Midwest Consortium
40-Hour Technician Posttest
Version 2
Answer Key

_b__. 1. An example of an acute health effect is:
   a. lung cancer
   b. burning eyes
   c. sterility
   d. arthritis

_d__. 2. Responder considerations when approaching a release from Intermediate Bulk Containers (IBC or totes) include the following:
   a. large quantity of material, greater than drums
   b. containers may be difficult to plug/patch due to size
   c. discharge valve locations are not standardized
   d. all of the above

_a__. 3. A drum filled with oleum (fuming sulfuric acid) is punctured accidently. An acid mist is forming, creating a high breathing and skin hazard. What level protection should you have on to safely over pack that drum?
   a. Level A.
   b. Level B.
   c. Level C.
   d. Level D.

_c__. 4. Several agencies enforce safety and health regulations that are important to responders. Select the statement below that is not correct.
   a. EPA enforces regulations regarding generation of hazardous waste.
   b. DOT enforces hazardous material transportation.
   c. NIOSH enforces the use of the RELs.
   d. OSHA enforces worker health and safety regulations.

_c__. 5. The basic decon methods include:
   a. power washing
   b. hot water rinsing off
c. chemical removal
d. all of the above

d. 6. A floating roof tank like the one pictured is likely to contain:

a. combustible dusts
b. corrosives
c. poisons
d. flammable liquids

a. 7. In what order should you monitor for hazardous volatile organic chemicals in the atmosphere in a confined space?

a. oxygen, flammables, toxics.
b. flammables, oxygen, toxics.
c. toxics, oxygen, flammables.
d. correct order not shown.

d. 8. Knowing basic chemistry terms is important to responders to:

a. predict how a release may move in the air
b. use information from resources
c. determine fire or explosion hazards
d. all of the above

a. 9. What information must be known to wear an Air-Purifying Respirator (APR)?

a. all of the following
b. all the airborne contaminants in the area
c. the concentration of the airborne contaminants in the area
d. the oxygen concentration in the area

d. 10. If you must monitor the environment in an emergency, which of the following statements is most correct?

a. It is an emergency-assume the instrument was calibrated recently.
b. Do not take the time to “warm up” the instrument.
c. Monitor as close as possible to the spill or release first, then back away to identify up a perimeter.
d. Follow the procedures in the ERP, as you have been trained.

_b__ 11. The ‘general duty clause’ in the OSHAct describes the responsibility of the employer to:
   a. comply with OSHA standards
   b. furnish a safe and healthy job and work environment
   c. report fatalities and injuries
   d. pay for personal safety equipment

_d__ 12. The NIOSH Pocket Guide tells you that trichloroethylene has a specific gravity of about 1.46. How would you confine a spill of trichloroethylene in a stream?
   a. use absorbing pillow.
   b. use a floating boom.
   c. use a sand bag dike.
   d. cannot determine without knowing solubility.

_a__ 13. Which of the following containment activities are done by a Technician-level first responder and not by an Operations-level responder?
   a. tighten loose fittings where there is an emission.
   b. close leaking valves at location remote to the leak.
   c. block a drain, or construct a barrier with absorbents.
   d. all of the above.

_c__ 14. One of the following is an example of detecting an exposure hazard, not measuring it. The example of hazard detection is:
   a. exposure exceeds the 15-minute Ceiling Limit
   b. alarm set to activate at 0.5 ppm is heard at the guard shack
   c. pH paper is red, indicating a strong acid
   d. the colorimetric tube shows 100 ppm carbon monoxide

_d__ 15. Development of and following a Decon Plan results in the following outcome(s):
   a. protects responders from exposure to hazardous materials
   b. limits transfer of harmful substances to employees in clean areas
   c. ensures routine critique and revision as needed
   d. all of the above
16. Which of the following best describes the gas in the tanker shown below on the right (see arrow)?

- a. It has a relative density of a gas greater than one.
- b. It has a relative density of a gas less than one.
- c. It has a low specific gravity.
- d. It has a high vapor pressure.

17. Monitoring is conducted throughout a response. What is the resource for detailed procedures for monitoring and supplies equipment available to you?

