

Sample Exam – Answers

Sample Exam Set A

Version 2.3.1

Certified Tester Automotive Software Tester Specialist

Compatible with Syllabus Version 2.1

International Software Testing Qualifications Board



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2.2	2023/05/12	Correction of Answer: #20
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2.1	2019/11/12	Layout update
2.0	2018/07/04	Updated in connection with ISTQB release
1.0	2015	First edition

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Introduction

Purpose of this document

The example questions and answers and associated justifications in this sample exam have been created by a team of subject matter experts and experienced question writers with the aim of:

- Assisting ISTQB® Member Boards and Exam Boards in their question writing activities
- Providing training providers and exam candidates with examples of exam questions

These questions cannot be used as-is in any official examination.

Note that real exams may include a wide variety of questions, and this sample exam *is not* intended to include examples of all possible question types, styles or lengths, also this sample exam may both be more difficult or less difficult than any official exam.

Instructions

In this document you may find:

- Answer Key table, including for each correct answer:
 - K-level, Learning Objective, and Point value
- Answer sets, including for all questions:
 - Correct answer
 - Justification for each response (answer) option
 - K-level, Learning Objective, and Point value
- Additional answer sets, including for all questions [does not apply to all sample exams]:
 - Correct answer
 - Justification for each response (answer) option
 - K-level, Learning Objective, and Point value
- *Questions are contained in a separate document*

Answer Key

Question Number (#)	Correct Answer	LO	K-Level	Points
1	d	AuT-1.3	K1	1
2	c	AuT-1.4	K1	1
3	b	AuT-1.1	K2	1
4	c	AuT-2.1.1.2	K1	1
5	a	AuT-2.1.1.1	K1	1
6	c	AuT-2.1.1.3	K2	1
7	c	AuT-2.1.2.2	K2	1
8	b	AuT-2.1.2.3	K2	1
9	b	AuT-2.1.2.6	K2	1
10	b	AuT-2.1.2.5	K3	1
11	c	AuT-2.2.1.1	K2	1
12	a	AuT-2.2.4.2	K2	1
13	a	AuT-2.2.3.2	K1	1
14	a	AuT-2.2.1	K2	1
15	a	AuT-2.2.2	K2	1
16	d	AuT-2.2.4	K2	1
17	a	AuT-2.2.5	K3	1
18	d	AuT-2.3.1	K1	1
19	b	AuT-2.3.3	K1	1
20	b	AuT-2.4.1	K1	1

Question Number (#)	Correct Answer	LO	K-Level	Points
21	d	AuT-2.4.2	K2	1
22	a	AuT-3.1.2	K1	1
23	d	AuT-3.1.4	K1	1
24	b	AuT-3.1.3	K2	1
25	c	AuT-3.2.1.2	K2	1
26	a	AuT-3.2.2.2	K1	1
27	d	AuT-3.2.2.1	K1	1
28	c	AuT-3.2.3.2	K2	1
29	b	AuT-3.2.4.2	K3	1
30	a	AuT-3.2.1.2	K2	1
31	c	AuT-3.2.3.2	K2	1
32	b	AuT-3.2.4.2	K3	1
33	c	AuT-3.2.3.2	K2	1
34	c	Keyword	K1	1
35	c	AuT-4.1.1	K2	1
36	b	AuT-4.1.2	K3	1
37	c	AuT-4.2.4	K1	1
38	c	AuT-4.2.3	K2	1
39	c	AuT-4.2.5	K3	1
40	d	AuT-4.2.1	K3	1

