performance goals, and_____.
A. Fewer lawsuits C. Regulatory noncompliance
B. Overflows and backups D. None of the above

13. In CMOM planning, the owner or operator selects _____ targets, and designs CMOM activities to meet the goals.
A. Maintenance planning C. A matter of policy
B. Performance goal D. None of the above

14. Information collection and management practices are used to track how the elements of the CMOM program are meeting _____, and whether overall system efficiency is improving.
A. Maintenance planning C. A matter of policy
B. Performance goals D. None of the above

15. An important component of a _____is periodically collecting information on current systems and activities to develop a “snapshot-in-time” analysis. From this analysis, the owner or operator evaluates its performance and plans its CMOM program activities.

A. Catastrophic system failure
B. CMOM program activity
C. Successful CMOM program
D. None of the above

The Elements of a Proper CMOM Program

Purposeful

16. Which of the following when present and properly maintained, they support customer service and protect system assets, public health, and water quality?

A. MOM programs
B. Combined sewer systems
C. Publicly Owned Treatment Works (POTW)
D. None of the above

Goal-Oriented

17. Which of the following have goals directed toward their individual purposes. Progress toward these goals is measurable, and the goals are attainable?

A. MOM program(s)
B. Combined sewer system(s)
C. Proper MOM programs
D. None of the above

Uses Performance Measures

18. Performance measures should be established for each of this _____ in conjunction with the program goal.

A. MOM program
B. Program goal
C. Publicly Owned Treatment Works (POTW)
D. None of the above

What MOM programs should be audited?

19. Which of the following at a utility involves its entire wastewater infrastructure. Common utility management activities and operations and maintenance activities associated with sewer systems and pretreatment are listed in the Self-Audit Review Document?

A. Written MOM programs
B. MOM activity
C. Publicly Owned Treatment Works (POTW)
D. None of the above

What other Damage can SSOs do?

20. Which of the following also damage property and the environment?

A. MOM Programs Self-Audit
B. SSOs
C. Capacity and/or reliability
D. None of the above

How can SSOs be Reduced or Eliminated?

21. Which of the following are caused by inadequate or negligent operation or maintenance, inadequate system capacity, and improper system design and construction?

A. MOM Programs Self-Audit
B. SSOs
C. Capacity and/or reliability
D. None of the above

22. Which of the following include those occurring from unpreventable vandalism, some types of blockages, extreme rainstorms, and acts of nature such as earthquakes or floods?

A. Utility's plan/schedule
B. SSOs
C. Unavoidable SSOs
D. None of the above

Collection System Management

23. Without the_____, O&M activities may lack organization and precision, resulting in a potential risk to human health and environmental contamination of surrounding water bodies, lands, dwellings, or groundwater.

A. CMOM program C. Proper procedures, management and training systems
B. Outside contractors D. None of the above

Organizational Structure

24. Well-established organizational structure, which delineates responsibilities and authority for each position, is an important component of a CMOM program for a_____.

A. Collection system C. O&M activities
B. Outside contractors D. None of the above

Potential Performance Indicators

CMOM Audits

25. CMOM will require regular, comprehensive audits, done by each facility. These audits will help identify non-conformance to?

A. CMOM regulation(s) C. Preventative operations
B. NPDES permit authority D. None of the above

According to the EPA, an effective CMOM program would help NPDES permitees to:

26. Respond quickly to SSOs to minimize impacts to_____.

A. Maintenance activities C. Human health and the environment
B. Physical deficiencies D. None of the above

27. Plan for future growth to ensure _____is available when it's needed.

A. Safety incidents C. Preventive maintenance
B. Adequate capacity D. None of the above

28. Identify hydraulic (capacity) and physical deficiencies and prioritize responses, including_____.

A. Capital investments C. Maintenance activities
B. Physical deficiencies D. None of the above

29. Report and investigate _____ and take steps to prevent their recurrence.

A. Safety incidents C. Inadequate preventive maintenance
B. Inspection results D. None of the above

Hydrogen Sulfide Monitoring and Control Sub-Section

30. The records should note such items as the condition of metal components, the presence of exposed rebar (metal reinforcement in concrete), _____ coating on copper pipes and electrical components, and loss of concrete from the pipe crown or walls.

A. Sulfuric acid C. Copper sulfate
B. Hydrogen sulfide D. None of the above

31. The _____ readings generated as a result of these inspections should be added to the records of potential areas of corrosion.