- b. OSHA
- c. NIOSH Pocket Guide
- d. The Emergency Response Plan

18. A report on the sample taken from an abandoned tanker truck indicates that it held an organic sludge with a vapor density of 3.0. There is about one foot of sludge in the tanker truck. Monitoring tells you there is 21% oxygen at the top opening of the tanker. Which of the following is most likely to be true?

- a. The tanker has enough oxygen in it for you to breathe safely.
- b. The oxygen meter is broken.
- c. The oxygen level at the bottom of the tank may be low enough to cause your death.
- d. The oxygen level at the bottom of the tank is higher than 21% and there may be a danger of explosion.

19. The Incident Commander wants to use a different type of glove because of “permeation problems.” What does she mean?

- a. The glove is too thick.
- b. The glove has not been properly decontaminated.
c. The cuff is not tight enough to keep chemicals from leaking in.
d. The glove allows chemicals to pass through it.

_a__ 20. A graph of exposure-response shows:

a. changes in response as exposure increases
b. how the exposure is metabolized to dose
c. cannot be measured without biomonitoring
d. is the same for everyone who may be exposed

__d__ 21. Which of the following is the most correct statement about DOT placards?

a. All the hazards posed by the contents of a container must be shown on placards.
b. Only the most hazardous effects of materials that weigh 1,000 pounds or more in the container are shown on the placard.
c. If a substance is dangerous to health, there must be a DOT placard on the container.
d. Trailers marked with “Dangerous” always carry several chemicals (mixed loads).

__a__ 22. If a worker discovers an unsafe or unhealthful condition in the workplace, the worker has the right/responsibility to:

a. do all the following
b. inform the supervisor
c. request an OSHA inspection
d. speak to a compliance officer inspecting the workplace

__c__ 23. You are told by your supervisor to help a co-worker loosen a stuck valve on a steam pipe known to not contain a hazardous chemical (other than the steam hazard). Which of following is the first action?

a. Ask your co-worker if the pipe is locked out.
b. It is an emergency, start helping loosen the valve.
c. Each of you together lock out the steam pipe.
d. Make sure you have proper respiratory protection.

__b__ 24. Heat exposure is a concern in an emergency due to use of protective gear and heat from external sources (sun, production process). Of the following, which is the most serious?

a. heat rash
b. heat exhaustion
c. prickly heat
d. heat cramps
25. When wearing PPE, it is important to:
   a. stay hydrated as your sweat rate may increase
   b. walk quickly as booties may result in a slipping hazard
   c. rely on your radio for communication
   d. do all the above

26. You are participating in a response to a rail release. Additional information can be obtained from a document known as a Waybill, Consist, Wheel Report, or Train List. How do you obtain this?
   a. Call the phone number on the train.
   b. Incident Commander contacts train operator national office.
   c. From the conductor.
   d. From CHEMTREC.

27. As a technician-trained responder, you must be able to:
   a. implement the employer’s Emergency Response Plan
   b. know toxicology terminology and behavior
   c. perform advanced containment and confinement
   d. all of the above

28. The overall term to describe the way a harmful material enters the body is:
   a. route of entry
   b. pathway
   c. absorption
   d. adsorption

29. A sulfuric acid solution, that has a pH of 2, has been diluted to a pH of 3 for use. Which of the following statements is correct?
   a. Diluting makes the solution more hazardous.
   b. Both solutions are likely to be corrosive to plastic.
   c. Neither solution will burn the skin or eyes.
   d. The original solution (pH of 2) is 10 times more acidic than the diluted solution (pH of 3).

30. A Standard Operating Procedure is:
   a. generic, to be tailored to your work
   b. often the same as a Standard Operating Guide
   c. a detailed work description only for emergencies
   d. a description of a task you must be trained to do

31. Slips, trips and falls are a recognized hazard during a response. All of the following may increase the risk of injury from a slip, trip or fall, except one.
   a. Slick or wet surfaces.
   b. Uneven surfaces or debris in your pathway.
c. Probing ahead with walking stick.
d. Reduced visibility due to darkness or smoke.

