

**Registration form**

**Asbestos Awareness 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*

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 (\_\_\_\_) \_\_\_\_\_

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

Water Treatment \_\_\_\_\_ Distribution \_\_\_\_\_ Collection \_\_\_\_\_

Wastewater Treatment \_\_\_\_\_ Other \_\_\_\_\_

***Your certificate will be mailed to you in about two weeks.***

**Technical Learning College**  
**P.O. Box 420, Payson, AZ 85547-0420**  
**(928) 468-0665 Toll Free (866) 557-1746 Fax (928) 468-0675**  
**info@tlch2o.com**

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Invoice me, PO # \_\_\_\_\_

## **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 also understand that this type of study program deals with dangerous conditions and that I will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable for any errors or omissions or advice contained in this CEU education training course or for any violation or injury caused by this CEU education training course material. I will 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.

**State Approval Listing Link**, check to see if your State accepts or has pre-approved this course. Not all States are listed. Not all courses are listed. If the course is not accepted for CEU credit, we will give you the course free if you ask your State to accept it for credit.

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.

## **State Approval Listing URL...**

<http://www.tlch2o.com/PDF/CEU%20State%20Approvals.pdf>

*You can obtain a printed version of the course manual from TLC for an additional \$79.95 plus shipping charges.*

## **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.

## **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.

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. Thank you...

# ASBESTOS ASSIGNMENT Answer Key

Name \_\_\_\_\_

Phone \_\_\_\_\_

Please Circle, Bold, Underline or X, one answer per question.

- |                 |                 |                  |
|-----------------|-----------------|------------------|
| 1. A B C D E F  | 48. A B C D E F | 95. A B C D E F  |
| 2. A B C D E F  | 49. A B C D E F | 96. A B C D E F  |
| 3. A B C D E F  | 50. A B C D E F | 97. A B C D E F  |
| 4. A B C D E F  | 51. A B C D E F | 98. A B C D E F  |
| 5. A B C D E F  | 52. A B C D E F | 99. A B C D E F  |
| 6. A B C D E F  | 53. A B C D E F | 100. A B C D E F |
| 7. A B C D E F  | 54. A B C D E F | 101. A B C D E F |
| 8. A B C D E F  | 55. A B C D E F | 102. A B C D E F |
| 9. A B C D E F  | 56. A B C D E F | 103. A B C D E F |
| 10. A B C D E F | 57. A B C D E F | 104. A B C D E F |
| 11. A B C D E F | 58. A B C D E F | 105. A B C D E F |
| 12. A B C D E F | 59. A B C D E F | 106. A B C D E F |
| 13. A B C D E F | 60. A B C D E F | 107. A B C D E F |
| 14. A B C D E F | 61. A B C D E F | 108. A B C D E F |
| 15. A B C D E F | 62. A B C D E F | 109. A B C D E F |
| 16. A B C D E F | 63. A B C D E F | 110. A B C D E F |
| 17. A B C D E F | 64. A B C D E F | 111. A B C D E F |
| 18. A B C D E F | 65. A B C D E F | 112. A B C D E F |
| 19. A B C D E F | 66. A B C D E F | 113. A B C D E F |
| 20. A B C D E F | 67. A B C D E F | 114. A B C D E F |
| 21. A B C D E F | 68. A B C D E F | 115. A B C D E F |
| 22. A B C D E F | 69. A B C D E F | 116. A B C D E F |
| 23. A B C D E F | 70. A B C D E F | 117. A B C D E F |
| 24. A B C D E F | 71. A B C D E F | 118. A B C D E F |
| 25. A B C D E F | 72. A B C D E F | 119. A B C D E F |
| 26. A B C D E F | 73. A B C D E F | 120. A B C D E F |
| 27. A B C D E F | 74. A B C D E F | 121. A B C D E F |
| 28. A B C D E F | 75. A B C D E F | 122. A B C D E F |
| 29. A B C D E F | 76. A B C D E F | 123. A B C D E F |
| 30. A B C D E F | 77. A B C D E F | 124. A B C D E F |
| 31. A B C D E F | 78. A B C D E F | 125. A B C D E F |
| 32. A B C D E F | 79. A B C D E F | 126. A B C D E F |
| 33. A B C D E F | 80. A B C D E F | 127. A B C D E F |
| 34. A B C D E F | 81. A B C D E F | 128. A B C D E F |
| 35. A B C D E F | 82. A B C D E F | 129. A B C D E F |
| 36. A B C D E F | 83. A B C D E F | 130. A B C D E F |
| 37. A B C D E F | 84. A B C D E F | 131. A B C D E F |
| 38. A B C D E F | 85. A B C D E F | 132. A B C D E F |
| 39. A B C D E F | 86. A B C D E F | 133. A B C D E F |
| 40. A B C D E F | 87. A B C D E F | 134. A B C D E F |
| 41. A B C D E F | 88. A B C D E F | 135. A B C D E F |
| 42. A B C D E F | 89. A B C D E F | 136. A B C D E F |
| 43. A B C D E F | 90. A B C D E F | 137. A B C D E F |
| 44. A B C D E F | 91. A B C D E F | 138. A B C D E F |
| 45. A B C D E F | 92. A B C D E F | 139. A B C D E F |
| 46. A B C D E F | 93. A B C D E F | 140. A B C D E F |
| 47. A B C D E F | 94. A B C D E F | 141. A B C D E F |

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197. A B C D E F  
198. A B C D E F  
199. A B C D E F  
200. A B C D E F

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

**ASBESTOS AWARENESS CEU TRAINING COURSE  
CORRESPONDENCE 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.**

1. Please rate the difficulty of your course.

Very Easy 0 1 2 3 4 5 Very Difficult

2. Please rate the difficulty of the testing process.

Very Easy 0 1 2 3 4 5 Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.

Very Similar 0 1 2 3 4 5 Very Different

4. What would you do to improve the course? \_\_\_\_\_

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How about the price of the course?

Poor \_\_\_\_ Fair \_\_\_\_ Average \_\_\_\_ Good \_\_\_\_ Great \_\_\_\_

How was your customer service?

Poor \_\_\_\_ Fair \_\_\_\_ Average \_\_\_\_ Good \_\_\_\_ Great \_\_\_\_

Any other concerns or comments.

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## Asbestos Awareness CEU Training Course Assignment

You will have 90 days from receipt of this manual to complete it in order to receive your Professional Development Hours (PDHs) or Continuing Education Unit (CEU). A score of 70 % or better is necessary to pass this course. Use the search key or find in Adobe Acrobat of you cannot find the answer. If you should need any assistance, please email all concerns and the completed answer key to info@tlch2o.com.

### Please use the Answer Key and Circle, Bold or X out the answer.

Multiple Choice, pick one answer only. All answers come exactly from the text.

