

**NOTE: ANSWER KEY IS ON LAST PAGE**

## **Maintenance Technician Test**

Score \_\_\_\_\_

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This is a test of your knowledge of basic maintenance skills. It covers areas like plumbing, carpentry, electrical systems, painting, tools, etc. There are 75 questions. Each question is followed by four possible answers (marked a, b, c, d). Circle the letter that gives the best answer to the question.

Example: A building's hallway lights keep flickering. You are not sure what the problem is. Who should you call for help?

- a. A plumber.
- b. An electrician.
- c. The police.
- d. A mason.

Since b, an electrician, is the right answer, you would draw a circle around the letter b.

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1. **The piece of equipment on which you are most likely to find a safety (pop off) valve is:**

- a. Hot air furnace.
- b. Electric fan.
- c. Hot water heater.
- d. Dehumidifier.

2. **Water hammer in domestic water lines is best eliminated by:**

- a. Increasing the size of all piping.
- b. Installing an air chamber.
- c. Replacing the valve seats with neoprene gaskets.
- d. Flushing the system to remove corrosion.

3. **Of the following, the best procedure to follow with a frozen water pipe is:**

- a. Allow the pipe to thaw-out by itself as the weather gets warmer.
- b. Put antifreeze into the pipe above the section that is frozen.
- c. Turn on the hot water heater.
- d. Open the faucet closest to the frozen pipe and warm the pipe with a blow torch, starting at this point.

4. **In plumbing work, a valve that allows water to flow in one direction only is commonly known as a:**

- a. Check valve.
- b. Glove valve.
- c. Gate valve.
- d. Stop valve.

5. **The pipe fitting that should be used to connect a 1" pipe to a 1 1/2" valve is called a:**
- a. Reducing coupling.
  - b. Nipple.
  - c. Bushing.
  - d. Union.
6. **A tool used in hanging doors is a:**
- a. Miter gauge.
  - b. Line level.
  - c. Micrometer.
  - d. Butt gauge.
7. **A miter box is used:**
- a. For locating dowel holes in two pieces of wood to be joined together.
  - b. To hold a saw at a fixed angle while sawing.
  - c. To hold a saw while sharpening its teeth.
  - d. To clamp two pieces of wood together at 90 degrees.
8. **Of the following, the best way to lay out a long, straight line of floor is to use:**
- a. A steel tape and carpenter's pencil.
  - b. Chalk and a 6 foot rule.
  - c. Chalk and a plumb tool.
  - d. Chalk and a mason's line.
9. **Roofing nails are usually:**
- a. Brass.
  - b. Cement coated.
  - c. Galvanized.
  - d. Nickel plated.
10. **If moisture is trapped between the layers of a 3-ply roof, the heat of a summer day will:**
- a. Dry the roof out.
  - b. Cause blisters to be formed in the roofing.
  - c. Rot the felt material.
  - d. Have no effect on the roofing.
11. **Roll roofing material is usually felt that has been impregnated with:**
- a. Cement.
  - b. Mastic.
  - c. Tar.
  - d. Latex.

12. **The purpose of flashing on roof is:**
- a. Secure roofing materials to the roof.
  - b. Make it easier to lay the roofing.
  - c. Prevent leaks through the roof.
  - d. Insulate the roof from excessive heat.
13. **Water is used to thin which type of paint?**
- a. Enamel.
  - b. Latex.
  - c. Shellac.
  - d. Lacquer.
14. **When using tape to conceal joints in dry wall construction, the first operation is:**
- a. Channeling the grooves between boards.
  - b. Applying cement to the joints.
  - c. Sanding the edges of the joints.
  - d. Packing the tape into the joints.
15. **The first coat of plaster to be applied on a 30-coat plaster job is the:**
- a. Brown coat.
  - b. Scratch coat.
  - c. White coat.
  - d. Keen coat.
16. **A room is 7'6" wide by 9'0" long with a ceiling height of 8'0". One gallon of flat paint will cover approximately 400 square feet of wall. The number of gallons of this paint required to paint the walls of this room, making no deductions for windows or doors, is most nearly:**
- a.  $\frac{1}{4}$  gallon.
  - b.  $\frac{1}{2}$  gallon.
  - c.  $\frac{3}{4}$  gallon.
  - d. 1 gallon.
17. **In a 100-220 volt three wire circuit, the neutral wire is usually:**
- a. Black.
  - b. Red.
  - c. White.
  - d. Green.
18. **The fuse of a certain circuit has blown and is replaced with a fuse of the same rating which also blows when the switch is closed. In this case:**
- a. A fuse of higher current rating should be used.
  - b. A fuse of higher voltage rating should be used.
  - c. A fuse should be temporarily replaced by a heavy piece of wire.
  - d. The circuit should be checked.