A. Sulfuric acid C. Copper sulfate
B. Hydrogen sulfide D. None of the above

32. A quick check of the _____of the pipe crown or structure enables early indication of potential hydrogen sulfide corrosion.
A. Sulfuric acid C. pH
B. Hydrogen sulfide D. None of the above

33. A pH of less than _____ indicates further investigation is warranted.
A. 6 C. 7
B. 4 D. None of the above

Reviewer - Point to Note
34. The reviewer should be aware that a system in which _____has successfully been reduced may actually face an increased risk of corrosion.
A. Acid can form C. Infiltration and inflow (I/I)
B. An increased risk of corrosion D. None of the above

35. The reduction of flow through the pipes allows room for hydrogen sulfide gases to rise into the airway portion of the sewer pipe and react with the bacteria and moisture on the pipe walls to form _____.
A. Sulfuric acid C. Copper sulfate
B. Hydrogen sulfide D. None of the above

36. _____ corrodes ferrous metals and concrete. There are several methods to prevent or control hydrogen sulfide corrosion.
A. Sulfuric acid C. Copper sulfate
B. Hydrogen sulfide D. None of the above

37. The level of _____in the wastewater may also be reduced by chemical or physical means such as aeration, or the addition of chlorine, hydrogen peroxide, potassium permanganate, iron salts, or sodium hydroxide.
A. Sulfuric acid C. Copper sulfate
B. Dissolved sulfide D. None of the above

38. Alternatively, sewer cleaning to remove deposited solids reduces _____ generation.
A. Sulfuric acid C. Copper sulfate
B. Hydrogen sulfide D. None of the above

39. Collection systems vary widely in their vulnerability to_____. Vitrified clay and plastic pipes are very resistant to hydrogen sulfide corrosion while concrete, steel, and iron pipes are more susceptible. The physical aspects of the collection system are also important.
A. Hydrogen sulfide corrosion C. Longer detention times
B. An increased risk of corrosion D. None of the above

40. Sewage in pipes on a decline that moves the wastewater at a higher velocity will have less hydrogen sulfide than sewage in pipes where the wastewater may experience longer detention times. Therefore, some systems may need a more comprehensive corrosion control program while some might limit_____.
A. Observations to vulnerable points C. Longer detention times
B. An increased risk of corrosion D. None of the above

Combined Sewer Overflows (CSOS)

41. combined sewer overflow is a discharge from a sewer system that is designed to carry _____ in the same pipe to a sewage treatment plant.

A. Excess wastewater C. Sanitary wastewater and stormwater
B. A combined sewer overflow D. None of the above

42. In periods of rainfall or snowmelt, a combined sewer system can discharge _____ directly to rivers, lakes, and estuaries, causing health and environmental hazards because treatment plants cannot handle the extra flow.

A. Excess wastewater C. Decentralized sewer flow
B. A combined sewer overflow D. None of the above

Section 101 of the Clean Water Act (CWA)

43. To restore and maintain the chemical, physical, and biological integrity of the Nation's waters: It is the national goal that the discharge of pollutants into the navigable waters be eliminated by _____.

A. 2025 C. 1985
B. 1999 D. None of the above

44. It is the national policy that the discharge of _____ in toxic amounts be prohibited;

A. Toxic pollutants C. Both point and nonpoint sources of pollution
B. Sources of pollutants D. None of the above

45. It is the national policy that Area wide waste treatment management planning processes be developed and implemented to assure adequate control of _____ in each State.

A. Discharge of toxic pollutants C. Both point and nonpoint sources of pollution
B. Sources of pollutants D. None of the above

Collection Systems Section

Collection System and its Purpose

46. In accumulation to what homes and businesses flush down the drain, the system also collects excess groundwater, infiltration liquids, and inflow water.

A. True B. False

47. Wastewater collection is an incomplete liquid waste removal system.

A. True B. False

48. The fluid waste distributed through this system is about 78% water. The waste floats on, is carried along by, and goes into suspension or solution in water.

A. True B. False

49. "Wastewater" is a more precise description and has become the standard term for this fluid waste because it encompasses the total slurry of wastes in water that is gathered from homes and businesses.

A. True B. False

Collection System Defined

50. Decentralized systems are public sewer systems that serve established towns and cities and transport wastewater to a central location for treatment.

A. True B. False

51. Centralized systems do not connect to a public sewer system. Wastewater may be treated on site or may be discharged to a private treatment plant.
A. True B. False

52. Centralized systems are more inexpensive, allow for greater control, require fewer people, and produce only one discharge to monitor instead of several. However, _____systems can be useful, and this option should be evaluated on a case-by-case basis.
A. Decentralized C. Onsite
B. Centralized D. None of the above

53. Which of the following are the most common wastewater treatment system used in rural areas?
A. Decentralized C. Onsite
B. Centralized D. None of the above

Collection System Operators' Purpose
54. Collection system operators are charged with protecting public health and the environment, and therefore must have documented proof of their certifications in the respective _____.
A. POTW C. Wastewater management system
B. Wastewater collection system D. None of the above

55. Which of the following and the professionals who maintain it operate at such a high level of efficiency, problems are very infrequent?
A. POTW C. Wastewater management
B. Wastewater collection system D. None of the above

