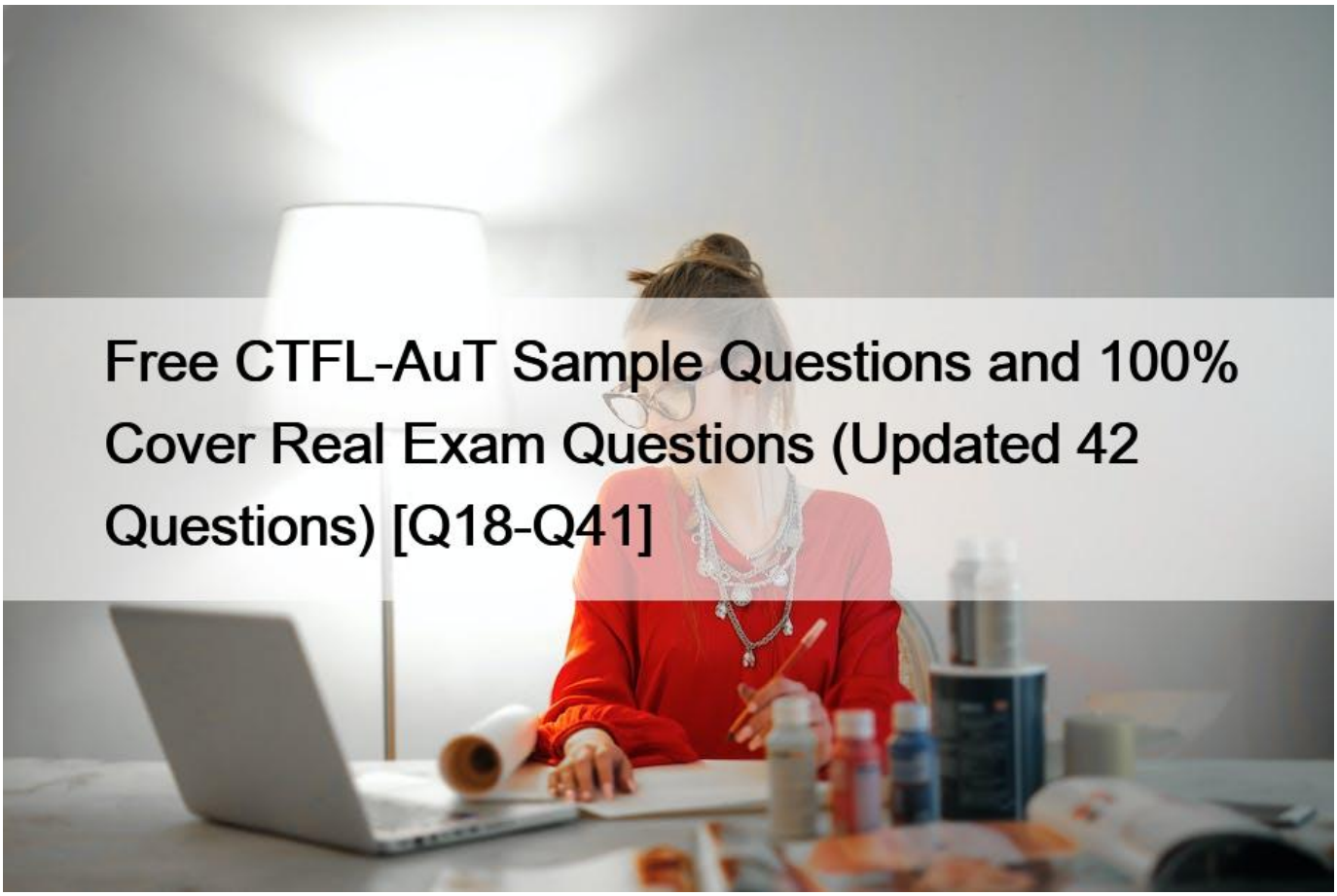
Free CTFL-AuT Sample Questions and 100% Cover Real Exam Questions (Updated 42 Questions) [Q18-Q41



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The ISQI CTFL-AuT (ISTQB Certified Tester Foundation Level - Automotive Software Tester) Certification Exam is designed for professionals who are involved in the testing of software in the automotive industry. The certification exam focuses on the testing of software systems, systems engineering, and the software development process. The CTFL-AuT certification is an industry-recognized certification that provides professionals with the necessary knowledge and skills to test software in the automotive industry.