19. **Assume that freshly-poured concrete has been exposed to freezing temperatures for six hours. In all likelihood, this concrete:**
- a. Has been permanently damaged.
  - b. Will harden properly as soon as the air temperature warms.
  - c. Will harden properly even though the temperature remains below freezing.
  - d. Will eventually harden properly, but it will take much longer than usual.
20. **The principal reason for covering a concrete sidewalk with straw after concrete has been poured is to:**
- a. Prevent people from walking on the concrete while it is still wet.
  - b. Impart a rough, non-slip surface to the concrete.
  - c. Prevent excessive evaporation of water in the concrete.
  - d. Shorten the length of time it would take for the concrete to harden.
21. **The strips of metal used to hold glass to the window frame while it is being puttied are called:**
- a. Hold-downs.
  - b. Points.
  - c. Wedges.
  - d. Triangles.
22. **A flux is applied during a brazing operation primarily to:**
- a. Prevent fusion knead penetration throughout the joint.
  - b. Prevent formation of oxide films in the area of the joint.
  - c. Reduce the electrical conductivity of the joint.
  - d. Reduce the surface hardness in the area of the joint.
23. **Before drilling a hole in a steel plate, an indentation should be made with a:**
- a. Center punch.
  - b. Nail.
  - c. Drill bit.
  - d. Pin punch.
24. **A carton contains 9 dozen drill bits. If a maintenance worker removes 73 drill bits, the number of bits remaining in the carton is:**
- a. 24.
  - b. 35.
  - c. 47.
  - d. 62.

25. **Tubing with an outside diameter of 2" and a wall thickness of 1/16" has an inside diameter which is:**
- a. 1 1/2".
  - b. 1 3/4".
  - c. 1 7/8".
  - d. 1 15/16".
26. **The best material to lubricate a door lock is:**
- a. Penetrating oil.
  - b. Pike oil.
  - c. Graphite.
  - d. Light grease.
27. **A maintenance technician is paid at the rate of \$5.04 per hour and receives time-and-a-half for any hours worked over 40 hours. If the worker works 50 hours during a certain work week, gross earnings should be:**
- a. \$252.00
  - b. \$262.00
  - c. \$277.20
  - d. \$302.40
28. **What is the best method of removing stickers from the refrigerator and bathtub?**
- a. Scrape with a razor blade.
  - b. Powdered cleaner and sponge.
  - c. A solvent (Acetone, etc.)
  - d. All of the above.
29. **What cleaning agent is safest and best used for cleaning oil base paint from your painting tools?**
- a. Water.
  - b. Alcohol.
  - c. Gasoline.
  - d. Turpentine or mineral spirits.
30. **When painting over a dark water stain on a wall or ceiling that has dried, you should:**
- a. Paint the water-stained area the same color and square off ends.
  - b. Prime, seal, and paint the entire room because it won't look good if you don't.
  - c. Make certain the water leak is stopped and then make sure any sheetrock repairs needed have been made and prime or coat. If necessary, paint entire surface.
  - d. None of the above.

31. **If a surface to be painted is badly chalked, you should clean thoroughly and then apply a primer and repaint.**
- a. True.
  - b. False.
32. **When is the best time of year to prune trees and shrubs?**
- a. Anytime of the year if they need it.
  - b. Just before fertilization.
  - c. Early spring or early fall, depending on the type of tree or shrub.
  - d. Just after a rain.
33. **What is the three-way wall switch?**
- a. A switch that operates a light from two locations.
  - b. A switch that operates a three-way light bulb.
  - c. A switch specifically designed for high pressure sodium fixtures.
  - d. A switch only used for 24 volt systems.
34. **If a service request from a resident indicates that the ceiling light fixture in the bedroom is not working, in what order would you check?**
- a. Wiring to light fixture, main panel box, light switch.
  - b. Light bulb, diffuser, switch, breaker.
  - c. Light switch, transformer, light bulb, panel box.
  - d. Check breaker, light bulb, light switch.
35. **What is the most efficient tool to use for testing electrical current and motors?**
- a. Volt-ohm tester.
  - b. Light bulb tester.
  - c. Amp probe.
  - d. Continuity tester.
36. **What is the correct way to connect copper to aluminum wire?**
- a. Wire nut and electrical paste.
  - b. Tape
  - c. Split nut.
  - d. You should never connect copper wire to aluminum wire.
37. **If an electric hot water heater is not heating, what are the first two things that you would check?**
- a. Temperature setting and elements.
  - b. Breaker and thermostat reset.
  - c. Breaker and mixing valve.