56. Which of the following are generally broken out into three different categories: sanitary sewers, storm sewers, and combined sewers?
A. Storm water C. Centralized sewer systems
B. Combined sewers D. None of the above

57. Which of the following carry wastewater or sewage from homes and businesses to treatment plants?
A. Sanitary sewers C. Wastewater management
B. Combined sewers D. None of the above

Understanding Gravity Sanitary Sewers
58. Sanitary sewers are planned to transport the wastewater by utilizing the _____ provided by the natural elevation of the earth resulting in a downstream flow.
A. Potential energy C. Flow velocities and design depths of flow
B. Peak flow of population D. None of the above

59. Which of the following may find it necessary to dissipate excess potential energy?
A. Flow velocities C. Higher elevations in the system
B. Wastewater D. None of the above

60. Which of the following is determined largely by population served, density of population, and water consumption?
A. Design flow(s) C. Inflow
B. Flow D. None of the above

61. Sanitary sewers should be designed for?
A. Peak flow of population C. SSOs, surcharged lines, basement backups
B. Flow velocities D. None of the above

62. Which of the following is strongly discouraged and should be designed separate from the sanitary system?
A. Stormwater inflow C. Low pressure
B. Both wet and dry weather flows D. None of the above

63. Most of the time the flow surface is exposed to the atmosphere within the sewer and it functions as?
A. An open channel C. Flow velocities and design depths of flow
B. Peak flow of population D. None of the above

64. Which of the following creates low pressure in the sewer system?
A. Surcharge C. Dry weather flows
B. Stormwater inflow D. None of the above

65. In order to plan a sewer system, many factors are considered. The purpose of this topic is to aid in the understanding of?
A. I/I C. Flow velocities and design depths of flow
B. Peak flow of population D. None of the above

Sewer System Capacity Evaluation - Testing and Inspection

66. The collection system owner or operator should have a program in place to periodically evaluate this _____ in both wet and dry weather flows and ensure the capacity is maintained as it was designed.
A. Design flow(s) C. Capacity of the sewer system
B. Stormwater inflow D. None of the above

67. The capacity evaluation program evaluation starts with an inventory and characterization of the?
A. System components C. Flow velocities and design depths of flow
B. Stormwater inflow D. None of the above

68. The system then undergoes general inspection which serves to continuously update and add to the?
A. Design flow(s) C. Inventory information
B. Sewer system D. None of the above

Capacity Limitations

69. The next stage in the capacity evaluation is to identify the location of wet weather related _____, surcharged lines, basement backups, and any other areas of known capacity limitations.
A. Peak flow of population C. SSOs
B. Wastewater D. None of the above

Flow Monitoring

70. Flow monitoring provides information on dry weather flows as well as areas of the collection system potentially affected by?

A. I/I C. Flow velocities and design depths of flow
B. Flow measurement D. None of the above

71. Which of the following may also be performed for billing purposes, to assess the need for new sewers in a certain area, or to calibrate a model?

A. I/I C. Flow velocities and design depths of flow
B. Flow measurement D. None of the above

Flow Measurements

72. Base flow is generally taken to mean the wastewater generated without any?

A. Deposition of solids C. Any I/I component
B. Infiltration D. None of the above

73. Which of the following is the seepage of groundwater into pipes or manholes through defects such as cracks, broken joints, etc?

A. Velocity C. Blockage(s)
B. Infiltration D. None of the above

74. Which of the following is the water that enters the sewer through direct connections such as roof leaders, direct connections from storm drains or yard, area?

A. Stoppages C. Inflow
B. Infiltration D. None of the above

75. Although not from piped sources, _____ tends to act more like inflow than infiltration.

A. RII C. Inflow
B. Infiltration D. None of the above

76. Other methods of inspecting flows may be employed, such as visually monitoring manholes during low-flow periods to determine areas with?

A. Infiltration C. Excessive I/I
B. RII D. None of the above

Infiltration and Inflow Sub-Section

77. Which of the following occurs when groundwater enters the sewer system through cracks, holes, faulty connections, or other openings?

A. Inflow C. Maximum flow capacity of wastewater
B. Infiltration D. None of the above

78. Which of the following occurs when surface water such as storm water enters the sewer system through roof downspout connections, holes in manhole covers, illegal plumbing connections, or other defects?

A. Inflow C. Maximum flow capacity of wastewater
B. Infiltration D. None of the above

79. The sanitary sewer collection system and treatment plants have this _____ that can be handled.

A. I/I C. Maximum flow capacity of wastewater
B. Infiltration D. None of the above

Determining I/I

80. Flow monitoring and flow modeling provide measurements and data used to determine estimates of?

A. I/I C. Maximum flow capacity of wastewater
B. Infiltration D. None of the above

Identifying sources of I/I

81. Visual inspection - accessible pipes, gutter and plumbing connections, and manholes are visually inspected for?

A. Excessive I/I C. Faults
B. High wet weather flows D. None of the above

82. Smoke testing – smoke is pumped into sewer pipes. Its reappearance aboveground indicates points of ?

A. I/I C. Illegal plumbing, drains, and roof downspouts
B. Stormwater and rainwater D. None of the above

83. Dye testing – Dye is used at suspected _____ sources.

A. I/I C. Stormwater and rainwater
B. High wet weather flows D. None of the above

84. Which of the following are also sometimes identified when sewer backups or overflows bring attention to that part of the system?

