CertKillers

ASQ

CRE
Certified Reliability Engineer (CRE)

Questions & Answers PDF

For More Information - Visit:
https://www.certkillers.net/

Latest Version: 13.0

Question: 1

A go/no-go device is tested until it fails. If X is the number of tests to first failure with no wear out present, and the probability of success on each test is .99, then the probability that X is greater than 5 is:
Response:
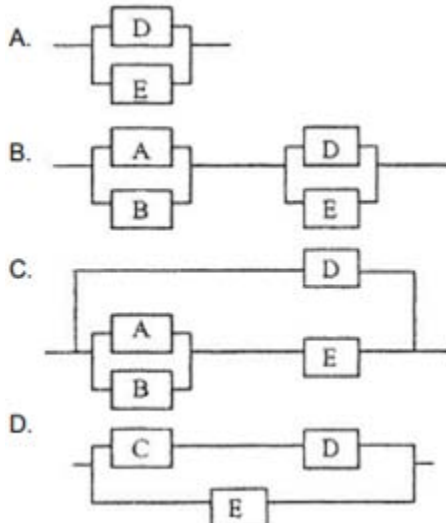
A. 0.9510
B. 0.9410
C. 0.9310
D. 0.9610

Answer: A

Question: 2

A system is defined by the following reliability block diagram.
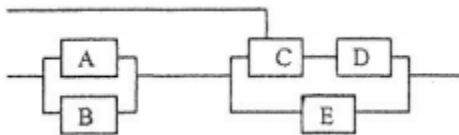
Which of the following block diagrams MOST simply represents the system reliability when Unit C is functioning?

Response:

A. option A
B. option B

C. option C
D. option D

Answer: C

Question: 3

Which of the following is the GREATEST benefit of a fault-tree analysis?
Response:

A. It is easy to perform and does not require a computer program.
B. It is comprehensive and readily converted to a computer program.
C. It is systematic and identifies ways to avoid failures.
D. It is bottom-up and provides detailed accident scenario.

Answer: C

Question: 4

The first phase in the operation life history of a population of product units is typically called:
Response:

A. Debugging phase.
B. Wear out phase.
C. Transition phase.
D. Chance failure phase.

Answer: A

Question: 5

In the area of risk assessment, hazard severity categories are used to provide a measure of the seriousness involved. A system failure causing major environmental damage would be classified as:
Response:

A. Catastrophic.
B. Critical
C. Marginal
D. Negligible

Answer: B

Question: 6

Which of the following activities is MOST effective in increasing reliability during a product's life cycle?
Response:

A. Improving gage repeatability and reproducibility
B. Developing an aggressive testing strategy.
C. Developing capable processes.
D. Developing robust design.

Answer: D

Question: 7

Which of the following is a model used for monitoring reliability growth?
Response:

A. Duane
B. Arrehenius
C. Normal
D. Lognormal

Answer: A

Question: 8

For a reliability plan to be most effective, the reliability tasks should be integrated with which of the following plan?
Response:

A. Reliability centered maintenance.
B. Product sales.
C. Product distribution
D. Product design and development.

Answer: D

Question: 9

A data collection, analysis, and reporting system should:
I. Permit detailed failure and failure rate analysis for varying environments, time periods, storage conditions, etc.
II. Provide distinction between items that failed and item that were wrongly removed.
III. Report data on successes as well as failures.
Response:

A. I only
B. II and III only
C. I and III only
D. I, II and III

Answer: D

Question: 10

A 2 level 5 factor experiment is being conducted to optimize the reliability of an electronic control module. A half replicate of the standard full factorial experiment is proposed. The number of treatment combinations will be
Response:

A. 10
B. 12
C. 16
D. 32

Answer: C

Question: 11

Human factors in product safety planning are assessed for which of the following reasons?
I. To allocate the proper balance between man and machine.
II. To address the limitations of human beings.
III. To determine the user hardware interaction.
Response:

A. III only
B. I and II only
C. I and III only
D. I, II and III

Answer: D

Question: 12

Derating a component to 50 percent of its operating value will generally decrease its failure rate by a factor of:
Response:

A. Greater than 50 percent.
B. Greater than 30 percent.
C. Greater than 10 percent but less than 30 percent.
D. Less than 10 percent.

Answer: B

Question: 13

Probability ratio sequential tests are used for products designed to operate for a long period of time. This test is primarily based on:
Response:

A. The ratio of an acceptable MTBF to an unacceptable MTBF.
B. Accept regions versus reject regions.
C. Type I versus type II errors.
D. Truncation of test results.

Answer: A

Question: 14

The reliability of a device comprised of various parts functioning in series is the:
Response:

A. Product of the reliability.
B. Sum of the probabilities of the unreliability.
C. Product of the unreliability
D. Sum of the reliability.

Answer: A

Question: 15

The maintenance action rate (MAR) may be mandated by contract. If an extruder is run continuously and experiences 24 maintenance actions (downtown) in one year, what is the MAR?
Response:

A. 0.0054 actions/hr.
B. 0.0417 actions/hr
C. 0.0027 acions/hr.
D. 0.00135 actions/hr.

Answer: C

Question: 16

Which of the following is the key component in continuously providing a reliable product?
Response:

A. Improve supplier acceptance testing.
B. Adequately train the work force.
C. Reduce product variability.
D. Scheduled equipment maintenance actions.

Answer: C

Question: 17

When requesting "worst case" design analysis, you expect the reliability group to:
Response:

A. Analyze the worst rejects.
B. Analyze only those products failing to meet specification requirements.
C. Determine whether product requirements can be met with subassemblies assumed at their worst combination of tolerances.
D. Assume all subassembly tolerances are at their maximum limit.

Answer: C

Question: 18

An employee is injured on the job. The employer has proven to have a good safety and health program. Generally the employee has which of the following options available to him/her?
Response:

A. Contributory negligence.
B. Caveat emptor.
C. Workman's compensation.
D. Caveat venditor.

Answer: C

Question: 19

The two principal measures of failure during risk assessment are which of the following?
Response:

A. Failure severity and failure probability.
B. Failure analysis and failure effects.
C. Failure method and failure mode.
D. Failure mode and failure mechanism.

Answer: A

Question: 20

What is the minimum number of failure free trips that one must make in their car to be at least 95% confident it is 95% reliable?
Response:

A. 22
B. 45
C. 58
D. 102

Answer: C

Question: 21

Of the following, which is the MOST important reliability principle?
Response:

A. Use only proven designs.
B. Specify only high reliability components.
C. Consider reliability early in the design phase.
D. Use redundancy throughout the design.

Question: 22

Which of the following is the MOST effective technique for prioritizing critical factors for problem-solving?
Response:

A. Venn diagram
B. Scatter diagram.
C. Pareto diagram
D. Cause-and-effect diagram

Answer: C