1. The OSHA general industry standard requires employers to communicate information concerning asbestos hazards in general industry. Asbestos exposure in general industry occurs in a wide variety of industrial and commercial settings. Employees who manufacture asbestos-containing products may be exposed to asbestos fibers.

- A. Employees
- B. Asbestos
- C. Nonfriable asbestos
- D. Hazard communication
- E. In poor condition
- F. None of the above

2. Employees who repair and replace automotive brakes and clutches may be exposed to asbestos fibers. In addition, employees engaged in housekeeping activities in industrial facilities with asbestos product manufacturing operations and in public and commercial buildings with installed ACM may be exposed to\_\_\_\_\_.

- A. Adequately Wet
- B. Asbestos
- C. Nonfriable asbestos
- D. Asbestos fibers
- E. Fluffy spray-applied asbestos
- F. None of the above

3. It should be noted that \_\_\_\_\_who perform housekeeping activities during and after construction activities are covered by the asbestos construction standard, 29 CFR 1926.1101. However, housekeeping employees, regardless of industry designation, should know whether building components they maintain may expose them to asbestos.

- A. Adequately Wet
- B. Employees
- C. Nonfriable asbestos
- D. Asbestos NESHAP
- E. Fluffy spray-applied asbestos
- F. None of the above

4. The same hazard communication provisions will protect employees who perform housekeeping operations in all three \_\_\_\_\_ standards; general industry, construction, and shipyard employment.

- A. Employees
- B. Asbestos
- C. Nonfriable asbestos
- D. Hazard communication
- E. In poor condition
- F. None of the above

5. \_\_\_\_\_-means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

- A. Adequately Wet
- B. In poor condition
- C. Nonfriable asbestos
- D. Asbestos NESHAP
- E. Fluffy spray-applied asbestos
- F. None of the above

6. \_\_\_\_\_- means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

- A. Employees
- B. Asbestos
- C. Nonfriable asbestos
- D. Hazard communication
- E. Inactive waste disposal site
- F. None of the above

7. \_\_\_\_\_ means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).
- A. Adequately Wet      D. Asbestos NESHAP  
 B. Installation      E. Fluffy spray-applied asbestos  
 C. Nonfriable asbestos      F. None of the above
8. \_\_\_\_\_-containing material-means any material containing more than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- A. Employees      D. Hazard communication  
 B. Asbestos      E. In poor condition  
 C. Nonfriable asbestos      F. None of the above
9. Owner or operator of a demolition or renovation activity-means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the \_\_\_\_\_, or both.
- A. Employees      D. Hazard communication  
 B. Asbestos      E. Demolition or renovation operation  
 C. Nonfriable asbestos      F. None of the above
10. \_\_\_\_\_ - EPA defines "adequately wet" to mean "sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted.
- A. Adequately Wet      D. Asbestos NESHAP  
 B. Asbestos      E. Fluffy spray-applied asbestos  
 C. Nonfriable asbestos      F. None of the above
11. \_\_\_\_\_-EPA defines ACWM to mean mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags on other similar packaging contaminated with commercial asbestos.
- A. Friable      D. Category I nonfriable asbestos  
 B. Asbestos      E. Asbestos-Containing Waste Materials (ACWM)  
 C. Asbestosis      F. None of the above
12. As applied to demolition and renovation operations, this term also includes friable asbestos waste and \_\_\_\_\_that becomes crumbled, pulverized, or reduced to powder by forces that acted on the material during the course of demolition and renovation operations regulated by this subpart, and materials contaminated with asbestos including disposal equipment and clothing.
- A. Friable      D. Category II non-friable ACM waste  
 B. Asbestos      E. Fluffy spray-applied asbestos  
 C. Asbestosis      F. None of the above
13. The \_\_\_\_\_ defines two categories of non-friable ACM: Category I non-friable ACM (asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products) and Category II non-friable ACM (any non-friable material not designated as Category I).
- A. Adequately Wet      D. Asbestos NESHAP  
 B. Asbestos      E. Fluffy spray-applied asbestos  
 C. Nonfriable asbestos      F. None of the above

14. The Agency requires that, where the \_\_\_\_\_ is applicable, friable ACM and Category II and non-friable ACM that is likely to become disturbed or damaged so that the material could be crumbled, pulverized or reduced to powder during a demolition or renovation be removed, from a facility prior to its demolition/ renovation.

- A. Friable
- B. Asbestos NESHAP
- C. Asbestosis
- D. Category I nonfriable asbestos
- E. Fluffy spray-applied asbestos
- F. None of the above

15. The fibrous or \_\_\_\_\_ materials found in many buildings for fireproofing, insulating, sound-proofing, or decorative purposes are generally considered friable. Pipe and boiler wrap found in numerous buildings is also considered friable.

- A. Adequately Wet
- B. Asbestos
- C. Nonfriable asbestos
- D. Asbestos NESHAP
- E. Fluffy spray-applied asbestos
- F. None of the above

16. \_\_\_\_\_, such as vinyl-asbestos floor tile, generally emits low levels of airborne fibers unless subjected to burning or to sanding, grinding, cutting or abrading operations. Other materials, such as asbestos cement sheet and pipe, can emit asbestos fibers if the materials are crumbled, pulverized or reduced to powder during demolition renovation activities.

- A. Adequately Wet
- B. Non-friable ACM
- C. Nonfriable asbestos
- D. Asbestos NESHAP
- E. Fluffy spray-applied asbestos
- F. None of the above

17. Whenever non-friable materials are going to be damaged to the extent that they are crumbled, pulverized or reduced to powder, they must be handled in accordance with the \_\_\_\_\_.

- A. Adequately Wet
- B. Asbestos
- C. Nonfriable asbestos
- D. Asbestos NESHAP
- E. Fluffy spray-applied asbestos
- F. None of the above

18. \_\_\_\_\_ is a serious, chronic, non-cancerous respiratory disease. Inhaled asbestos fibers aggravate lung tissues, which causes them to scar.

- A. Friable
- B. Asbestos
- C. Asbestosis
- D. Category I nonfriable asbestos
- E. Fluffy spray-applied asbestos
- F. None of the above

19. Symptoms of \_\_\_\_\_ include shortness of breath and a dry, crackling sound in the lungs while inhaling. In its advanced stages, the disease may cause cardiac failure. There is no effective treatment for asbestosis; the disease is usually disabling or fatal.

- A. Friable
- B. Asbestos
- C. Asbestosis
- D. Category I nonfriable asbestos
- E. Fluffy spray-applied asbestos
- F. None of the above

20. The risk of \_\_\_\_\_ is minimal for those who do not work with asbestos; the disease is rarely caused by neighborhood or family exposure. Those who renovate or demolish buildings that contain asbestos may be at significant risk, depending on the nature of the exposure and precautions taken.

