This test consists of twenty multiple-choice questions. All questions are from the video: Handling Moisture Sensitive Devices (DVD-179C).

Use the supplied Answer Sheet and circle the letter corresponding to your selection for each test item. If more than one answer appears to be correct, pick the answer that seems to be the most complete response. Should you wish to change an answer, erase your choice completely.

When you are finished, check to make sure you have answered all of the questions. Turn in the test materials to the instructor.

The passing grade for this test is 70% (14 correct answers), or better.

Good luck!
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1. Engineering studies show the failure rate for many MSDs is due to
   a. ongoing changes to packaging technology
   b. improper handling of MSDs
   c. higher lead free soldering temperatures
   d. all of the above

2. Moisture/Reflow sensitive means there is
   a. a factory operating with high humidity
   b. a concern about damaging a MSD during the mounting process after a time period on the production floor
   c. a component that needs moisture to operate properly
   d. an increased sensitivity to electrostatic discharges

3. The two industry standards involved in the classification and use of MSDs are
   b. J-STD-001 and A-610
   c. J-STD-001 and J-STD-020
   d. J-STD-033 and A-610

4. A type of surface mount package most at risk for moisture/reflow sensitivity is the
   a. MELF diode
   b. Plastic Ball Grid Array
   c. Ceramic Leadless Chip Carrier
   d. Ceramic QFP

5. Moisture accumulation is a problem during wave and reflow soldering because
   a. the moisture inhibits solder wetting
   b. the component weight increases
   c. internal vapor pressure increases when the device is exposed to high temperatures
   d. the component is more at risk for an ESD event

6. When audible damage to an MSD occurs during soldering, it is called
   a. popcornning
   b. peanuting
   c. hiccup
   d. all of the above
7. The minimum indicator dots for % relative humidity on a HIC is
   a. 5% and 10%
   b. 10%, 20%, 30% and 60%
   c. 10% and 60%
   d. 5%, 10% and 60%

8. The purpose of desiccant is to
   a. provide a barrier to moisture
   b. absorb moisture
   c. indicate when components have too much moisture
   d. all of the above

9. The moisture sensitivity classification is found on the
   a. circuit board
   b. moisture sensitive device
   c. moisture sensitive caution label
   d. all of the above

10. If exposure to the factory environment exceeds the specified time, MSDs should be __________ per J-STD-033
    a. returned to the manufacturer
    b. returned to the stockroom
    c. baked
    d. scrapped

11. A type of surface mount device that doesn’t require moisture protection is a component that will be
    a. installed in a socket
    b. reflow soldered
    c. wave soldered
    d. all of the above

12. When a company uses certified suppliers to minimize incoming inspection, it is called
    a. preferred supplier system
    b. dock to stock
    c. first in – first out
    d. receiving bypass
HANDLING MOISTURE SENSITIVE DEVICES
EXAM (DVD-179C) v.2

13. If irregularities, such as holes or tears, are found in MBB packaging
   a. the components should be baked immediately
   b. the components should be soldered immediately
   c. the holes and tears should be covered with tape
   d. the humidity indicator card should be checked

14. When MSD packaging is opened during incoming inspection
   a. fresh desiccant bag(s) shall be placed in the packaging
   b. if the humidity indicator card reads 60%, a new card shall be placed in the MBB after proper baking.
   c. the moisture barrier bag shall be resealed after the MSDs are put back inside
   d. all of the above

15. FIFO involves
   a. converting to lead free soldering processes
   b. baking temperatures for MSDs
   c. using older parts before newer ones
   d. inspecting MSDs after reflow soldering

16. Preparation of stockroom components for the production floor is called
   a. kitting
   b. dock to stock
   c. first in – first out
   d. moisture verification

17. Floor life is
   a. the life expectancy of an MSD after reflow soldering
   b. the allowable time period for an MSD to be exposed to the factory environment
   c. the quality of life on the factory floor
   d. the manufacturer’s warranty of factory flooring

18. The floor life for an MSD begins
   a. the moment it is stored
   b. the moment the moisture barrier bag is opened
   c. after it is placed onto the circuit board
   d. all of the above
19. Floor life can become an issue when
   a. components are changed over in the middle of a job
   b. a double-sided assembly requires both wave and reflow soldering
   c. an operator forgets to track how long MSDs have been exposed to the factory environment
   d. all of the above

20. Baking is important
   a. when a surface mount device will be mounted in a socket
   b. for a lead free solder reflow process, but not for a tin/lead solder reflow process
   c. when an MSD has exceeded its floor life
   d. before opening any MBBs