



## INTRODUCTION TO SURFACE MOUNT REWORK (DVD-91C)

This test consists of twenty multiple-choice questions. All questions are from the video: *Introduction to Surface Mount Rework (DVD-91C)*.

Each question has only one *most* correct answer. Circle the letter corresponding to your selection for each test item. If you wish to change an answer, erase your choice completely.

You should read through the questions and answer those you are sure of first. After your first pass through the test, then go back and answer the questions that you were not sure of. If two answers appear to be correct, pick the answer that seems to be the most correct response.

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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Name \_\_\_\_\_ Date \_\_\_\_\_

- 1. The advantage to surface mounting components is**
  - a. increased component density
  - b. being able to mount components on both sides of the board
  - c. product miniaturization
  - d. all of the above
  
- 2. The most important concept in rework is to**
  - a. make each solder joint as perfect as possible
  - b. avoid rework unless it is absolutely essential
  - c. make sure the soldering iron is at the correct temperature
  - d. use plenty of flux to assist in heat transfer
  
- 3. The primary purpose of flux is to**
  - a. remove oxides from the metal surfaces to be soldered
  - b. make the mechanical and electrical connections
  - c. avoid the need to clean the assembly after soldering
  - d. preheat the board before soldering
  
- 4. When you reheat a solder joint without adding flux, it may become**
  - a. more dull and grainy
  - b. darker
  - c. more brittle
  - d. all of the above
  
- 5. It is important to remove flux residues from the assemblies**
  - a. at the beginning of your shift
  - b. at the end of your shift
  - c. as soon as possible after soldering
  - d. as soon as you see signs of corrosion
  
- 6. If the solder wire you are using is too thick, you will likely**
  - a. need to keep the heat applied longer to melt the appropriate amount of solder
  - b. need to add extra flux
  - c. see excess solder in the fillet
  - d. all of the above

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- 7. When solvents in the solder paste evaporate too quickly during soldering**
  - a. non-wetting will occur
  - b. there may be solder balls on the assembly
  - c. the assembly may catch fire
  - d. there is less risk to moisture sensitive devices
  
- 8. The result of too much solder paste being applied is usually**
  - a. solder bridging
  - b. solder skips
  - c. insufficient volume
  - d. disturbed solder
  
- 9. Conductive heat indicates**
  - a. indirect heat transfer
  - b. direct heat transfer
  - c. that heat is generated by an organic conductor
  - d. that heat is generated by chemical reaction
  
- 10. Coating the tip with fresh solder after soldering**
  - a. creates excess solder the next time you solder
  - b. eliminates the need for flux
  - c. prevents tip oxidation
  - d. all of the above
  
- 11. Modern soldering irons can solder effectively at around**
  - a. 420 degrees C
  - b. 300 degrees C
  - c. 220 degrees C
  - d. 183 degrees C
  
- 12. How fast the heat is transferred to the solder joint is determined by**
  - a. the skill of the solder technician
  - b. the size and shape of the tip
  - c. the pressure of the soldering iron against the connection area
  - d. all of the above
  
- 13. The best method of removing a multi-leaded component is to**
  - a. reflow all of the joints simultaneously
  - b. reflow the joints one at a time
  - c. reflow each row of joints separately
  - d. clip off each lead

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- 14. Resoldering with a continuously heated tip should be done with**
- a. solder paste
  - b. a solder pot
  - c. solder wire
  - d. all of the above
- 15. Another example of a continuously heated tool is the**
- a. vacuum extractor
  - b. thermal tweezers
  - c. pulse-heated tool
  - d. all of the above
- 16. Convection heat is done by**
- a. indirect heat transfer
  - b. direct heat transfer
  - c. heat generated by a heating element
  - d. heat generated by chemicals
- 17. An example of convection heating is the**
- a. hand soldering iron
  - b. pulse-heated tool
  - c. thermal tweezers
  - d. none of the above
- 18. Rework stations have the advantage of**
- a. focusing air flow around each particular size and type of component
  - b. melting or reflowing all of the solder joints at once
  - c. being programmed to perform a repetitive task with minimal variation
  - d. all of the above
- 19. An excellent use of a rework station is when**
- a. one specific component needs to be removed and replaced on a number of assemblies
  - b. many components need to be reworked on a single assembly
  - c. chip components require removal and replacement
  - d. all of the above
- 20. Hand held convection devices are also called**
- a. pulse-heated tools
  - b. thermal tweezers
  - c. hot air pencils
  - d. soldering irons