- A. Friable
- B. Asbestos
- C. Asbestosis
- D. Category I nonfriable asbestos
- E. Fluffy spray-applied asbestos
- F. None of the above

21. \_\_\_\_\_-containing material (ACM)- means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products.

- A. Friable
- B. Asbestos
- C. Asbestosis
- D. Category I nonfriable asbestos
- E. Fluffy spray-applied asbestos
- F. None of the above



30. \_\_\_\_\_ - means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. Demolition
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

31. \_\_\_\_\_-means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

32. \_\_\_\_\_ component means any part of a facility including equipment.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

33. \_\_\_\_\_ - means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

34. \_\_\_\_\_ - Finely divided particles of asbestos or material containing asbestos.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

35. \_\_\_\_\_-OSHA has developed permissible exposure limits (PELs) to provide a standard for how long a worker may be exposed to an airborne contaminant, such as asbestos, over a specified period of time.

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

36. One \_\_\_\_\_ is the time-weighted average (TWA). Employers must ensure that no employee is exposed to concentrations of airborne contaminants above the TWA. For asbestos, the TWA is 0.1 fibers per cubic centimeter (f/cc).

- A. Facility
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

37. \_\_\_\_\_is measured by analyzing eight-hour time-weighted average (TWA) air samples from each employee's breathing zone.

- A. Exposure
- B. Permissible exposure limits (PEL)
- C. PLM
- D. Planned renovation operations
- E. Particulate Asbestos Material
- F. None of the above

38. PELs also include an "\_\_\_\_\_." An excursion limit is similar to the TWA except that it is measured over a 30-minute period. The excursion limit for asbestos is 1.0 f/cc

A. Excursion limit  
B. Permissible exposure limits (PEL)  
C. PLM  
D. Planned renovation operations  
E. Particulate Asbestos Material  
F. None of the above

39. \_\_\_\_\_ - Polarized light microscopy, as defined in Appendix A, subpart F, 40 CFR part 763, section 1

A. Facility  
B. Permissible exposure limits (PEL)  
C. PLM  
D. Planned renovation operations  
E. Particulate Asbestos Material  
F. None of the above

40. RACM - Regulated Asbestos-Containing Material. RACM means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) \_\_\_\_\_ that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by the Asbestos NESHAP.

A. RACM  
B. Renovation  
C. Resilient floor covering  
D. Category I nonfriable ACM  
E. Visible emissions  
F. None of the above

41. Regulated asbestos-containing material (RACM)-means (a) Friable asbestos material, (b) \_\_\_\_\_ that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

A. RACM  
B. Renovation  
C. Resilient floor covering  
D. Strip  
E. Category I nonfriable ACM  
F. None of the above

42. Renovation-means altering a facility or one or more facility components in any way, including the stripping or removal of \_\_\_\_\_ from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

A. RACM  
B. Renovation  
C. Resilient floor covering  
D. Strip  
E. Visible emissions  
F. None of the above

43. \_\_\_\_\_ - means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than one percent asbestos as determined using polarized light microscopy according to the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, Polarized Light Microscopy.

A. RACM  
B. Renovation  
C. Resilient floor covering  
D. Strip  
E. Visible emissions  
F. None of the above

44. \_\_\_\_\_ means to take off RACM from any part of a facility or facility components.

A. RACM  
B. Renovation  
C. Resilient floor covering  
D. Strip  
E. Visible emissions  
F. None of the above

45. Visible emissions-means any emissions, which are visually detectable without the aid of instruments, coming from \_\_\_\_\_ or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

- A. RACM
- B. Renovation
- C. Resilient floor covering
- D. Strip
- E. Visible emissions
- F. None of the above

46. \_\_\_\_\_-means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

- A. RACM
- B. Renovation
- C. Resilient floor covering
- D. Waste generator
- E. Visible emissions
- F. None of the above

47. \_\_\_\_\_-means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

- A. Asbestos
- B. OSHA
- C. Employees
- D. Waste shipment record
- E. Serpentine
- F. None of the above

48. When the TWA or the excursion limit is exceeded, the employer must develop and implement a written compliance plan to reduce employee exposure to or below the TWA or excursion limit. The employer may use any combination of engineering and work practices to reduce exposure. This includes respirators where required or permitted under the rules. The compliance plan is an important document for any site-specific work.

- A. Asbestos
- B. OSHA
- C. Employees
- D. Chrysotile
- E. Written compliance program
- F. None of the above

49. \_\_\_\_\_will maintain its structural integrity at temperatures well above 800 F. The melting point is at about 2800 F

- A. Asbestos
- B. OSHA
- C. Employees
- D. Chrysotile
- E. Serpentine
- F. None of the above

50. The \_\_\_\_\_have a relatively large surface area, along with numerous pores, and cracks. This allows for a low heat transfer. This makes it useful as an insulator in homes and machinery. The large surface area also absorbs water making it practical as pipe insulator to prevent sweating.

- A. Asbestos
- B. OSHA
- C. Employees
- D. Fibers
- E. Serpentine
- F. None of the above

51. The amphiboles are resistant to aqueous media and chemical attack. They also show high resistance to acids. This makes this class of asbestos useful for battery packing. \_\_\_\_\_ is significantly less resistant to chemical destruction.

- A. Asbestos
- B. OSHA
- C. Employees
- D. Chrysotile
- E. Serpentine
- F. None of the above

52. \_\_\_\_\_ have a large internal volume, large surface area, and the fibers are flexible. This makes it ideal for the absorption of sound energy. It is often used to help acoustics.

- A. Asbestos
- B. OSHA
- C. Employees
- D. Chrysotile
- E. Serpentine
- F. None of the above

53. \_\_\_\_\_ requires that employees who may be exposed to dangerous levels of asbestos must be made aware of the hazards and how to protect themselves.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
54. \_\_\_\_\_ must be told where in their workplace they can find copies of all applicable asbestos standards.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
55. \_\_\_\_\_ must provide any employee with the opportunity to review the regulations if they so desire. It is an employee's right to have access to the regulations.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employers F. None of the above
56. \_\_\_\_\_ is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
57. The three most common types of asbestos are: a) chrysotile, b) \_\_\_\_\_ and c) crocidolite.
- A. Asbestos D. Amosite  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
58. Chrysotile, also known as white asbestos and a member of the \_\_\_\_\_ mineral group is the commonest.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
59. \_\_\_\_\_ can only be identified under a microscope.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
60. Asbestos differs from other minerals in its crystal development. The crystal formation of \_\_\_\_\_ is in the form of long thin fibers.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
61. Asbestos is divided into two mineral groups \_\_\_\_\_ and Amphibole. The division between the two types of asbestos is based upon the crystalline structure.
- A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above