A. Excessive I/I C. Faults
B. Sources of I/I D. None of the above

Repairing I/I Sources

85. Repair techniques include manhole wall spraying, Insituform pipe relining, manhole frame and lid replacement, and disconnecting?

A. High wet weather flows C. Illegal plumbing, drains, and roof downspouts
B. Stormwater and rainwater D. None of the above

Efficient Identification of Excessive I/I

86. The owner or operator should have in place a program for the efficient identification of?

A. Excessive I/I C. Faults
B. Sources of I/I D. None of the above

87. Areas with high wet weather flows should then be subject to?

A. High wet weather flows C. Inspection and rehabilitation activities
B. Stormwater and rainwater D. None of the above

Sewer System Testing

88. Sewer system testing techniques are often used to identify leaks that allows this term into the sewer system and determine the location of illicit connections and other sources of stormwater inflow?

A. Exfiltration
B. Sources of I/I
C. Unwanted infiltration
D. None of the above

89. Two commonly implemented sewer testing techniques include?

A. I/I
B. Stormwater and rainwater
C. Smoke testing and dyed water testing
D. None of the above

90. Which of the following is a relatively inexpensive and quick method of detecting sources of inflow in sewer systems?

A. Electric probe
B. Sound
C. Smoke testing
D. None of the above

91. Which of the following can be identified when smoke escapes through them?

A. Tees
B. Cockroaches
C. Sources of inflow
D. None of the above

92. Building inspections are sometimes conducted as part of a smoke testing program and, in some cases, may be the only way to find?

A. Gutters
B. Stormwater Manholes
C. Illegal connections
D. None of the above

93. If traces of the smoke or its odor enter the building, it is an indication that this term may also be entering.

A. Smoke
B. Sources of I/I
C. Gases from the sewer system
D. None of the above

Dye Testing

94. Dyed water testing may be used to establish this term to the sewer.

A. Potential problem areas
B. I/I problems
C. Connection of a fixture or appurtenance
D. None of the above

95. Which of the following can be used to identify structurally damaged manholes that might create potential I/I problems?

A. Smoke testing
B. Prober
C. Dyed water testing
D. None of the above

Sewer System Inspection

96. Which of the following and pipelines are the first line of defense in the identification of existing or potential problem areas?

A. The presence of roots
B. Potential problem areas
C. Visual inspection of manholes
D. None of the above

97. Visual inspections provide additional information concerning the accuracy of system mapping, the presence and?

A. Potential problem areas
B. The presence of roots
C. Degree of I/I problems
D. None of the above

Review

Pressure Sewers

98. Which of the following do not rely on gravity, the system's network of piping can be laid in very shallow trenches that follow the contour of the land?

A. Grinder pump(s)
B. Pressure sewers
C. Both the STEP and grinder systems
D. None of the above

99. There are two kinds of this term, based upon the type of pump used to provide the pressure.

A. Septic tank/effluent pump
B. Pressure sewers
C. STEP and grinder systems
D. None of the above

100. Systems that use this _____ are a combination are referred to as STEP pressure sewers.

A. Septic tank/effluent pump
B. Pressure sewers
C. STEP and grinder systems
D. None of the above

Manhole Sub-Section

101. Manholes should undergo routine inspection typically every one to three years.

A. True B. False

102. There should be a baseline for manhole inspections (e.g., once every year) with problematic manholes being inspected more frequently.

A. True B. False

103. The reviewer should conduct visual observation at a small but representative number of manholes for the items listed: various pipeline inspection techniques, the most common include: lamping, camera inspection, sonar, and CCTV.

A. True B. False

Sewer System Inspection Techniques

104. There are a number of inspection techniques that may be employed to inspect a sewer system. The reviewer should determine if an inspection program includes frequency and schedule of inspections and procedures to record the results.

A. True B. False

More on Manholes

105. When designing a wastewater system, the design engineer begins by first determining the amount of money that is available.

A. True B. False

106. The design engineer bases his design on the average daily use of solids per person in the area to be served.

A. True B. False

107. An allowance for unavoidable infiltration of surface and subsurface water into the lines is sometimes added to the peak flow to obtain the design flow.

