

EC50 - Pre-Instructional Survey

Name: _____ Date: _____

1. Safety instrumented systems do not provide protection for what?
 - a. Environment
 - b. Security
 - c. Human lives
 - d. Capital equipment
 - e. Company image

2. One advantage of performing control and safety in two separate logic solvers would be:
 - a. Increase in common cause
 - b. Reduction of spare parts
 - c. Increase in training costs
 - d. Reduction of common cause

3. The majority of control and safety system accidents are due to errors in what?
 - a. Incorrect and incomplete specifications
 - b. Design and implementation
 - c. Installation and commissioning
 - d. Operations and maintenance
 - e. Changes after commissioning

4. Risk is a function of what two things?
 - a. Failure rates & failure modes
 - b. Frequency & severity
 - c. Severity & consequences
 - d. Frequency & likelihood

5. If a safety system logic solver is approved or certified for a certain safety level, does that mean the entire as built system meets that safety level?
 - a. Yes
 - b. No

6. Which configuration is the safest (i.e., the one most likely to respond to a true demand)?
 - a. 1 out of 1
 - b. 1 out of 2
 - c. 2 out of 2
 - d. 2 out of 3

7. Which configuration provides the best protection against nuisance shutdowns?
 - a. 1 out of 1
 - b. 1 out of 2
 - c. 2 out of 2
 - d. 2 out of 3

8. Which configuration provides good safety protection and also good protection against nuisance shutdowns?
 - a. 1 out of 1
 - b. 1 out of 2
 - c. 2 out of 2
 - d. 2 out of 3

9. What are usually the most unreliable parts (i.e., have the highest dangerous undetected failure rate) of a safety instrumented function?
 - a. Sensors
 - b. Logic solver
 - c. Final elements
 - d. Wiring

10. Which of the following factors is not needed to determine the required manual test interval of a safety instrumented function or device?
 - a. Failure rates
 - b. Quantity of devices
 - c. Configuration / architecture (i.e., level of fault tolerance)
 - d. Manufacturer's quality plan
 - e. Performance requirement

EC50 - Pre Instructional Survey Answer Sheet

1. b
2. d
3. a
4. b
5. b
6. b
7. c
8. d
9. c
- 10.d