62. \_\_\_\_\_ have a sheet or layered structure where amphiboles have a chain-like structure. As the only member of the serpentine group, Chrysotile (A, B) is the most common type of asbestos found in buildings.  
 A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
63. \_\_\_\_\_ makes up approximately 90%-95% of all asbestos contained in buildings in the United States.  
 A. Asbestos D. Chrysotile  
 B. OSHA E. Serpentine  
 C. Employees F. None of the above
64. Unlike most minerals, which turn into dust particles when crushed, asbestos breaks up into fine fibers that are too small to be seen by the human eye. Often, individual fibers are mixed with a material that binds them together, producing \_\_\_\_\_.  
 A. Asbestos D. Asbestos-related disease  
 B. Safe dose E. Asbestos-containing material (ACM)  
 C. Employees F. None of the above
65. Some people exposed to asbestos develop \_\_\_\_\_; some do not. Once inhaled, asbestos fibers can easily penetrate body tissues. They may be deposited and retained in the airways and lung tissue.  
 A. Asbestos D. Asbestos-related disease  
 B. Safe dose E. Asbestos-related health problem  
 C. Employees F. None of the above
66. Because asbestos fibers remain in the body, each exposure increases the likelihood of developing an \_\_\_\_\_.  
 A. Asbestos D. Asbestos-related disease  
 B. Safe dose E. Asbestos-related health problem  
 C. Employees F. None of the above
67. \_\_\_\_\_ may not appear until years after exposure. A medical examination that includes a medical history, breathing capacity test, and chest X ray may detect problems early.  
 A. Asbestos D. Asbestos-related diseases  
 B. Safe dose E. Asbestos-related health problem  
 C. Employees F. None of the above
68. Many substances have a " \_\_\_\_\_ " or an exposure that is unlikely to cause any harm. Above the safe dose, a health effect is expected. This concept is known as a dose response.  
 A. Asbestos D. Asbestos-related disease  
 B. Safe dose E. Asbestos-related health problem  
 C. Employees F. None of the above
69. As the dose increases, so does the expected severity of the health effect. However, in the case of asbestos, scientists have not determined a " \_\_\_\_\_ " or threshold level for exposure to airborne asbestos.  
 A. Asbestos D. Asbestos-related disease  
 B. Safe dose E. Asbestos-related health problem  
 C. Employees F. None of the above

70. Still, the less exposure a person receives over a lifetime, the less likely it is that that person will develop an \_\_\_\_\_.

- A. Asbestos
- B. Safe dose
- C. Employees
- D. Asbestos-related disease
- E. Asbestos-related health problem
- F. None of the above

71. In addition to breathing it, ingesting \_\_\_\_\_ may also be harmful to you, but the consequences of this type of exposure have not been clearly documented. People who touch asbestos may get a rash similar to the rash caused by fiberglass.

- A. Asbestos
- B. Safe dose
- C. Employees
- D. Asbestos-related disease
- E. Asbestos-related health problem
- F. None of the above

72. While the effects of skin exposure to asbestos have not been scientifically documented, it is best to minimize all contact with \_\_\_\_\_.

- A. Asbestos
- B. Safe dose
- C. Employees
- D. Asbestos-related disease
- E. Asbestos-related health problem
- F. None of the above

73. Asbestos was used in approximately 3,000 products. Two-thirds of this total (2,000) was used in \_\_\_\_\_.

- A. Asbestos
- B. Safe dose
- C. Employees
- D. Asbestos-related disease
- E. Asbestos-related health problem
- F. None of the above

74. \_\_\_\_\_ A respirator that covers the nose and mouth and that generally consists of a quarter- or half-facepiece. NIOSH Definition

- A. Asbestos
- B. Orinasal Respirator
- C. Positive Pressure Respirator
- D. Oxygen Deficient Atmosphere
- E. Potential Occupational Carcinogen
- F. None of the above

75. \_\_\_\_\_ An atmosphere with an oxygen content below 19.5% by volume. OSHA Definition

- A. Asbestos
- B. Orinasal Respirator
- C. Positive Pressure Respirator
- D. Oxygen Deficient Atmosphere
- E. Potential Occupational Carcinogen
- F. None of the above

76. \_\_\_\_\_ Means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section. OSHA Definition

- A. Asbestos
- B. Orinasal Respirator
- C. Positive Pressure Respirator
- D. Oxygen Deficient Atmosphere
- E. Potential Occupational Carcinogen
- F. None of the above

77. \_\_\_\_\_ A situation in which respiratory devices are recommended to provide adequate protection to workers entering an area where the contaminant concentration is above the IDLH or is unknown.

- A. Asbestos
- B. Orinasal Respirator
- C. Positive Pressure Respirator
- D. Oxygen Deficient Atmosphere
- E. Potential Occupational Carcinogen
- F. None of the above

78. \_\_\_\_\_ A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator. OSHA Definition  
 A. Asbestos D. Oxygen Deficient Atmosphere  
 B. Orinasal Respirator E. Potential Occupational Carcinogen  
 C. Positive Pressure Respirator F. None of the above
79. \_\_\_\_\_ Any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms.  
 A. Asbestos D. Oxygen Deficient Atmosphere  
 B. Orinasal Respirator E. Potential Occupational Carcinogen  
 C. Positive Pressure Respirator F. None of the above
80. \_\_\_\_\_ An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering. OSHA Definition  
 A. Asbestos D. Powered Air-Purifying Respirator (PAPR)  
 B. Loose-Fitting Facepiece E. Interior Structural Firefighting  
 C. Positive Pressure Respirator F. None of the above
81. \_\_\_\_\_ An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere. OSHA Definition  
 A. Asbestos D. Negative Pressure Respirator (Tight Fitting)  
 B. Loose-Fitting Facepiece E. Immediately Dangerous to Life or Health (IDLH)  
 C. Positive Pressure Respirator F. None of the above
82. \_\_\_\_\_ The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155) OSHA Definition  
 A. Asbestos D. Negative Pressure Respirator (Tight Fitting)  
 B. Loose-Fitting Facepiece E. Interior Structural Firefighting  
 C. Positive Pressure Respirator F. None of the above
83. \_\_\_\_\_ A respiratory inlet covering that is designed to form a partial seal with the face. OSHA Definition  
 A. Asbestos D. Negative Pressure Respirator (Tight Fitting)  
 B. Loose-Fitting Facepiece E. Interior Structural Firefighting  
 C. Positive Pressure Respirator F. None of the above
84. \_\_\_\_\_ A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.  
 A. Asbestos D. Negative Pressure Respirator (Tight Fitting)  
 B. Loose-Fitting Facepiece E. Interior Structural Firefighting  
 C. Positive Pressure Respirator F. None of the above
85. \_\_\_\_\_ An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user. OSHA Definition  
 A. Asbestos D. Self-Contained Breathing Apparatus (SCBA)  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
86. \_\_\_\_\_ The length of time required for an air-purifying element to reach a specific effluent concentration.  
 A. Asbestos D. Single-Use Dust or Dust and Mist Respirators  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above

