Asbestos Supervisor Refresher Review Answer Key

1. Define friable versus non-friable asbestos.
   Friable-material that when dry can be crushed by hand to powder form. Non-friable under normal conditions cannot be crushed to powder by hand.

2. What is the primary type of asbestos used in the U.S. and the major producing country?
   Chrysotile-Canada

3. What is the primary Federal agency concerned with protecting workers from asbestos exposure?
   OSHA

4. Describe what is meant by the "Permissible Exposure Limit" (PEL). What regulatory requirements officially begin at the PEL? What is the f/cc concentration that identifies the PEL?
   Legal limit of exposure to asbestos.
   Hygiene facilities, prep work, notify of why, record keeping, training competent person, engineering controls.

5. Identify the agency and the regulation that requires removal of ACM prior to demolition.
   NESHAPS

6. What are the three major illnesses related to asbestos exposure?
   Asbestosis-massive exposure
   Lung Cancer-Exposure, medium to high
   Mesothelioma-low exposure

7. Describe what is meant by "latency period".
   From time of exposure to onset of disease.

8. What is the asbestos-related disease that primarily affects those exposed to asbestos who smoke cigarettes?
   Lung cancer

9. What is the primary bodily entry route for asbestos fibers?
   Inhalation or breathing

10. Why is protective clothing required when working in an asbestos abatement setting?
    Keeps bulk asbestos fibers off the worker's skin. Helps protect the worker and helps the worker keep from exposing family members or friends to asbestos fibers.

11. What are the basic differences between negative pressure, PAPR, and supplied air respirators?
    Negative: worker breathes room air filtered through HEPA filter.
    PAPR: room air is filtered through HEPA filter and small fan blows the air into face.
Supplied: fresh air from outside containment area is pumped into workers face piece through a hose.

12. When and where are respirators removed after working inside an asbestos containment area?  
   In the shower after HEPA cartridges are wet and outside of mask is rinsed.

13. Why seal all penetration points such as door seams, ventilation grills, etc.?  
   Reduce chance of fibers escaping out of isolated work area either through air currents or in water.

14. Why use double layers of plastic to cover walls and floors?  
   Reduces bulk contamination under plastic and helps in case of tears, leaks, etc. Walls and floors must still be cleaned after plastic is removed.

15. What are the minimum guidelines for establishing sufficient negative air?  
   AT LEAST 4 AIR changed per hour and at least 0.02% inches of water differential. Recommended 0.03% or higher.

16. Define HEPA and describe the need for HEPA vacuums in asbestos removal?  
   High Efficiency Particulate Air filters are 99.9% effective at removing .3 micron sized particles from the air stream. A regular vacuum would exhaust fibers around the area.

17. Why is asbestos normally removed and put in containers while wet?  
   OSHA mandated that asbestos be removed and put in containers while wet in order to reduce the amount of airborne fibers. The EPA must grant special permission for any dry removal of asbestos.

18. Why is encapsulation generally not recommended as an asbestos control measure?  
   Adds weight to material and may cause delamination-makes wetting more difficult. increases cost of removal(hard to remove).

19. What regulations govern small-scale, short-duration asbestos work such as removal using glovebags?  
   OSHA

20. Identify some of the differences necessary in procedures between using glovebags for small jobs versus large scale removal?  
   Glovebags-no decon is required; however, a shower must be available in case of emergency large scale work. Full containment, decon, engineering controls. etc.

21. Identify at least 2 sources of serious injury common in abatement settings.  
   Electrical shock, slips, trips, and falls, heat stress, and heat stroke.

22. What are at least 3 basic precautions that help reduce the risks of electrocution?  
   GFCI-written grounding program
3 times grounded electrical equipment or double insulated electrical equipment.
Support electrical cords above the floor.

23. What is the basic difference in symptoms between heat stroke and heat exhaustion? Which is more serious?
   Heat stroke-skin is hot and dry and Heat stress- skin is sweaty, cool and cold. Heat stroke is more serious.

24. Why do personal air-monitoring?
   OSHA 1926.58 requires daily representative personal air sampling. Results help determine the appropriate respirator needed, document worker exposure in case of later legal proceedings, and help monitor individual worker's work practices.

25. What are the three basic times when area air monitoring is commonly done?
   Pre-abatement (prevalent), during abatement, and post-abatement (clearance).

26. What is an 8-hour time weighted average and how is it determined?
   It is the average exposure over an 8 hour workshift.
   \[(\text{measured value 1})(\text{duration 1}) + (\text{measured value 2})(\text{duration 2}) + \text{etc.}\]

27. Describe the difference between TEM and PCM and give examples of appropriate uses for each.
   TEM-Transmission Electron Microscopy: Very expensive, relatively long turn around time, can distinguish asbestos fibers and see most asbestos fibers. Used for clearance sampling and hazard assessment.
   PCM-Phase Contract microscopy: Inexpensive, fast, can't see majority of asbestos fibers, doesn't distinguish asbestos fibers from other fibers. Must be used for OSHA personal Sampling. Often used for clearance or pre-clearance.

28. Describe the implications of simply following regulations versus maintaining state-of-the-art work practices.
   Liability may be based on state-of-the-art.

29. Describe the difference between claims made and occurrence insurance policies.
   Claims made coverage is for claims made during the policy period. Occurrence coverage will insure for an occurrence (i.e., exposure) taking place during the policy period regardless of when claim is made.

30. Describe common insurance exclusions that minimize contractor protection.
   Pollution exclusions, water damage.