38. **If a resident complains that he/she does not have enough hot water to finish a shower, what could be the problem?**
- a. Inferior insulation.
  - b. Poor air to water mixture in the tank.
  - c. Weak pressure relief valve or element burned out.
  - d. Cheap equipment.
39. **What is the common condition that causes an air conditioner to operate continuously or for long periods of time?**
- a. Dirty condenser.
  - b. Dirty evaporator.
  - c. Dirty filter.
  - d. All of the above.
40. **Which is the best way to find a leak in an a/c refrigeration system?**
- a. Soapy water
  - b. Electronic leak detector.
  - c. Propane torch.
  - d. All of the above.
41. **On a compressor burn-out, two of the most important things to do are:**
- a. Inject red dye and pressurize gauges.
  - b. Replace in-line contactor and purge reversing valve is applicable.
  - c. Install liquid line and suction dryer and vacuum out system.
  - d. None of the above.
42. **The low voltage controlled contractor in a condensing unit controls:**
- a. Main condensing unit's operation.
  - b. High side mixing valve.
  - c. Sequencer mechanism.
43. **Your service request says "a/c doesn't blow". Which of the following would you check first?**
- a. Compressor.
  - b. Fan motor.
  - c. Thermostat a/c switch.
  - d. Filter.
44. **An iced suction line generally indicates:**
- a. Low refrigerant.
  - b. Dirty piercing valve.
  - c. Dirty condenser.
  - d. Any of the above.

45. **When replacing a compressor, you should always install line dryers.**
- a. True.
  - b. False.
46. **When checking the suction line at the condensing unit, you find it warm. What could this indicate?**
- a. Locked rotor amp compressor.
  - b. Too little Freon.
  - c. Dirty condenser coil.
  - d. All of the above.
47. **If the thermostat is lowered from 75 degrees to 65 degrees on the cooling cycle, the air coming out of the ducts will be at least 10 percent cooler.**
- a. True.
  - b. False.
48. **Upon arriving at an apartment on an a/c service call, you find water running out of an air handler. The cause probably is:**
- a. Refrigerant leak.
  - b. Condensate line blockage.
  - c. Leak isn't a/c related.
  - d. None of the above.
49. **An iced evaporator can indicate a dirty filter.**
- a. True.
  - b. False.
50. **Resident complains that the furnace blower runs, but there is not enough heat. What would you suspect is wrong?**
- a. Dirty filter.
  - b. Weak limit switch.
  - c. Sequence switch not operating correctly.
  - d. Heating coil burned out.
  - e. Any of the above.
51. **Resident complains that the furnace blower is turning off and on all the time, but she still has heat. What would you suspect is wrong?**
- a. Thermostat is short cycling, too high rating of anticipator.
  - b. Bad sequence switch.
  - c. Internal motor overload may be opening and closing.
  - d. Any of the above.



52. **Resident complains that the furnace will not blow air. What would you suspect is wrong?**
- a. Tripped breaker.
  - b. Defective contactor or relay in control system.
  - c. Defective motor (open circuit).
  - d. Any of the above.
53. **On baseboard heating, you could use a continuity tester to check the heating element.**
- a. True.
  - b. False.
54. **What is the best way to check to see if the elements on a forced air electric heater work or come on properly.**
- a. Amp probe.
  - b. Continuity tester.
  - c. Capacitor meter.
  - d. Thermometer.
55. **What does a thermocouple on the gas heater operate?**
- a. Damper tube.
  - b. Gas valve.
  - c. Limit switch.
  - d. Pressure relief valve.
56. **How often should the vent or stack on a gas heater be checked?**
- a. Before each heating system.
  - b. Every month.
  - c. Every three years.
  - d. It is not important.
57. **What is a safety device on a gas fired furnace?**
- a. Sequencer.
  - b. Anticipator.
  - c. Limit switch.
  - d. Smoke indicator.
58. **While inspecting a gas furnace, you noticed scorched front wires. What could be the problem?**
- a. Clogged flow meter.
  - b. Inoperative sequencer (low voltage side).
  - c. Hole in heat exchanger or improper draft.
  - d. All of the above.