Q18. Which statement regarding ISO 26262 Is true?
* According to thegeneral opinion of experts in functional safety, ISO 26262 CANNOT be considered as a contribution to the state of science and technology regarding the functional safety of road vehicles.
* ISO 26262 Is part of Automotive SPICE Therefore, conformity with ISO 26262 is checked as part of an Automotive SPICE-assessment to avoidthe additional effort of a separate safety audit
* ISO 26262 is a standard for functional safety. It is a domain-specific adaption of IEC 61508 for the specific characteristics in the

development of safety relevant electric-electronic systems for motor vehicles.

D, ISO 26262 is a security standard; thus, information and work security are core topics of ISO 26262.

Q19. Which statement regarding AUTOSAR Is TRUE?

AUTOSAR describes…
* …a collection of characteristics of the performance of processes of an organization.
* …an open and standardized software architecture for vehicle development.
* …an analysis unit, which processes Input signals and determines intermediate values and their respective output signals by using existing information.
* …activities, methods and measures to achieve functional security for electric and electronic solutions.

Explanation

https://www.pathpartnertech.com/software-architecture-autosar-for-automotive-embedded-system/

Q20. Which of the following options describes a combination of typical parts of a HiL environment?
* Breakout box, Software-Compiler, real parts
* Test case simulator, rest bus simulation, power supply
* Electric error simulation, signal processing, processor simulation
* Power supply, real time capable computer electric error simulation

Q21. Which of the following options Is NOT a general part of a test environment?
* Test plan
* Laboratory
* Real-time PC
* Communication device

Q22. Which statement regarding ISO 26262 Is true?
* According to the general opinion of experts in functional safety, ISO 26262 CANNOT be considered as a contribution to the state of science and technology regarding the functional safety of road vehicles.
* ISO 26262 Is part of Automotive SPICE® Therefore, conformity with ISO 26262 is checked as part of an Automotive SPICE®-assessment to avoid the additional effort of a separate safety audit
* ISO 26262 is a standard for functional safety. It is a domain-specific adaption of IEC 61508 for the specific characteristics in the development of safety relevant electric-electronic systems for motor vehicles.
* ISO 26262 is a security standard; thus, information and work security are core topics of ISO 26262.

Explanation

ISO 26262 is based on an integrated safety lifecycle approach, which includes the specification, design, implementation, verification and validation of safety-relevant systems.

Q23. Which statement regarding the test levels In a test environment is true?
* For integration tests SiL Mil and HiL test environments are suitable
* For load and stress tests. MIL and HiL test environments are suitable
* The correct classification of the test levels has no died influence on the safety relevance of the test object (with regard to ISO 26262).
* For component tests, St and MiL test environments are suitable

Q24. Which Automotive Safety Integrity Levels does ISO 26262 describe?
* ASIL A, ASIL B, ASIL C, ASIL D

* MlL, SiL, PiL, HiL, ViL
* QM, ASH A, ASIL B, ASIL C, ASIL D
* N (None), P (Partly). L (Largely). F (Fully)

Explanation

There are four ASILs identified by ISO 26262A, B, C, and D.

ASIL A represents the lowest degree and ASIL D represents the highest degree of automotive hazard.

https://www.synopsys.com/automotive/what-is-asil.html#:~:text=There%20are%20four%20ASILs%20identified

Q25. Which of the following statements regarding the application of standards is true?

* The application of standards helps to create transparent communication between the project stakeholders.
* The application of standards which standardize products has the sole purpose to reduce project risks
* The application of standards primarily alms at reducing costs.
* The application of standards reduces the efficiency of agile projects

Explanation

ISTQB-certified Testers are expected to adhere to standards when performing testing activities, ensuring that the project stakeholders have a shared understanding of the testing process and can communicate effectively.

This helps to reduce confusion and ensure that the project is managed in an organized manner. Standards also help to ensure that the testing process is repeatable, making it easier to identify defects and optimize the process over time.

Q26. Which statement regarding AUTOSAR Is TRUE?

AUTOSAR describes…

* …a collection of characteristics of the performance of processes of an organization.
* …an open and standardized software architecture for vehicle development.
* …an analysis unit, which processes Input signals and determines intermediate values and their respective output signals by using existing information.
* …activities, methods and measures to achieve functional security for electric and electronic solutions.

Explanation

https://www.pathpartnertech.com/software-architecture-autosar-for-automotive-embedded-system/ AUTOSAR (AUTomotive Open System ARchitecture) is an open and standardized software architecture for vehicle development, enabling the development of safety-relevant automotive software components. It provides a common platform for the development of software components from different suppliers, and thus enables the integration of multiple ECUs in a vehicle.

