



INTRODUCTION TO MECHANICAL ASSEMBLY (DVD-46C)

This test consists of twenty multiple-choice questions. All questions are from the video: *Introduction to Mechanical Assembly (DVD-46C)*.

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!



INTRODUCTION TO MECHANICAL ASSEMBLY (DVD-46C)

Name _____ Date _____

- 1. The primary reasons for electrical failure of a circuit board assembly are**
 - a. mishandling and ESD
 - b. installing components incorrectly
 - c. poor hand soldering techniques
 - d. incorrect reflow soldering temperatures

- 2. Designing workstations and tools to be compatible with how the body works is called**
 - a. compatible design systems
 - b. ergonomics
 - c. workstationization
 - d. employee friendly devices

- 3. Cumulative trauma disorder, or repetitive motion fatigue can be prevented by**
 - a. using the proper size tool
 - b. grasping the tool firmly
 - c. keeping your wrist straight, in line with your forearm
 - d. all of the above

- 4. Torque devices can be fitted on drivers and wrenches**
 - a. so that threaded hardware can be tightened as much as possible
 - b. so that threaded hardware can be easily removed
 - c. so the tool will stop tightening once a pre-specified tightness is reached
 - d. all of the above

- 5. Which of the following tools is typically used to reach into tight areas?**
 - a. needle nose pliers
 - b. crimping tools
 - c. adjustable wrenches
 - d. pneumatic drivers

- 6. The process through which hardware is attached to the board with a press is called**
 - a. flanging
 - b. drilling
 - c. swaging
 - d. crimping

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7. The two types of threaded fasteners are

- a. rivets and swages
- b. bolts and screws
- c. rivets and screws
- d. bolts and swages

8. An example of a driver type is

- a. hex pattern
- b. Phillips
- c. bladed
- d. all of the above

9. When a driver does not fit snugly into the head of a fastener

- a. the driver can slip out and damage the board or components
- b. the fastener becomes difficult to tighten
- c. the fastener becomes difficult to remove
- d. all of the above

10. Split and star shapes refer to

- a. lock washers
- b. flat washers
- c. crimping patterns
- d. hex nuts

11. Heat sinks keep components from

- a. cooling too quickly
- b. shorting to adjacent lands
- c. overheating
- d. developing polarity problems

12. Pem nuts are swaged into the assembly to provide a location to attach a

- a. heat sink
- b. bolt
- c. component
- d. all of the above

13. Standoffs are used to

- a. separate components
- b. raise some components above others
- c. hold the circuit board away from other assemblies
- d. keep the chassis from heating up

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- 14. Discrete wires are bundled together using**
- tie wraps
 - spot ties
 - waxed lacing
 - all of the above
- 15. To mount card ejectors and other hardware that must move**
- a roll pin is pressed through the hardware and the board
 - a rivet is pressed through the hardware and the board
 - a spade is pressed through the hardware and the board
 - all of the above
- 16. Card stiffeners**
- help an assembly withstand vibration during final usage
 - ensure that an assembly won't warp or bow during wave soldering
 - are often made of stamped metal and are mounted to the board
 - all of the above
- 17. Connectors may be mounted onto the circuit board assembly to**
- make in-circuit test easier
 - integrate the board into the final cabinet assembly
 - allow the assembly to operate without a cabinet
 - all of the above
- 18. Discrete wires may be connected to circuit boards by**
- plugging directly into edge connectors mounted on the board
 - plugging directly into round connectors mounted on the board
 - soldering or crimping to terminals on the board
 - discrete wires cannot be connected to circuit boards
- 19. In some assemblies, flexible circuits function in a similar way to**
- ribbon cables or wire harnesses
 - discrete components
 - integrated circuits
 - I/O ports
- 20. An example of a face panel component is a**
- LED
 - switch
 - meter
 - all of the above