59. **Resident complains that the gas furnace blower is turning off and on all the time, but he still has heat. What should you suspect is wrong?**
- a. Bad heat capacitor.
  - b. Bad thermocouple.
  - c. Weak transformer.
  - d. Internal motor overload may be opening and closing.
60. **Frequent washer replacement on a faucet generally indicates:**
- a. Poor installation of washers.
  - b. Wrong size of washer.
  - c. Worn faucet seat.
  - d. None of the above.
61. **A running toilet is generally caused from a worn float rod.**
- a. True.
  - b. False.
62. **What is the safety device on a hot water heater?**
- a. Supply line restrictor.
  - b. Pressure return.
  - c. Pop off or relief valve.
  - d. None of the above.
63. **Where would you find an aerator?**
- a. At the base of the stem.
  - b. At the end of the faucet.
  - c. Just before the p-trap or j-bend.
  - d. In the shower head.
64. **What is the function of a bib seat?**
- a. To help stop water flow.
  - b. To increase water flow.
  - c. Helps the plumber unclog drains.
  - d. To relieve pressure so pipes do not burst.
65. **Flux is used:**
- a. To lubricate valve stems.
  - b. To seal mechanical joints from leaking.
  - c. To clean copper wire before soldering.
  - d. To seal copper joints after soldering.

66. **The best way to repair a door knob hole in sheetrock is to fill it with newspaper for backing, then carefully spackle.**
- a. True.
  - b. False.
67. **The best way to test if a heat strip element is working is with a:**
- a. Test light.
  - b. Multi tester.
  - c. Amp probe.
  - d. Continuity tester.
68. **A vacuum pump should be used on an a/c system anytime all the freon is released from the system.**
- a. True.
  - b. False.
69. **When replacing a door, the most accurate tool(s) to cut the hinge depth would be:**
- a. Hammer and 1/4" chisel.
  - b. Jigsaw.
  - c. Hinge saw.
  - d. Router and bit.
70. **When installing a deadbolt lock on an exterior door, what are the two most commonly used plunger depths?**
- a. 2" and 3".
  - b. 1 1/2" and 2".
  - c. 2 3/8" and 2 3/4".
  - d. None of the above.
71. **When soldering copper water pipes indoors, a fire extinguisher should always be on hand.**
- a. True.
  - b. False.
72. **What substance may be used to put out a small electrical fire, if a proper fire extinguisher isn't available?**
- a. Water.
  - b. CO2.
  - c. Baking soda.
  - d. None of the above.

73. **In putting out a grease fire, which of the following is the best type of fire extinguisher to use?**
- a. CO2.
  - b. Baking soda.
  - c. ABC powder.
  - d. Any of these.
74. **How many times a year should you change a/c filters?**
- a. Four times.
  - b. Once.
  - c. It is the resident's responsibility.
  - d. The Resident Manager will let you know.
75. **Why is emergency maintenance service important?**
- a. To protect the safety of residents.
  - b. To protect the property from damage.
  - c. To preserve the property owners' physical investment.
  - d. All of the above.

## Maintenance Test Score Key

1 C	33 A	65 C
2 B	34 B	66 B
3 D	35 A	67 C OR D
4 C	36 D	68 A
5 A	37 B	69 D
6 D	38 C	70 C
7 B	39 D	71 A
8 D	40 D	72 C
9 C	41 C	73 D
10 B	42 A	74 A
11 B	43 C	75 D
12 C	44 D	
13 B	45 A	
14 B	46 D	
15 B	47 B	
16 C	48 B	
17 C	49 A	
18 D	50 E	
19 A	51 D	
20 C	52 D	
21 B	53 A	
22 B	54 A OR D	
23 A	55 B	
24 B	56 A	
25 C	57 C	
26 C	58 C	
27 C	59 D	
28 C	60 C	
29 D	61 A	
30 C	62 C	
31 A	63 B	
32 C	64 A	