87. \_\_\_\_\_ The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. OSHA Definition  
 A. Asbestos D. Single-Use Dust or Dust and Mist Respirators  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
88. \_\_\_\_\_ Respirators approved for use against dusts or mists that may cause pneumoconiosis and fibrosis. NIOSH Definition  
 A. Asbestos D. Single-Use Dust or Dust and Mist Respirators  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
89. \_\_\_\_\_ An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. OSHA Definition  
 A. Asbestos D. Single-Use Dust or Dust and Mist Respirators  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
90. \_\_\_\_\_ A respiratory inlet covering that forms a complete seal with the face. OSHA Definition  
 A. Asbestos D. Tight-Fitting Facepiece  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
91. \_\_\_\_\_ An action conducted by the respirator user to determine if the respirator is properly seated to the face. OSHA Definition  
 A. Asbestos D. Single-Use Dust or Dust and Mist Respirators  
 B. Service Life E. Supplied-Air Respirator (SAR) or Airline Respirator  
 C. User Seal Check F. None of the above
92. \_\_\_\_\_ The gaseous state of a substance that is solid or liquid at temperatures and pressures normally encountered. NIOSH Definition  
 A. Asbestos D. Pressure Demand Respirator  
 B. Vapor E. Assigned Protection Factor (APF)  
 C. Workplace Protection Factor (WPF) F. None of the above
93. \_\_\_\_\_ A positive pressure atmosphere- supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation. OSHA Definition  
 A. Asbestos D. Pressure Demand Respirator  
 B. Helmet E. Assigned Protection Factor (APF)  
 C. Workplace Protection Factor (WPF) F. None of the above
94. \_\_\_\_\_ The minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users.  
 A. Asbestos D. Pressure Demand Respirator  
 B. Helmet E. Assigned Protection Factor (APF)  
 C. Workplace Protection Factor (WPF) F. None of the above
95. \_\_\_\_\_ A surrogate measure of the workplace protection provided by a respirator.  
 A. Asbestos D. Simulated Workplace Protection Factor (SWPF)  
 B. Helmet E. Assigned Protection Factor (APF)  
 C. Workplace Protection Factor (WPF) F. None of the above

96. \_\_\_\_\_ A measure of the protection provided in the workplace by a properly functioning respirator when correctly worn and used.
- A. Asbestos  
 B. Helmet  
 C. Workplace Protection Factor (WPF)  
 D. Pressure Demand Respirator  
 E. Assigned Protection Factor (APF)  
 F. None of the above
97. \_\_\_\_\_ A rigid respiratory inlet covering that also provides head protection against impact and penetration. OSHA Definition
- A. Asbestos  
 B. Helmet  
 C. Workplace Protection Factor (WPF)  
 D. Pressure Demand Respirator  
 E. Assigned Protection Factor (APF)  
 F. None of the above
98. \_\_\_\_\_ A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters. OSHA Definition
- A. Asbestos  
 B. Helmet  
 C. Workplace Protection Factor (WPF)  
 D. Pressure Demand Respirator  
 E. Assigned Protection Factor (APF)  
 F. None of the above
99. \_\_\_\_\_ Means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso. OSHA Definition
- A. Asbestos  
 B. Hood  
 C. Workplace Protection Factor (WPF)  
 D. Pressure Demand Respirator  
 E. Assigned Protection Factor (APF)  
 F. None of the above
100. \_\_\_\_\_ A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container. OSHA Definition
- A. Escape Gas Mask  
 B. Qualitative Fit Test (QLFT)  
 C. Quantitative Fit Test (QNFT)  
 D. Canister or Cartridge  
 E. Demand Respirator  
 F. None of the above
101. \_\_\_\_\_ A system that warns the respirator user of the approach of the end of adequate respiratory protection; for example, that the sorbent is approaching saturation or is no longer effective. OSHA Definition
- A. Escape Gas Mask  
 B. Qualitative Fit Test (QLFT)  
 C. Quantitative Fit Test (QNFT)  
 D. Respiratory Inlet Covering  
 E. End-Of-Service-Life Indicator (ESLI)  
 F. None of the above
102. \_\_\_\_\_ A gas mask that consists of a half-mask facepiece or mouthpiece, a canister, and associated connections, and that is designed for use during escape-only from hazardous atmospheres. NIOSH Definition
- A. Escape Gas Mask  
 B. Qualitative Fit Test (QLFT)  
 C. Quantitative Fit Test (QNFT)  
 D. Respiratory Inlet Covering  
 E. Demand Respirator  
 F. None of the above
103. \_\_\_\_\_ A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent. OSHA Definition
- A. Escape Gas Mask  
 B. Qualitative Fit Test (QLFT)  
 C. Quantitative Fit Test (QNFT)  
 D. Respiratory Inlet Covering  
 E. Demand Respirator  
 F. None of the above

104. \_\_\_\_\_ Means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator. OSHA Definition  
 A. Escape Gas Mask D. Respiratory Inlet Covering  
 B. Qualitative Fit Test (QLFT) E. Demand Respirator  
 C. Quantitative Fit Test (QNFT) F. None of the above
105. \_\_\_\_\_ An 8- or 10-hour time-weighted average (TWA) or ceiling (C) exposure concentration recommended by NIOSH that is based on an evaluation of the health effects data. NIOSH Definition  
 A. Escape Gas Mask D. Recommended Exposure Limit (REL)  
 B. Qualitative Fit Test (QLFT) E. Demand Respirator  
 C. Quantitative Fit Test (QNFT) F. None of the above
106. \_\_\_\_\_ The portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, a helmet, a hood, a suit, or a mouthpiece respirator with nose clamp. OSHA Definition  
 A. Escape Gas Mask D. Respiratory Inlet Covering  
 B. Qualitative Fit Test (QLFT) E. Demand Respirator  
 C. Quantitative Fit Test (QNFT) F. None of the above
107. \_\_\_\_\_ An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation. OSHA Definition  
 A. Escape Gas Mask D. Respiratory Inlet Covering  
 B. Qualitative Fit Test (QLFT) E. Demand Respirator  
 C. Quantitative Fit Test (QNFT) F. None of the above
108. \_\_\_\_\_ A respirator that is discarded after the end of its recommended period of use, after excessive resistance or physical damage, or when odor breakthrough or other warning indicators render the respirator unsuitable for further use. NIOSH Definition  
 A. Escape Gas Mask D. Respiratory Inlet Covering  
 B. Qualitative Fit Test (QLFT) E. Disposable Respirators  
 C. Quantitative Fit Test (QNFT) F. None of the above
109. \_\_\_\_\_ A solid, mechanically produced particle with a size ranging from submicroscopic to macroscopic. NIOSH Definition  
 A. Dust D. Respiratory Inlet Covering  
 B. Qualitative Fit Test (QLFT) E. Demand Respirator  
 C. Quantitative Fit Test (QNFT) F. None of the above
110. \_\_\_\_\_ A situation that requires the use of respirators due to the unplanned generation of a hazardous atmosphere (often of unknown composition) caused by an accident, mechanical failure, or other means and that requires evacuation of personnel or immediate entry for rescue or corrective action. NIOSH Definition  
 A. Fit Test D. Air-Purifying Respirator  
 B. Fume E. Emergency Respirator Use Situation  
 C. Gas F. None of the above
111. \_\_\_\_\_ Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant. OSHA Definition  
 A. Fit Test D. Emergency Situation  
 B. Fume E. Atmosphere-Supplying Respirator  
 C. Gas F. None of the above