Q27. Imagine you are participating in an Automotive SPICEassessment In your rote as a software tester, and you receive the Information that your process has been assessed with ”P” on process attribute PA1.1 at capability level 1. Which meaning it correct?

* You have NOT fulfilled capacity level 1.
* You have fulfilled capacity level 3.
* You have fulfilled capacity level 2.
* You have fulfilled capability level 1.

Q28. Which dimension Is defined in Automotive SPICE?

* Resource dimension
* Capability dimension

* Objective dimension
* Time dimension

Explanation

In principle, automotive SPICE has two dimensions: the process dimension and the process capability dimension. The processes in the process dimension are based on the ISO 12207 that has been extended and modified with automotive-specific additions.

https://industryforum.co.uk/resources/automotive-spice-by-vda/#:~:text=Scope%20of%20Automotive%20SPICE

Q29. ISO 26262 recognizes several context factors which influence the selection of testing techniques. Which statement is correct? Please choose the BEST POSSIBLE answer.

* An testing techniques are always applied to one test basis. The specific techniques, e.g. equivalence partition analysis, however, can always be applied.
* ISO 26262 recommends specific testing techniques depending on the ASH level. Furthermore, the current state of technology must be considered
* The risk assessment provides insights regarding the risks, whose causes will then be tested Intensively (independent of the testing technique).
* For the selection and the applicability of the test techniques, the test basis is important, but not fie test level.

Q30. Which statement regarding the contribution of the tester to a safety culture is true?

* The tester always takes the overall context of the product development Into account when she/he executes their tasks
* The tester creates the hardware-software interface and provides this document to the safety manager
* The tester performs the hazard analysis and the risk assessment for the product at the beginning of the project.
* In systems that could potentially lead to physical injury or damage to the health of people the tester analyses potential hazards.

Q31. Which statement characterizes back-to-back testing?

* Back-to-back testing is a variation of pair programming in which the testers should sit back to back to be able to work as independently as possible from each other.
* Back-to-back testing compares test objects with mainly overlapping requirements to recognize the results of requirement change.
* Back-to-back testing compares lest objects which are based on the same requirements.
* Back-to-back testing compares different execution environments of the same test object

Q32. Imagine you are participating in an Automotive SPICE®assessment In your rote as a software tester, and you receive the Information that your process has been assessed with ”P” on process attribute PA1.1 at capability level 1. Which meaning it correct?

* You have NOT fulfilled capacity level 1.
* You have fulfilled capacity level 3.
* You have fulfilled capacity level 2.
* You have fulfilled capability level 1.

Explanation

In Automotive SPICE®, a rating of “P” on process attribute PA1.1 at capability level 1 indicates that the process has fulfilled capability level 1. In Automotive SPICE®, the assessment results are represented by a combination of letters and numbers, with “P” standing for “partially fulfilled.” When a process is assessed with

“P” at a particular capability level, it means that the process has fulfilled some, but not all, of the requirements of that capability level. In this case, the software tester has fulfilled capability level 1 for process attribute PA1.1, which means that the basic requirements for that attribute have been met.

Q33. Which of the following statements regarding MIL test environments is true?

* For a MIL test environment NO environmental model is necessary
* In the MILtest environment, stimulations and observations are possible anywhere via access points.
* In the MIL test environment, thetest object is available as compiled code and it is not readable by a human being.
* In the MiL test environment, additional hardware is necessary to implement access points.

Q34. Your company produces electric windows and corresponding control units. The newest control unit for electric windows has repeatedly been problematic, which youthink result from issues In therequirements, in particular, you noticed Bee following requirements in your first review.

Which of the following requirements for the system test violates at least one of the quality criteria of the ISO/IEC/IEEE 29148:2011 ?

ID; 12. When the central lock is activated, then all windows are automatically closed.

ID; 37 Given: the ignition q activated. When the button tor a window is pressed down, then the window moves down.

ID; 85: Given: the window moves up. When the window encounters resistance, then the window ttng motor stops.

ID; 142; Given: a door is open When the button for a window is pressed then the message M-85 is sent to the control unit
* The requirement 85 is not atomic
* The requirement 37 is Inconsistent on system level.
* The requirement 12 is ambiguous.
* The requirement 142 is not verifiable on system level

Q35. Which example describes a typical application of a closed-loop system?
* Activating the hazard warning lights is to be tested To do so. the flashing lights are monitored and the flashing frequency is measured and assessed.
* The setting of an error memory entry in the motor control unit Is to be tested To do so, the motor temperature is Increased above the critical limit and afterwards, the subsequent error memory entry will be read and assessed.
* The correct reaction of the windscreen wiper is to be tested To do so. the ram sensor Is activated by water on the screen and the windscreen wiping activities are monitored.
* A cruise control is to be tested by reaching me target speed In a given time and holding this speed despite outside disturbances. Different driving scenarios are simulated for this.

