CHECK ANSWERS

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AGSM 470 Electrical & Electronic Controls
Exam 1, Fall 2005

Each question is worth 3 points unless marked otherwise. Mark the correct answer on your scantron.

1. What is the difference between a solenoid and a contactor?

a. there is no difference
b. solenoids don't have contacts
c. contactors don't have solenoids
d. none of the above

2. What is the difference between a motor starter and a contactor?

a. there is no difference
b. contactors have overloads
c. motor starters don't have overloads
d. none of the above

3. Which of the following is an example of a manual control?

a. pushbutton b. thermostat c. solenoid d. none of these

4. The power source for a line/ladder diagram is shown by the:

a. thinner lines b. heavier lines c. rungs of the ladder d. line number

5. In a line diagram you can:

a. always have more than one load per rung.
b. have as many controls per rung as you want.
c. have more than one load per rung as long as they don't operate at the same time.
d. only have as many loads as you have control devices.
e. none of the above

6. In a line diagram, control devices may connect to:

a. L1 b. L2 c. both L1 & L2 d. none of these

7. In a line diagram, loads connect to:

a. L1 b. L2 c. both L1 & L2 d. none of these

8. Which of the following is not a load?

a. limit switch b. contactor c. solenoid d. none of these

9. The rungs in a line/ladder diagram are:

a. numbered b. lettered c. numbered and lettered d. none of the above

10. A thermostat is used to turn an air conditioner on or off. Which is the thermostat?

a. signal b. decision c. action d. all of the above

11. In a line diagram, the decision section:

a. determines what is done and what order it is done.
b. senses an action.
c. operates something.
d. none of the above

12. A thermostat is used to turn a heater on and off. Which is the heater?

a. signal b. decision c. action d. auxiliary

13. A NC limit switch and a NC pressure switch wired in parallel controlling a light bulb is an example of what type of logic?

a. AND b. OR c. NAND c. NOR e. NOT

14. Two pushbuttons spaced 2 feet apart are used on a piece of equipment so the operator must press both (one with each hand) before the machine will start. This way they can't get their hands in the equipment. This is an example of what type of logic?

a. AND b. OR c. NAND d. NOR e. NOT

15. How should simple switches used as control devices normally be drawn in a ladder diagram?

a. normally closed b. normally open c. normally awake d. none of the above

16. A house has a doorbell that can be operated by pressing the button at one of several different doors going into the house. What type of logic is used for the doorbell buttons?

a. AND b. OR c. NAND d. NOR e. NOT

17. Consider a standard start-stop station with memory that has another separate emergency stop button wired in front of it. The two stop buttons are an example of what type of logic?

a. AND b. OR c. NAND d. NOT e. NOR

18. When multiple stop pushbuttons are wired together to control a motor starter circuit with memory from several locations, the stop buttons are an example of what type of logic?

a. AND b. OR c. NAND d. NOT e. NOR

19. Which of the following is not a function of a manual motor starter?

a. Start/Energize
b. Short Circuit Protection
c. Overload Protection
d. Stopping
e. None of the above

20. What is the purpose of the overloads in a motor control circuit.

a. Protect the wires from short circuits
b. Protect the motor from overloading
c. Protect the wires from overloading
d. a and b
e. b and c

21. The normal operating power rating of a solenoid is generally given as:

a. peak volt-amps
b. peak watts
c. sealed volt-amps
d. sealed watts

22. Which of the following are used to keep track of the specific wires that run from device to device in an electrical circuit?

a. rung number
b. contact reference number
c. wire reference number
d. terminal numbers

23. List the concern when a solenoid is provided low voltage.

a. excessive heat
b. solenoid won't seal
c. armature sticks
d. all of the above
e. none of the above