112. \_\_\_\_\_ Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection. OSHA Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Employee Exposure      F. None of the above
113. \_\_\_\_\_ A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. OSHA Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
114. \_\_\_\_\_ A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units. OSHA Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
115. \_\_\_\_\_ The penetration of challenge material(s) through a gas or a vapor air-purifying element. The quantity or extent of breakthrough during service life testing is often referred to as the percentage of the input concentration. NIOSH Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Breakthrough              E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
116. \_\_\_\_\_ Means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.) OSHA Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
117. \_\_\_\_\_ A solid condensation particulate, usually of a vaporized metal. NIOSH Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
118. \_\_\_\_\_ An aeriform fluid that is in a gaseous state at standard temperature and pressure. NIOSH Definition  
 A. Fit Test                      D. Air-Purifying Respirator  
 B. Fume                          E. Atmosphere-Supplying Respirator  
 C. Gas                            F. None of the above
119. \_\_\_\_\_ Respiratory devices that are designed for use only during escape from hazardous atmospheres. NIOSH Definition  
 A. Filtering Facepiece      D. Escape Only Respirator  
 B. Fit Factor                    E. Immediately Dangerous to Life or Health (IDLH)  
 C. Gas                            F. None of the above

120. \_\_\_\_\_ A respirator intended to be used only for emergency exit. OSHA Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Escape-Only Respirator
- F. None of the above

121. \_\_\_\_\_ A component used in respirators to remove solid or liquid aerosols from the inspired air. OSHA Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filter or Air-Purifying Element
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

122. \_\_\_\_\_ A particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. (See SINGLE-USE DUST or DUST and MIST RESPIRATORS and DISPOSABLE RESPIRATORS.) NIOSH Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

123. \_\_\_\_\_ A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. OSHA Definition

- A. Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

124. \_\_\_\_\_ A quantitative measure of the fit of a specific respirator facepiece to a particular individual. NIOSH Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

125. \_\_\_\_\_ A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn. OSHA Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

126. \_\_\_\_\_ Acute respiratory exposure that poses an immediate threat of loss of life, immediate or delayed irreversible adverse effects on health, or acute eye exposure that would prevent escape from a hazardous atmosphere. NIOSH Definition

- A. Filtering Facepiece
- B. Fit Factor
- C. Gas
- D. Filtering Facepiece (Dust Mask)
- E. Immediately Dangerous to Life or Health (IDLH)
- F. None of the above

127. \_\_\_\_\_ is a serious, chronic, non-cancerous respiratory disease. Inhaled asbestos fibers aggravate lung tissues, which causes them to scar.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

128. Symptoms of \_\_\_\_\_ include shortness of breath and a dry, crackling sound in the lungs while inhaling. In its advanced stages, the disease may cause cardiac failure.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

129. There is no effective treatment for asbestosis; the disease is usually disabling or fatal. The risk of \_\_\_\_\_ is minimal for those who do not work with asbestos; the disease is rarely caused by neighborhood or family exposure.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

130. Those who renovate or demolish buildings that contain \_\_\_\_\_ may be at significant risk, depending on the nature of the exposure and precautions taken.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos
- E. Ingesting asbestos
- F. None of the above

131. \_\_\_\_\_ causes the greatest number of deaths related to asbestos exposure.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

132. The incidence of lung cancer in people who are directly involved in the mining, milling, manufacturing, and use of asbestos and its products is much higher than in the general population. The most common symptoms of \_\_\_\_\_ are coughing and a change in breathing.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

133. People who have been exposed to asbestos and are also exposed to some other carcinogen—such as cigarette smoke—have a significantly greater risk of developing \_\_\_\_\_ than people who have only been exposed to asbestos.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

134. \_\_\_\_\_ is a rare form of cancer, which most often occurs in the thin membrane lining of the lungs, chest, abdomen, and sometimes the heart.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

135. Virtually all cases of \_\_\_\_\_ are linked with asbestos exposure.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

136. Approximately 2 percent of all miners and textile workers who work with asbestos, and 10 percent of all workers who were involved in the manufacture of asbestos-containing gas masks, contract \_\_\_\_\_.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

137. Evidence suggests that cancers in the esophagus, larynx, oral cavity, stomach, colon, and kidney may be caused by \_\_\_\_\_.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

138. There are many good reasons to stop smoking, but smoking in addition to \_\_\_\_\_ is especially dangerous because both affect the lungs.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

139. One study found that asbestos workers who smoke are about 90 times more likely to develop lung cancer than people who neither smoke nor have been exposed to asbestos. There is an increased risk of \_\_\_\_\_ for smokers exposed to asbestos.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Ingesting asbestos
- F. None of the above

140. Several groups published standards dealing with \_\_\_\_\_. The Occupational Safety and Health Administration (OSHA) recently published a standard in August 1994. This new standard lowers the acceptable exposure level to 1/10 of a fibers per cubic centimeter of air. This figure is one-half the old standard.

- A. Mesothelioma
- B. Asbestosis
- C. Lung cancer
- D. Asbestos exposure
- E. Asbestos
- F. None of the above

141. Employees exposed to \_\_\_\_\_ above the TWA or excursion limit, or where the possibility of eye irritation exists, must use appropriate protective work clothing and equipment.

- A. Exhaust systems
- B. Release fibers
- C. Shrouds
- D. Asbestos
- E. Respiratory protection
- F. None of the above

142. The next six questions will be about local exhaust ventilation and dust collection systems are very important, especially when you use tools such as saws, drills, scorers, and abrasive wheels that could release \_\_\_\_\_ into the air.