A. True B. False

108. The average daily flow (based on the average utilization) is multiplied by a peak flow factor to obtain the?
A. Design flow C. Water per person in the area to be served
B. Infiltration allowance D. None of the above

Lead and Oakum Joint, Compression Joint and No-Hub Joints
109. Which of the following may be made of grout?
A. Mortar joints C. A no-hub joint
B. Compression joints D. None of the above

110. Which of the following eliminate the use of oakum and mortar joints for sewer mains?
A. Mortar joints C. Speed seal joints
B. Compression joints D. None of the above

111. Which of the following is an assembly tool is used to force the spigot end of the pipe or fitting into the lubricated gasket inside the hub?
A. Mortar joints C. A no-hub joint
B. Compression joints D. None of the above

112. Which of the following uses a gasket on the end of one pipe and a stainless steel shield and clamp assembly on the end of the other pipe?
A. Mortar joints C. A no-hub joint
B. Compression joints D. None of the above

113. Which of the following type of seal is made a part of the vitrified pipe joint when manufactured, it is made of polyvinyl chloride and is called a plastisol joint connection?
A. Mortar joints C. Speed seal joints
B. Compression joints D. None of the above

Closed Circuit Television (CCTV) Inspections
Camera Inspection
114. Which of the following involves lowering a still camera into a manhole?
A. Lamping C. Lighting
B. Sonar D. None of the above

115. The benefits of camera inspection include not requiring _____ and little equipment and set-up time is required.
A. Capacity evaluation C. Confined space entry
B. Trench safety D. None of the above

116. Camera inspection is more comprehensive than _____ in that more of the sewer can be viewed.
A. Lamping C. Lighting
B. Sonar D. None of the above

117. This technique also does not fully capture the invert of the pipe and its condition. Sonar is a newer technology deployed similarly to?
A. CCTV cameras C. Camera inspection
B. Radar D. None of the above

118. Which of the following emits a pulse that bounces off the walls of the sewer?
A. Sonar C. Radar
B. Trenchless technologies D. None of the above

119. Sewer scanner and evaluation is similar to sonar in that a more complete image of a pipe can be made than with?
A. Lamping C. CCTV
B. Sonar D. None of the above

Closed Circuit Television (CCTV) Inspections
120. Which of the following may be done on a routine basis as part of the preventive maintenance program, as well as part of an investigation into the cause of I/I?
A. Lamping C. CCTV inspections
B. Sonar D. None of the above

121. A benefit of which of the following is that a permanent visual record is captured for subsequent reviews?
A. Sewer system cleaning C. CCTV inspection
B. Trenchless technologies D. None of the above

Sewer Flow Measurements
122. Which of the following is the water that enters the sewer through direct connections such as roof leaders, direct connections from storm drains or yard, area, and foundation drains, the holes in and around the rim of manhole covers, etc?
A. RII C. Infiltration
B. Inflow D. None of the above

Sewer Flow Capacity
123. The minimum velocity is necessary to prevent the?
A. Deposition of solids C. Stoppages
B. Infiltration D. None of the above

Sewer Line Mapping
124. Which of the following and repairs are unlikely if mapping is not adequate?
A. Introduction of flows C. Efficient collection system maintenance
B. Inspection D. None of the above

Geographic Information System (GIS)
125. If a GIS program is being used by the owner or operator, the reviewer should ask if the program is capable of accepting information from the?
A. Overflow points C. Owner or operator's management program
B. Inspection D. None of the above

New Sewer Construction
126. Which of the following keep costs and problems associated with operations, maintenance, and construction to a minimum?
A. Engineering endeavors C. Sanitary sewer designs
B. Sewer cleanouts D. None of the above

Collection Systems O&M Section

127. Which of the following activities of wastewater collection systems on a trouble or emergency basis has been the usual procedure and policy in many systems?
A. Routine preventative C. Operation and maintenance
B. Routine operations D. None of the above

128. The system's goal should be a minimum of cleaning between _____% of the sewers every year.
A. 10-20 C. 30-40
B. 20-30 D. None of the above

Sewer Cleaning and Inspection

129. As sewer system networks age, the risk of deterioration, this _____, and collapses becomes a major concern.
A. Sanitary sewer overflow(s) C. Blockages
B. Rehabilitation D. None of the above

Inspection Techniques

130. Which of the following are required to determine current sewer conditions and to aid in planning a maintenance strategy?
A. Documentation of inspections C. Cleaning and inspecting sewer lines
B. Inspection programs D. None of the above

Most sewer lines are inspected using one or more of the following techniques:

131. Which of the following are the most frequently used most cost efficient in the long term, and most effective method to inspect the internal condition of a sewer?
A. Television (TV) inspections C. Inspection program(s)
B. Lamping D. None of the above

132. Which of the following are vital in fully understanding the condition of a sewer system?
A. Visual inspections C. Walk-through or internal inspection
B. Operators D. None of the above

Smoke Testing of Sewers is Done to Determine:

133. Location of _____ due to settling of foundations, manholes and other structures
A. Broken sewers C. Illegal connections
B. Diversion points D. None of the above

134. Location of uncharted manholes and _____
A. Broken sewers C. Illegal connections
B. Diversion points D. None of the above

135. _____ that buildings or residences are connected to the sanitary sewer
A. Dye testing C. Illegal connections
B. Proof D. None of the above

136. _____ such as roof leaders or downspouts, yard drains and industrial drains
A. Broken sewers C. Illegal connections
B. Diversion points D. None of the above

Identify the Cleaning Method

137. Directs high velocities of water against pipe walls. Removes debris and grease build-up, clears blockages, and cuts roots within small diameter pipes. Efficient for routine cleaning of small diameter, low flow sewers.

