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

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