_a_. 32. Signs that the effectiveness of CPC may be less than expected should be part of the inspection checklist. This checklist should include identification of:

a. all of the following
b. swelling in the material
c. problems with valves
d. discoloration

_c_. 33. Which of the following statements is true about health concerns from being exposed to hazardous materials?

a. All workers will have the same reaction to a specific chemical.
b. Effects on the reproductive system happen only to female workers.
c. Even if you are exposed to a chemical through your skin, the chemical can affect other parts of your body like the kidneys or blood.
d. Symptoms from short-duration chemical exposures go away by themselves and do not require a visit to a doctor.

_b_. 34. One of the following statements about training for anyone required to use respirators is not correct.

a. Must be provided annually by the employer.
b. Must be in English.
c. Must include knowledge documentation.
d. Must include use in emergencies.

_a_. 35. An example of incompatible chemicals is:

a. an acid and sodium cyanide produce hydrogen cyanide
b. rain falling on calcium chloride produces chlorine
c. benzene mixed with water produces heat
d. sodium chloride (salt) mixed with acetic acid (vinegar) produces a toxic gas

_c_. 36. The fire tetrahedron shows the factors needed for a fire. One of the following is NOT on the tetrahedron:

a. oxidizer
b. chemical chain reaction
c. spontaneous combustion
d. fuel

_d_. 37. What does the symbol below tell you about a material?
a. It floats on water.
b. It is an oxidizer.
c. It is a biological hazard.
d. It should not contact water.

_ a__ 38. An expected outcome of a critique of a response is:
   
   a. review the activity to conduct appropriate follow up
   b. identify where the Emergency Response Plan was stored
   c. assure that release data are provided only to EPA
   d. destroy exposure data if no one reports a symptom

_ d__ 39. Which of the following is included in an Emergency Response Plan?

   a. Specific duties can rotate between operations-level and specialist responders.
   b. If radios are used for in-plant communications during the emergency, no back-up communication system is required.
   c. The Incident Commander is picked after the emergency has happened.
   d. Communication methods to be used with emergency support agencies in the community.

_ d__ 40. One of the following topics is not a required element of a Respiratory Protection Program:

   a. proper use of respirators in emergency situations.
   b. medical evaluations of employees required to use respirators.
   c. schedules for cleaning, disinfecting, storing and inspecting.
   d. in-house repair of compressors supplying breathing air.

_ d__ 41. OSHA enforces regulations regarding use of:

   a. footwear
   b. hard hats
   c. hearing protection
   d. all of the above
Use the diagram below to answer the three questions below.

__b__. 42. Where should the Command Post be located?
   a. point A  
   b. point B  
   c. point C  
   d. point D

__b__. 43. Where should the Decontamination Line be set up?
   a. from point D to G  
   b. from point D to C  
   c. from point C to B  
   d. from point F to E

__a__. 44. Of the locations shown below, responders with the highest level of protection work:
   a. between F and D  
   b. between G and C  
   c. between A and E  
   d. between B and G
45. Activities during a termination include:
   a. reports from participating responders
   b. inspecting equipment and tagging for repair if needed
   c. documenting response actions
   d. all of the above

46. Select the word below that is not a category of the Precautionary Statement section required on a HazCom label.
   a. Prevention.
   b. Protection.
   c. Response.
   d. Disposal.

47. Work-related medical exams are important for responders because:
   a. the employer needs to know all of your medical conditions
   b. the exams are free, even if you need to take unpaid time away from work
   c. the employer retains the results, and these are available to you
   d. they are required every three years for HazMat team members

48. A chronic health effect:
   a. appears within a few days after exposure
   b. cancer, burning eyes and arthritis are examples
   c. generally, results from a single exposure
   d. takes many months or years to develop

49. Which of the following describes a correct routine respirator positive pressure user check?
   a. Cover the exhalation valve and gently exhale. Air pressure should build up inside the mask.
   b. Cover the inhalation valve and gently exhale. Air should escape through the exhalation valve.
   c. Place your hands over the cartridges of the APR and inhale. No outside air should leak into the face piece.
   d. With a SCBA, disconnect the hose mask, cover the intake valve and inhale. No outside air should leak into the face piece.

50. The person in charge of the overall response to the emergency is called the:
   a. Public Information Officer
   b. Liaison Officer
   c. Incident Commander
   d. Finance Officer