A. Jetting C. Kites, Bags, and Poly Pigs
B. Flushing D. None of the above

138. Round, rubber-rimmed, hinged metal shield that is mounted on a steel framework on small wheels. The shield works as a plug to build a head of water. Scours the inner walls of the pipe lines. Effective in removing heavy debris and cleaning grease from line.

A. Scooter C. Mechanical Rodding
B. Hydraulic Balling D. None of the above

139. Partially removes large deposits of silt, sand, gravel, and some types of solid waste. Cylindrical device, closed on one end with 2 opposing hinged jaws at the other. Jaws open and scrape off the material and deposit it in the bucket.

A. Jetting C. Bucket Machine
B. Flushing D. None of the above

140. Introduces a heavy flow of water into the line at a manhole. Removes floatables and some sand and grit. Most effective when used in combination with other mechanical operations, such as rodding or bucket machine cleaning.

A. Jetting C. Kites, Bags, and Poly Pigs
B. Flushing D. None of the above

More on Sewer Cleaning Procedures

A maintenance plan attempts to develop a strategy and priority for maintaining pipes based on several of the following factors:

141. _____- frequency and location; 80 percent of problems occur in 25 percent of the system.

A. Problems C. Cleaning and repairs
B. Location D. None of the above

142. _____- older systems have a greater risk of deterioration than newly constructed sewers.

A. Age C. Pipe diameter/volume conveyed
B. Subsurface conditions D. None of the above

Limitations of Cleaning Methods

143. Which of the following will normally utilize a variety of cleaning methods including jetting, high velocity cleaning, rodding, bucket machining, and using stop trucks?

A. Backups into residences C. The collection system
B. Variety of cleaning methods D. None of the above

144. With the preventive maintenance approach, most collection system operators also have been using combination trucks with both?

A. The cleaning and inspection crews C. Flush and vacuum systems
B. Chemicals' effectiveness D. None of the above

145. To control roots, most collection system operators use?
A. Steep-grade hill areas C. A vapor rooter eradication system
B. Variety of cleaning methods D. None of the above

Detailed Cleaning Methods
The purpose of sewer cleaning is to remove foreign material from the sewer and generally is undertaken to alleviate one of the following conditions:

146. Which of the following is caused by either the premature operation of combined wastewater overflows because of downstream restrictions to hydraulic capacity or pollution caused by the washing through and discharge of debris from overflows during storms?
A. Odor C. Blockages
B. Pollution D. None of the above

147. Which of the following is where it is necessary to clean the sewers immediately before the sewer being rehabilitated?
A. Sewer rehabilitation C. Hydraulic capacity
B. Sewer inspections D. None of the above

148. Which method is generally a manual push-pull technique used to clear blockages in smaller-diameter, shallow sewer systems typically not exceeding 10 in. in diameter or 6 ft. in depth?
A. Jet Rodding C. Rodding
B. Dragging D. None of the above

149. Which of the following the main limitation of this technique is that cautions need to be used in areas with basement fixtures and in steep-grade hill areas?
A. Jetting C. Kite or Bag
B. Bucket machine(s) D. None of the above

150. Which of the following is not very effective in removing heavy solids?
A. Jetting C. Kite or Bag
B. Flushing D. None of the above

151. Which of the following causes backups into residences have been known to occur when this method has been used by inexperienced operators?
A. Jetting C. High Velocity Cleaner
B. Chemicals' effectiveness D. None of the above

Sewer – Hydraulic Cleaning Sub-Section

152. The purpose of sewer cleaning is to remove accumulated material from the sewer. Cleaning helps to prevent?
A. Velocity C. Blockage(s)
B. Infiltration D. None of the above

153. Which of the following in gravity sewers are usually caused by a structural defect, poor design, poor construction, an accumulation of material in the pipe?
A. Stoppages C. Inflow
B. Infiltration D. None of the above

154. Protruding traps may catch debris, which then causes a further buildup of?
A. Velocity C. Blockage(s)
B. Solids D. None of the above

Sewer Cleaning Methods
155. Mechanical cleaning uses physical devices to scrape, cut, or pull?
A. Infiltration C. Sewer cleaning
B. Material from the sewer D. None of the above

