

100% Real CRE dumps - Brilliant CRE Exam Questions PDF [Q34-Q54]



100% Real CRE dumps - Brilliant CRE Exam Questions PDF CRE Exam PDF [2023 Tests Free Updated Today with Correct 456 Questions Q34. A random sample of 100 bars of aluminum shows a tensile strength mean of 30,000 psi and a standard deviation of 3,000 psi. On the basis of this sample, what is the 95 percent confidence interval for the average tensile strength?

Response:

- * $30,000 \pm 528$ psi
- * $30,000 \pm 600$ psi
- * $30,000 \pm 588$ psi
- * $30,000 \pm 768$ psi

Q35. 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:

- * Contributory negligence.
- * Caveat emptor.
- * Workman's compensation.

* Caveat venditor.

Q36. An exclusive OR gate produces an output only if:

Response:

- * All of the input events occur simultaneously
- * One, but not both input events occur.
- * Any one of the input events occur
- * All of the input events occur in the correct order.

Q37. A component fails on the average of once every 4 years with 75% of the failures observed to occur during stormy weather.

If there are 12 hours of stormy weather to every 240 hours of good weather, what are the failure rates for stormy and good weather respectively?

Response:

- * λ (stormy) = 3.938, λ (good) = 0.0656 failures/yr
- * λ (stormy) = 4.202, λ (good) = 0.0525 failures/yr
- * λ (stormy) = 6.594, λ (good) = 0.0458 failures/yr
- * λ (stormy) = 4.000, λ (good) = 0.0655 failures/yr

Q38. Which of the following is a primary concern for a reliability engineer who uses publicly available sources for mechanical part-failure rates?

Response:

- * Finding appropriate data for each application.
- * Assuring that the data are in compliance with ISO standards.
- * Meeting parts-count requirements
- * Recognizing that the quantity of such data is unlimited.

Q39. Total system effectiveness can be predicted during the conceptual or development design by considering three main elements of reliability. Which of the four elements does NOT apply?

Response:

- * Inherent reliability.
- * Manufacturing reliability.
- * Test reliability.
- * Use reliability.

Q40. The most important reliability characteristic of a product is that it:

Response:

- * Has a higher MTBF than its competitors
- * Has easy maintenance and service features
- * Performs the required functions throughout the product life cycle
- * Demonstrates low warranty costs

Q41. Which of the following can be used to determine the MTTR?

Response:

- * Mean time between maintenance actions.
- * Mean time between failures and potential availability.
- * Mean maintenance action time.
- * Mean time between failures.

Q42. Detection of trends of product failure is MOST important when system failure are Response:

- * Expensive.
- * Hard to identify.
- * Safety-related.
- * Identified by the customer.

Q43. Reliability prediction is:

Response:

- * A one time estimation process.
- * A continuous process starting with paper predictions.
- * More important than reliability attained in the field.
- * A popular method as simulation theory.

Q44. A life test was conducted on 10 units of a product. The average failure time of the units is 100 hours, and the standard deviation is 5 hours. If the failure time follows a normal distribution, what is the 90% confidence interval of the mean failure time for this product?

Response:

- * (86.87, 113.13)
- * (95.85, 104.15)
- * (97.10, 102.90)
- * (98.42, 101.58)

Q45. Which of the following statements is TRUE about human factor points?

Response:

- * They should be incorporated during the design phase.
- * They are not necessary until the product has been designed and field tested.
- * They are most costly to incorporate during the concept phase.
- * They generally cause schedule slippage whenever they are incorporated.

Q46. The comparative financial effects of reliability over the designed operating time T of two systems built to perform the same function can be obtained by comparing the

I. Failure rates.

II. Operating life of each system.

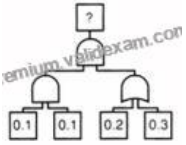
III. Cost of each system (including repair, replacement, and loss).

Response:

- * I, II and III
- * I and III only
- * II and III only

* II only

Q47. On the basis of the fault tree below, what is the likelihood of the top event occurring?



Response:

- * 0.0050
- * 0.2600
- * 0.3000
- * 0.5200

Q48. A system has components connected in active parallel. At least $n \geq 1$ of the components must operate for the system to function properly. Suppose the time to failure of each component has an exponential distribution with the same failure rate λ . The mean time to failure of this system is:

Response:

- * $(2n + 1)/n \lambda$?
- * $1/(n \lambda)$?
- * $2/(n \lambda)$?
- * $(n + 1)/n \lambda$?

Q49. 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:

- * I only
- * II and III only
- * I and III only
- * I, II and III

Q50. Which of the following statistical distributions can be used to compare sample means?

Response:

- * Chi-square.
- * Normal.
- * t test.
- * Exponential

Q51. In 4 flips of a coin the probability of two heads and two tails (in any order) is:

Response:

- * 9/16
- * 7/16
- * 1/2
- * 3/8

Q52. According to the Arrhenius Model, the expected life of an electronic component should:

Response:

- * Decrease exponentially with an increase in temperature.
- * Decrease linearly with an increase in temperature.
- * Increase linearly with an increase in temperature.
- * Increase exponentially with an increase in temperature.

Q53. The software test design method that involves seeding errors into a program is known is:

Response:

- * Test cases.
- * Fault insertion and error handling.
- * Equivalent class partitioning.
- * Customer defect reports.

Q54. Failure occur on a system at 75, 79, 83, 85 hours. Assuming normality, one sided and unbiased the lower tolerance limit for 95% reliability with 90% confidence for this sample is:

Response:

- * 96 hours.
- * 60 hours.
- * 100 hours.
- * 63 hours.

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