Q36. In Automotive SPICIE. which capability level in software Integration testing is characterized by the following statement: ,,Define the objectives for the execution of the process.”
* Capability level 2
* Capability level 0
* Capability level 1
* Capability level 3

Explanation

https://www.automotivespice.com/fileadmin/software-download/Automotive_SPICE_PAM_30.pdf Capability level 0. According to the ISTQB Certified Tester, Automotive Software Tester (CT-AUT) Study guide, Capability Level 0 in software Integration testing is characterized by the statement: “Define the objectives for the execution of the process.” This involves understanding the objectives of the process, planning for the necessary resources, and defining the activities that need to be performed in order to achieve the desired outcome. Additionally, it involves setting up the test environment and creating the necessary test data.

Q37. According to Automotive SPICE®3.x, which statement regarding the requirements for a test strategy Is correct?

* The test logs should be automated on all lest levels as much as possible to increase the comparability of the test results and reduce the effort for the lest execution.
* In the regression testing strategy, methods must be defined for an impact analysis and the selection of appropriate test cases for regression testing
* The test report must describe the test process including the identification of menaces and dependencies from other processes.
* The test log must Include methods for test case creation. for the selection of test cases, for the creation of test data and for the lest execution

Explanation

According to the Automotive SPICE ®3.x, the test strategy should include methods for analyzing the impact of changes in the system, and the selection of appropriate test cases for regression testing. The test strategy should also define methods for test case creation, for the selection of test cases, for the creation of test data, and for the test execution.

Q38. Which of the following statements regarding MIL test environments is true?
* For a MIL test environment NO environmental model is necessary
* In the MIL test environment, stimulations and observations are possible anywhere via access points.
* In the MIL test environment, the test object is available as compiled code and it is not readable by a human being.
* In the MiL test environment, additional hardware is necessary to implement access points.

Explanation

MIL stands for “Modified In-Loop” and describes a test environment in which stimulations and observations of the test object are possible anywhere via access points. This means that no environmental model is necessary and the test object is available in readable code. Additional hardware is usually not necessary for MIL test environments.

Q39. Which dimension Is defined in Automotive SPICE®?
* Resource dimension
* Capability dimension
* Objective dimension
* Time dimension

Explanation

In principle, automotive SPICE® has two dimensions: the and the process capability dimension. The processes in the process dimension are based on the ISO 12207 that has been extended and modified with automotive-specific additions.

https://industryforum.co.uk/resources/automotive-spice-by-vda/#:~:text=Scope%20of%20Automotive%20SPICE The Capability dimension is defined in Automotive SPICE®. Automotive SPICE® is a model for the assessment and evaluation of software process capability in the automotive industry. The Capability dimension provides a description of the capability level of the software process, which is determined by the process capability maturity level (CMM) and the process capability level (PCL). The Capability dimension includes aspects such as the definition of processes, the availability of resources, the measurement and analysis of processes, and the improvement of processes.

Source: ISTQB Certified Tester, Automotive Software Tester (CT-AUT) Study Guide.

Q40. Which of the following options Is NOT a general part of a test environment?
* Test plan
* Laboratory
* Real-time PC
* Communication device

Explanation

A test environment typically includes components such as a test plan, laboratory, test tools, test data, and communication devices, but a real-time PC is not generally included. A real-time PC is a type of computer system that is designed to respond to input within a specified amount of time.

Q41. According to Automotive SPICE3.x, which statement regarding the requirements for a test strategy Is correct?
* Thetestlogs should be automated on all lest levels as much as possible to increase the comparability of the test results and reduce the effort for the lest execution.
* In the regression testing strategy, methods must be defined for an impact analysis and the selection of appropriate test cases for regression testing
* Thetest report must describe the test process including the identification of menaces and dependencies from other processes.
* Thetest log must Include methods for test case creation. for the selection of test cases, for the creation of test data and for the lest execution

To become certified, candidates must pass a rigorous exam that tests their knowledge and understanding of the principles and fundamentals of testing, as well as their ability to apply this knowledge in a real-world setting. The exam is conducted online and consists of multiple-choice questions. Candidates who pass the exam will receive a CTFL-AuT certification, which is valid for three years.

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