Sewer Cleaning Records
156. Which of the following identified should include those due to grease or industrial discharges, hydraulic bottlenecks in the collection system, areas of poor design?
A. Both infiltration and inflow or I/I C. General I/I source areas
B. Potential problem areas D. None of the above

Parts and Equipment Inventory
157. Without such an inventory, the collection system may experience long down times or periods of inefficient operation in the event of a?
A. Problem collection system areas C. Breakdown or malfunction
B. Infiltration D. None of the above

Sewer Maintenance - Advantages and Disadvantages
Advantages and Disadvantages
158. According to the text, one benefit of implementing a sewer maintenance program is the reduction of?
A. SSOs C. Fire hazard
B. Rehabilitation D. None of the above

Visual Inspection
159. In smaller sewers, the scope of problems does provide information needed to make decisions on?
A. SSOs C. Sewer line cleaning
B. Rehabilitation D. None of the above

Sewer System Rehabilitation
160. The collection system owner or operator should have a?
A. Sewer system program C. Sewer rehabilitation program
B. Problem solving program D. None of the above

161. Manhole covers can allow significant inflow to enter the system because they are often located in the?
A. Sanitary sewer service line C. Path of surface runoff
B. Rehabilitation program D. None of the above

162. Manholes themselves can also be this term from cracks in the barrel of the manhole.
A. A significant source of infiltration C. Warm, moist, nutrient rich atmosphere
B. Non-structural repairs D. None of the above

Tree Roots vs. Sanitary Sewer Lines
Root Growth in Pipes
163. Roots require oxygen to grow, they do not grow in this term or where high ground water conditions prevail.
A. Debris discharged
B. Pipes that are full of water
C. Cracks or loose joints in the sewer pipe
D. None of the above

Problems Caused by Roots Inside Sewers
164. Homeowners will notice the first signs of this term by hearing gurgling noises from toilet bowls and observing wet areas around floor drains after completing the laundry.
A. A significant source of infiltration
B. Non-structural repairs
C. Slow flowing drainage system
D. None of the above

Tree Roots in Sewer
165. Roots from trees growing on private property and on parkways throughout the City are responsible for many of the sanitary sewer service backups and?
A. Drought conditions
B. Inflow and infiltration (I&I)
C. Damaged sewer pipes
D. None of the above

Smoking out Sewer Leaks
166. Used extensively for over 40 years, smoke testing has proven to be a vital ingredient of successful inflow and infiltration (I&I) studies. It is as important now as it has ever been, as growing municipalities increase demands on aging, often deteriorating collection systems.
A. True B. False

167. Which of the following is an effective method of documenting sources of inflow and should be part of any CMOM program?
A. Taste testing
B. Smoke testing
C. Video techniques
D. None of the above

168. Which of the following will identify broken manholes, illegal connections, uncapped lines, and will even shows cracked mains and laterals providing there is a passageway for the smoke to travel to the surface?
A. Smoke
B. Dye
C. Video inspection
D. None of the above

Necessary Equipment
169. If you've used this term and found that smoke frequently backs up to the surface, this may be your problem.
A. High CFM blowers
B. Smoke testing
C. Video inspection
D. None of the above

Blowers
170. In general, squirrel cage blowers are usually larger in size, but can provide more static pressure in relation to?
A. Smoke
B. CFM
C. Video inspection and other techniques
D. None of the above

Fats, Oils and Grease Section

Food Service Establishments (FSEs)

171. Because of the amount of grease used in cooking, _____are a significant source of fats, oil and grease (FOG).

A. Sewer system infiltration C. Food Service Establishments (FSEs)
B. Customer(s) Inflow D. None of the above

172. To assist improper handling and disposal of FOG _____ are generally developed to assist restaurants and other FSEs with instruction and compliance.

A. CSO/SSO C. POTW Commercial FOG Program
B. POTWs D. None of the above

Environmental problem with FOG sewers

173. The repair or replacement of their damaged property caused by FOG creating _____ can also cost customers thousands of dollars for the repair or replacement of their damaged property.

A. Infiltration C. Exfiltration
B. Sewer backup(s) D. None of the above

Using best management practices can:

174. _____ is the primary cause of sewer problems; this in turn causes the likelihood of lawsuits by nearby businesses over sewer problems.

A. Backup C. FOG Violation(s)
B. Negligence D. None of the above

pH Section

175. Mathematically, pH is the negative logarithm of the activity of the (solvated) hydronium ion, more often expressed as the measure of the?

A. Electron concentration C. Hydronium ion concentration
B. Alkalinity concentration D. None of the Above

Pumps and Lift Stations Section 50-60 QUESTIONS

176. Pumping Station is a relatively large sewage pumping installation designed not only to lift sewage to a higher elevation, but also to convey it through force mains to gravity flow points located relatively long distances from the?

