

Chapter 01 - General Principles of Motor Control

1. One of the main considerations when installing a machine is the power source.

- a. True
- b. False

ANSWER: True

2. Fuses and circuit breakers are generally used for protection against short-circuit and ground fault conditions.

- a. True
- b. False

ANSWER: True

3. With automatic control, an operator has to initiate certain actions.

- a. True
- b. False

ANSWER: False

4. High voltage surges are harmless and cannot damage electronic components connected to the power line.

- a. True
- b. False

ANSWER: False

5. Diodes are used to suppress the voltage spikes produced by coils that operate on direct current.

- a. True
- b. False

ANSWER: True

6. Which of the following methods is accomplished by momentarily connecting the motor to reduced voltage?

- a. Jogging
- b. Inching
- c. Ramping
- d. Across-the-line starting

ANSWER: b

7. Which of the following organizations perform a vital service in setting standards and test products to see if the product adheres to accepted safety standards?

- a. National Electrical Code® (NEC)
- b. Underwriters Laboratories (UL)
- c. National Electrical Manufacturers Association (NEMA)
- d. Occupational Safety and Health Administration (OSHA)

ANSWER: b

8. Which of the following is characterized by the use of push buttons, limit switches, pressure switches, and other sensing devices to control the operation of a magnetic contractor or starter?

- a. Semiautomatic control
- b. Automatic control

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- c. Manual control
- d. Programmable logic controllers

ANSWER:

a

9. Which of the following is/are used to suppress the voltage spikes produced by coils that operate on direct current?

- a. Metal oxide varistor (MOV)
- b. Fuses
- c. Leakage current
- d. Diodes

ANSWER:

d

10. What is the primary function of a Metal Oxide Varistor (MOV)?

- a. To regulate current flow in a circuit
- b. To act as a voltage-sensitive resistor
- c. To increase voltage in electrical circuits
- d. To store electrical energy for later use

ANSWER:

b

11. What is the primary purpose of the NEC?

- a. To enforce local electrical safety laws and regulations
- b. To establish rules for electrical equipment installation
- c. To regulate the sale of electrical products and services
- d. To provide training on electrical hazards and dangers

ANSWER:

a

12. Which type of control involves using push buttons, limit switches, pressure switches, and other sensing devices to control a magnetic contactor or starter?

- a. Manual control
- b. Automatic control
- c. Semiautomatic control
- d. Full automation control

ANSWER:

c

13. Which starting method involves the motor starting at a low speed and gradually accelerating to full speed over a period of time?

- a. Across-the-line starting
- b. Ramping
- c. Jogging
- d. Inching

ANSWER:

a

14. What is the term used to describe the small amount of current that flows through a Metal Oxide Varistor (MOV) when the voltage across it is below its rating?

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- a. Inductive current
- b. Leakage current
- c. Surge current
- d. Reverse current

ANSWER:

b

15. What is the key difference between jogging and inching?

- a. Jogging uses reduced voltage, while inching uses full line voltage.
- b. Jogging is done with short bursts of power, while inching provides continuous power.
- c. Jogging connects the motor to full line voltage, while inching connects the motor to reduced voltage.
- d. Jogging moves the motor to a fixed position, while inching moves the motor to any position.

ANSWER:

c