- A. Exhaust systems
- B. Release fibers
- C. Shrouds
- D. Asbestos fibers
- E. Respiratory protection
- F. None of the above

143. The following is allowable exposure control equipment:  
Automatic \_\_\_\_\_ equipment

- A. Exhaust systems
- B. Release fibers
- C. Shrouds
- D. Bag-opening
- E. Respiratory protection
- F. None of the above

144. \_\_\_\_\_ to collect air in closed containers

- A. Exhaust systems
- B. Release fibers
- C. Shrouds
- D. Bag-opening
- E. Respiratory protection
- F. None of the above

145. Dust collection and \_\_\_\_\_

- A. Exhaust systems
- B. Release fibers
- C. Shrouds
- D. Cleaning systems
- E. Respiratory protection
- F. None of the above

146. Hoods to \_\_\_\_\_ that release fibers
- A. Exhaust systems
  - B. Release fibers
  - C. Cover operations
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
147. Tools with \_\_\_\_\_ or wet sprays
- A. Exhaust systems
  - B. Release fibers
  - C. Shrouds
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
148. \_\_\_\_\_ for tools such as grinders
- A. Exhaust systems
  - B. Release fibers
  - C. Shrouds
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
149. Whenever the engineering and work practices are insufficient to control \_\_\_\_\_, employees must supplement the controls with respiratory protection.
- A. Exhaust systems
  - B. Asbestos fibers
  - C. Shrouds
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
150. Decontamination areas are a source of \_\_\_\_\_ to asbestos.
- A. Exhaust systems
  - B. Release fibers
  - C. Shrouds
  - D. Bag-opening
  - E. Secondary exposure
  - F. None of the above
151. When leaving a regulated area, employees should enter the \_\_\_\_\_ through the equipment room.
- A. Exhaust systems
  - B. Release fibers
  - C. Shrouds
  - D. Decontamination area
  - E. Respiratory protection
  - F. None of the above
152. There, they should remove all \_\_\_\_\_ on the protective clothing by using an HEPA-filtered vacuum.
- A. Asbestos material
  - B. Clean room
  - C. ACM
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
153. Employees must not remove their respirators while in the equipment room. All protective clothing must be removed and put into \_\_\_\_\_.
- A. Asbestos material
  - B. Clean room
  - C. ACM
  - D. Bag-opening
  - E. Labeled clothing bags
  - F. None of the above
154. Employees then must leave the equipment room, remove their respirator, and shower before entering a \_\_\_\_\_.
- A. Asbestos material
  - B. Clean room
  - C. ACM
  - D. Bag-opening
  - E. Respiratory protection
  - F. None of the above
155. The construction standard also requires: All asbestos waste must be collected and disposed of in sealed, labeled, \_\_\_\_\_ or similar containers.
- A. Asbestos material
  - B. Clean room
  - C. ACM
  - D. Impermeable bags
  - E. Respiratory protection
  - F. None of the above

156. The construction standard also requires: Waste and dust from areas with accessible TSI or surfacing ACM may not be dusted or dry swept except by using an \_\_\_\_\_ and all material placed in a leak-tight container.

- A. Asbestos material
- B. Clean room
- C. ACM
- D. HEPA-filtered vacuum
- E. Respiratory protection
- F. None of the above

157. Use the same \_\_\_\_\_ when handling asbestos waste. It's best to wet these wastes.

- A. Asbestos material
- B. Clean room
- C. Asbestos safety precautions
- D. Bag-opening
- E. Respiratory protection
- F. None of the above

158. Place them in labeled, sealed, leakproof containers for careful and \_\_\_\_\_.

- A. Asbestos material
- B. Clean room
- C. Proper disposal
- D. Bag-opening
- E. Respiratory protection
- F. None of the above

159. Any shipment of \_\_\_\_\_ must conform to the U.S. Department of Transportation (DOT) regulations for the transportation of hazardous materials. In general, the material must be placed in a proper poly-lined container that is leakproof and labeled with the correct DOT name for the asbestos waste.

- A. Asbestos material
- B. Clean room
- C. Asbestos waste
- D. Bag-opening
- E. Respiratory protection
- F. None of the above

160. The waste must be transported in a covered vehicle to an EPA-approved landfill. When shipping the waste, the \_\_\_\_\_ must offer the proper placards to the driver of the transport vehicle.

- A. Asbestos material
- B. Clean room
- C. ACM
- D. Shipping facility
- E. Respiratory protection
- F. None of the above

161. The vehicle must have the \_\_\_\_\_ on all sides. Once delivered to the landfill, the waste must be covered with at least 6 inches of fill within 24 hours.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Proper placards
- F. None of the above

162. The \_\_\_\_\_ requires the U. S. Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Thermal-block
- F. None of the above

163. In accordance with Section 112 of the CAA, EPA established National Emissions Standards for Hazardous Air Pollutants (\_\_\_\_\_) to protect the public.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. NESHAP
- E. thermal-block
- F. None of the above

164. The responses assume that the questioner has a basic understanding of the \_\_\_\_\_ and demolition and renovation practices.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

165. The \_\_\_\_\_ regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing material.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

166. The \_\_\_\_\_ specifies work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units).

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

167. In addition, the regulations require the owner of the building and/or the contractor to notify applicable State and local agencies and/or \_\_\_\_\_ before all demolitions, or before renovations of buildings that contain a certain threshold amount of asbestos.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

168. The NESHAP regulation requires that \_\_\_\_\_ be adequately wetted during the following activities: During cutting or disjoining operations when a facility component which is covered or coated with friable ACM is being removed from that facility as units or in sections (Section 61.145 (c)(2)(i)).

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

169. During \_\_\_\_\_ a contractor may choose to remove an entire boiler, a section of pipe, or other facility components without first removing the asbestos insulation from these structures.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Demolitions or renovations
- C. ACM F. None of the above

170. Any \_\_\_\_\_ which will be disturbed during cutting or disjoining operations must be adequately wet.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

171. During stripping operations when a facility component containing \_\_\_\_\_ remains in place in the facility. (Section 61.145 (c)(3)).

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

172. Stripping operations are the most common form of asbestos removal during renovation activities, since most items that are covered with \_\_\_\_\_ are facility components or structural members which will not be removed.