A. Submersible pump(s) C. Pumping Station
B. Dry well D. None of the above

Lift Stations

177. Which of the following are designed to operate continuously to keep sewerage from backing up through the system?

A. Lift Station C. Submersible pump(s)
B. Dry well D. None of the above

A Lift Station contains 4 main Components:

178. A wet well - usually _____+ ft. in depth and _____ ft. in diameter - that houses two submersible pumps of varying horsepower, discharging piping and floats that operate the pumps and keep a set level in the well.

A. 8 & 15 C. 4 & 15
B. 15 & 8 D. None of the above

179. Which of the following houses the piping and valves that prevent backflow in the station, and can lock connection used to bypass the submersibles in an emergency situation?
A. Pumping station panel C. Supervisory panel
B. Dry well D. None of the above

Collection Systems, Lift Stations
180. Which of the following is a separate chamber attached or located adjacent to the dry-well structure?
A. Wet-well C. Dry-pit or dry-well and submersible lift stations
B. Lift station(s) D. None of the above

Confined Space Section

Unusual Conditions- Confined Space within a Confined Space
181. The _____ associated with the outer confined space and those of the inner confined space both require testing, monitoring, and control.
A. Potential hazards C. Manholes
B. Access passages D. None of the above

Hazards in One Space Entering another Space
182. In a situation where hazards in one space may enter another, a serious problem is that workers working in the "safe" area are not aware of the _____.
A. Oxygen Level C. Hazards leaking into their area
B. Access passages D. None of the above

Permitted Confined Space Entry Program
183. Subpart P (of OSHA's Construction Regulations) applies to all _____ in the earth's surface.
A. Open excavations C. Pits
B. Vaults D. None of the above

184. According to the text, all trenches are _____.
A. Too narrow for work C. Safe for short-term work
B. Excavations D. None of the above

Permit Required Confined Space Entry General Rules
185. According to the text, only authorized and trained employees may enter a _____ or act as safety watchmen/attendants.
A. Hazard C. Confined space
B. Pipe D. None of the above

186. Employees are not permitted to smoke _____ or near the entrance/exit area.
A. Near air and oxygen monitors C. In a confined space
B. During a side entry D. None of the above

187. A watchmen or attendant must be present at all times during _____.
A. Confined space entries C. Air monitoring
B. Access passages D. None of the above

188. Air and oxygen monitoring will check the levels of oxygen, explosive gasses, and carbon monoxide. Entry will not be permitted if explosive gas is detected above one-half the _____.

A. Nitrogen level C. Lower Explosive Limit (LEL)
B. Argon level D. None of the above

189. When covers are removed, all _____ will be protected by a barricade to prevent injuries to others.

A. Air and oxygen monitoring C. Openings to confined spaces
B. Side entries D. None of the above

Confined Space Duties and Responsibilities
Employees

190. Employees must not _____ that have not been evaluated for safety concerns.

A. Follow program requirements C. Enter any confined spaces
B. Report hazards D. None of the above

Entry Supervisor

191. Entry supervisors must coordinate all entry procedures, tests, _____, equipment, and other activities related to the permit space entry.

A. Publicity C. Permits
B. News media D. None of the above

192. Before endorsing the permit and allowing entry to begin, the _____ must check that all appropriate entries have been made on the permit, all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place.

A. Entry supervisor C. Unauthorized persons
B. Attendant D. None of the above

Entry Attendants

193. A responsibility of the entry attendant is to be aware of _____ of hazard exposure on entrants.

A. The attendants' primary duty C. Possible behavioral effects
B. Worker training D. None of the above

194. A responsibility of the entry attendant is to continuously maintain an accurate count of entrants in the permit space and ensure a means to _____.

A. Timely complete the work C. Accurately identify authorized entrants
B. Add workers when needed D. None of the above

195. A responsibility of the entry attendant is to _____ as necessary to monitor entrant status and alert entrants of the need to evacuate.

A. Communicate with entrants C. Check the work progress
B. Encourage entrants D. None of the above

196. A responsibility of the entry attendant is to summon rescue and other emergency services as soon as the attendant _____ to escape the permit space hazards.

A. Identifies entrant status C. Determines the entrants need assistance
B. Gets approval to summon rescue D. Accurately unauthorized entrants

Unauthorized Persons

197. Actions must be taken when _____ approach or enter a permit space while entry is under way.

A. Authorized workers C. Unauthorized persons
B. Rescue Workers D. None of the above

Entrants

198. According to the text, all _____ must be authorized by the entry supervisor to enter permit spaces, have received the required training, have used the proper equipment, and observed the entry procedures and permit requirements

A. Workers C. Unauthorized persons
B. Entrants D. None of the above

199. Entrants are required to know the _____ that may be faced during entry.

A. Spaces C. Unauthorized persons
B. Hazards D. None of the above

200. Entrants are required to communicate with the _____ as necessary to enable the attendant to monitor their status and alert them of the need to evacuate the space if necessary.

A. Inspectors C. Unauthorized persons
B. Attendant D. None of the above