COMPUTER NUMERICAL CONTROL

MULTIPLE CHOICE QUESTIONS

1. What is the primary function of a drive in a motor control system?

a) To increase the motor's speed
b) To control the motor's torque
c) To convert electrical energy into mechanical energy
d) To regulate the power supply to the motor

Answer: d) To regulate the power supply to the motor

2. Which of the following is a commonly used type of drive in industrial applications?

a) Hydraulic drive
b) Pneumatic drive
c) Variable Frequency Drive (VFD)
d) Manual drive

Answer: c) Variable Frequency Drive (VFD)

3. In a closed-loop control system, what component provides feedback to the controller?

a) Actuator
b) Sensor
c) Drive
d) Load

Answer: b) Sensor

4. What is the main advantage of using a servo motor over a standard motor in control applications?

a) Higher power output
b) Precise position control
c) Lower cost
d) Simpler operation

Answer: b) Precise position control

5. Which of the following components is NOT typically part of a drive system?

a) Motor

b) Gearbox

c) Battery

d) Controller

Answer: c) Battery

6. What type of control strategy is typically used in a Proportional-Integral-Derivative (PID) controller?

a) On-off control

b) Linear control

c) Feedback control

d) Feedforward control

Answer: c) Feedback control

7. In a VFD, what does the inverter stage primarily do?

a) Converts AC to DC

b) Converts DC to AC

c) Regulates voltage levels

d) Filters electrical noise

Answer: b) Converts DC to AC

8. Which drive is commonly used for applications requiring high torque at low speeds?

a) Direct Current (DC) Drive

b) Variable Frequency Drive (VFD)

c) Stepper Motor Drive

d) Hydraulic Drive

Answer: a) Direct Current (DC) Drive

9. What is the purpose of an encoder in a motor control system?

a) To provide speed feedback

b) To supply power to the motor

c) To amplify the control signals

d) To adjust the load on the motor

Answer: a) To provide speed feedback

10. In industrial automation, what is the role of a Programmable Logic Controller (PLC) in a drive control system?

a) To provide direct power to the motor
b) To monitor and control the drive system
c) To regulate temperature in the motor
d) To reduce electrical noise

Answer: b) To monitor and control the drive system

These questions cover key aspects of drives and controls, including types of drives, control strategies, and components used in motor control systems.