- A. Clean Air Act (CAA) D. Asbestos
- B. RACM E. Thermal-block
- C. ACM F. None of the above

173. Stripping off all of the \_\_\_\_\_ can generate significant asbestos emissions if the ACM is not adequately wet during removal.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

174. Friable spray-on \_\_\_\_\_, which includes fire-proofing materials found on decking and support I-beams, is normally easy to wet throughout because of the absorbing property of the cellulose mixing/binding agent.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

175. The \_\_\_\_\_ requires that these materials be fully penetrated with the wetting agent during demolition/renovation activities.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

176. Other ACM, however, such as " \_\_\_\_\_ " insulation used on pipes and boilers, certain ceiling and floor tile applications, etc., which do not absorb water readily may be hard to penetrate by water or a wetting agent.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

177. For such materials, adequate wetting consists of coating the surfaces of the materials with water or a wetting agent prior to, during, and, in most cases, after removal activities in order to prevent asbestos emissions. Whenever such materials are broken during the removal process, the exposed, \_\_\_\_\_ must be wetted immediately to reduce emissions.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Dry surfaces
- C. ACM F. None of the above

178. If pieces of dry \_\_\_\_\_ are accidentally disturbed, they should be immediately wetted and kept wet until collected for disposal. Removal personnel are commonly assigned to keep the fallen RACM wet prior to its being collected for disposal.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

179. After the \_\_\_\_\_ has been stripped from a facility component, it must remain adequately wet until it has been collected and contained or treated in preparation for disposal. (Section 61.145 (c)(6)(i)).

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

180. After removal, adequately wetted \_\_\_\_\_ must be sealed in leak-tight containers or wrapping which must be labeled as specified by the Occupational Health and Safety Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). Such waste materials destined for off-site transport must additionally be labeled with the name of the generator and location of the waste generation site (Section 61.150 (a) (1) (iv and v)).

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. ACWM
- C. ACM F. None of the above

181. Adequate wetting of \_\_\_\_\_ is typically accomplished by repeatedly spraying it with a liquid or a wetting agent, usually amended water (water to which surfactant chemicals have been added), until it can absorb no more. However, this does not necessarily mean that the ACM will be soaked throughout.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Thermal-block
- C. ACM F. None of the above

182. \_\_\_\_\_ reduce the surface tension of the water, thereby increasing its ability to penetrate the ACM and surround the asbestos fibers.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Surfactant chemicals
- C. ACM F. None of the above

183. \_\_\_\_\_ may be applied with garden sprayers or hoses. Garden sprayers are hand-held, portable, and have a one- to five-gallon capacity. Water hoses are usually attached to a faucet tap, fire hydrant or water tank.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Wetting agents
- C. ACM F. None of the above

184. Generally, the hose has a nozzle attached which spreads the \_\_\_\_\_ so that a fine mist is created.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Water stream
- C. ACM F. None of the above

185. An engineering control often used is a misting unit which can be used to create a high level of humidity within a removal area. It is believed that fibers emitted into a saturated environment will absorb the \_\_\_\_\_ and fall out of the air faster, thus reducing airborne fiber levels.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Wetting agent
- C. ACM F. None of the above

186. The outer surface of the corrugated paper ("\_\_\_\_\_") pipe insulation, usually a canvas wrap, should be saturated with a wetting agent and then removed.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Air-cell
- C. ACM F. None of the above

187. \_\_\_\_\_ should continue until all the insulation is permeated with amended water. Metal bands holding the insulation in place should be removed and the corrugated RACM insulation stripped.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Wetting
- C. ACM F. None of the above

188. \_\_\_\_\_preformed block insulation has been used as thermal insulation on boilers, hot water tanks and heat exchangers in industrial, commercial, institutional and residential applications.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos-containing
- E. Wetting agent
- F. None of the above

189. The blocks are \_\_\_\_\_ in nature and may be held in place by chicken wire or expanded metal lath. A plaster-saturated canvas was often applied as a final covering or wrap.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Wetting agent
- F. None of the above

190. Due to the number, thickness and varying absorbencies of these layers of materials, adequate wetting may be accomplished only by continually wetting the materials with amended water as the \_\_\_\_\_.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Wetting agent
- F. None of the above

191. One person may be assigned to spray the materials as they are stripped, and a misting sprayer may be used in an attempt to reduce\_\_\_\_\_.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Airborne asbestos fiber levels
- F. None of the above

192. \_\_\_\_\_ of cementitious fitting insulation is similar to that used when removing asbestos-containing thermal block insulation. The outer surface is saturated with amended water and the outer covering (if applicable) is removed.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Wetting
- F. None of the above

193. The fitting insulation is then rewetted and the insulation stripped. To ensure that the fitting remains adequately wet during the removal operation, a person is often assigned to spray the \_\_\_\_\_ as it is stripped. A misting sprayer may be used to reduce airborne asbestos fiber levels.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Wetting agent
- F. None of the above

194. " \_\_\_\_\_ " is a generic term designated by the Asbestos Hazard Emergency Response Act (AHERA; Asbestos Containing Materials in Schools, 40 CFR Part 763, Subpart E) to mean any wall or ceiling material that is sprayed-on or troweled-on, such as acoustical plaster or fireproofing.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Surfacing Material
- F. None of the above

195. The recommended wetting method for this type of RACM is to saturate the surfaces, begin the stripping operation and continue to wet the \_\_\_\_\_ as it is being removed. A misting sprayer may also be used to keep the air saturated while the removal occurs.

- A. Clean Air Act (CAA)
- B. RACM
- C. ACM
- D. Asbestos NESHAP
- E. Wetting agent
- F. None of the above

196. Since surfacing materials vary in their ability to absorb a wetting agent, inspectors must consider the type of surfacing material that is being removed in order to determine the required extent of penetration by the\_\_\_\_\_.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. Amended water E. Wetting agent
- C. ACM F. None of the above

197. \_\_\_\_\_which easily absorb a wetting agent need to be fully penetrated or permeated to be considered adequately wet, whereas only the exposed surfaces of materials which do not absorb water readily need to be wetted.

- A. Clean Air Act (CAA) D. Surfacing materials
- B. RACM E. Wetting agent
- C. ACM F. None of the above

198. The use of high pressure water to remove asbestos-containing surfacing materials, either through a steam-cleaning device or a diesel powered hydroblasting water applicator, should be avoided since such use may unduly disturb \_\_\_\_\_ and contribute to higher airborne asbestos fiber levels. However, if this removal method is used, contractors must adequately wet the ACM prior to and during the removal.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Wetting agent
- C. ACM F. None of the above

199. Both friable and non-friable forms of other asbestos-containing building materials exist. \_\_\_\_\_include asbestos-containing paper (commonly found beneath wooden floors), wallpaper, and joint compound. It has been estimated that 5 to 10 percent of the ceiling tiles currently installed in the U.S. contain asbestos.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Friable materials
- C. ACM F. None of the above

200. Non-friable miscellaneous \_\_\_\_\_ includes floor tiles, asbestos cement sheet (transite board), siding shingles, asphalt roofing shingles, laboratory benchtops and even chalkboards.

- A. Clean Air Act (CAA) D. Asbestos NESHAP
- B. RACM E. Wetting agent
- C. ACM F. None of the above