Chapter 22 Motor Controllers

1. Sketch a basic start-stop motor control circuit with under-voltage and overload protection, and explain the function of each of the components.
2. What is the function of a shading coil? How does it work?
3. What is a magnetic blow-out? Explain how it works.
4. Explain the operation of a bimetallic type of motor-overload relay and state how it is connected in the control circuit.
5. Explain the difference in operation between UVR and UVP circuits and state an application for each.
6. Outline the general approach you would follow when troubleshooting a motor controller that does not work.

Chapter 29 Protective Devices

7. What are some of the injurious effects that can be caused by excessive current?
8. How does a fuse provide protection against sustained overcurrents? How is a fuse rated?
9. Describe the characteristics of the following: an NEC fuse, a dual-element fuse, and a current-limiting fuse. How are they constructed?
10. How does a molded-case breaker provide protection against (a) sustained overloads and (b) short circuits?
11. Define the interrupting rating of a fuse or circuit breaker.
12. What can happen if a circuit breaker is called on to clear a short-circuit current that is considerably in excess of its interrupting rating?