Answers

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
1	d	a) Is not correct. The Acceptance stage is incorrect. b) Is not correct. The Release stage is incorrect. c) Is not correct. The Implementation stage is incorrect. d) Is correct. All stages are listed in the correct order.	AuT-1.3	K1	1
2	c	a) Is not correct. The release recommendation has a considerable influence on the release. b) Is not correct. The release level affects the test strategy. c) Is correct. The testing affects the level of software maturity by the detection of defects; the release recommendation, however, cannot affect the maturity level. d) Is not correct. The scope of delivery can be considerably influenced by the release recommendation.	AuT-1.4	K1	1
3	b	a) Is not correct. To insource an already running, outsourced project again endangers the project objectives as internal resources must be trained and included in the project. b) Is correct. By using effective methods and processes, interfacing issues, e.g., by misunderstandings, are reduced and minimized. c) Is not correct. Qualification is important, but for the project objectives it does not matter if it is efficient. d) Is not correct. Outsourcing means higher administrative efforts and it requires coordination with the contractor. In the short run, the efforts are higher, and the project objectives are at risk.	AuT-1.1	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
4	c	<p>a) Is not correct. Because system requirements analysis is only of secondary importance to the Certified Automotive Software Tester.</p> <p>b) Is not correct. Because configuration management is only of secondary importance to the Certified Automotive Software Tester.</p> <p>c) Is correct. Because a software verification process assesses the integrated software against the software requirements and is therefore of primary importance to the Certified Automotive Software Tester.</p> <p>d) Is not correct. Because project management is only of secondary importance to the Certified Automotive Software Tester.</p>	AuT-2.1.1.2	K1	1
5	a	<p>a) Is correct. Defined as a dimension in Automotive SPICE®.</p> <p>b) Is not correct. Not defined as a dimension in Automotive SPICE®, because the correct dimensions are the process and capability dimensions.</p> <p>c) Is not correct. Not defined as a dimension in Automotive SPICE®, because the correct dimensions are the process and capability dimensions.</p> <p>d) Is not correct. Not defined as a dimension in Automotive SPICE®, because the correct dimensions are the process and capability dimensions.</p>	AuT-2.1.1.1	K1	1
6	c	<p>a) Is not correct. As none of the above statements characterize a capability level 0.</p> <p>b) Is not correct. As not all statements characterize a capability level 1.</p> <p>c) Is correct. As all above mentioned statements characterizes a capability level 2.</p> <p>d) Is not correct. In addition to all of the above statements, capability level 3 requires a defined process that is capable of achieving its process outcomes.</p>	AuT-2.1.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
7	c	a) Is not correct. As NOT FULFILLED is for “None”. b) Is not correct. As PARTLY FULFILLED is for “Partly”. c) Is correct. As LARGELY FULFILLED is for “Largely”. d) Is not correct. As FULLY FULFILLED is for “Fully”.	AuT-2.1.2.2	K2	1
8	b	a) Is not correct. Because regression testing criteria do NOT define the test level specific test environments. This distractor defines a test plan. b) Is correct. Because regression testing criteria define the test objective and the procedure for the selection of the test cases for the regression tests. c) Is not correct. Because the regression testing criteria do NOT define the test approach independent from the test level for the selection of regression tests. This distractor partly defines a test plan. d) Is not correct. Because the regression testing criteria are NOT an abstract description of the planned test level and how to proceed within those test levels. This distractor describes a test policy.	AuT-2.1.2.3	K2	1
9	b	a) Is not correct. Because Automotive SPICE® does not require traceability of the working hours of the tester to the completed test cases. b) Is correct. Because Automotive SPICE® also requires traceability of the specified test cases to the test results. c) Is not correct. Because Automotive SPICE® does not require traceability of the interface descriptions to the specified maintainability tests. d) Is not correct. Because Automotive SPICE® does not require traceability from customer requirements to integration tests. Only the traceability between customer requirements and system requirements is required.	AuT-2.1.2.6	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
10	b	<p>a) Is not correct. Applicable, because according to the safety guidelines (i.e., ISO 26262-6) all safety-related components must be tested against the safety requirements.</p> <p>b) Is correct. Not applicable, because measuring the branch coverage would generally be an appropriate measure, but the above mentioned criteria for verification cannot be met in this way.</p> <p>c) Is not correct. Applicable, because tool-supported static analysis is a typical part of a verification strategy to confirm the MISRA compliance.</p> <p>d) Is not correct. Applicable, because code reviews as a complement to tool-supported static analysis are a typical part of confirming non-detectable verification criteria such as comprehensibility.</p>	AuT-2.1.2.5	K3	1
11	c	<p>a) Is not correct. As this is not a tester’s task, but of the safety manager.</p> <p>b) Is not correct. As this is not a tester’s task, but of the safety manager.</p> <p>c) Is correct. As this is the core of the safety culture.</p> <p>d) Is not correct. As the tester only performs specific measures (typically test-related) in the area of functional safety, but not all of them.</p>	AuT-2.2.1	K2	1
12	a	<p>a) Is correct. Because the hazard analysis and risk assessment can add an automotive safety integrity level (ASIL) to the hazards.</p> <p>b) Is not correct. Because ASIL D indicates the highest criticality and ASIL A the lowest.</p> <p>c) Is not correct. Because there may be hazards identified in the hazard analysis and risk assessment that are assigned to an ASIL but are classified as quality management (QM) hazards.</p> <p>d) Is not correct. Because ASIL stands for automotive safety integrity level.</p>	AuT-2.2.4	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
13	a	<p>a) Is correct. As the parts 4 and 6 are explicitly mentioned in section 2.2.3.2.</p> <p>b) Is not correct. As part 3 is only of little relevance to the software tester and is not even mentioned in section 2.2.3.2.</p> <p>c) Is not correct. As part 2 is only of little relevance to the software tester and is not even mentioned in section 2.2.3.2.</p> <p>d) Is not correct. As part 5 deals with hardware-specific aspects which are of less important to the software tester.</p>	AuT-2.2.3	K1	1
14	a	<p>a) Is correct. Because ISO 26262 is a standard for functional safety which is applicable to automotive E/E systems and therefore provides requirements for achieving functional safety.</p> <p>b) Is not correct. Functional safety and cybersecurity are aspects of E/E systems that must be separated. A lack of cybersecurity could affect functional safety. However, an E/E system can be both functionally safe and secure at the same time, so the two characteristics don't contradict each other.</p> <p>c) Is not correct. As ISO 26262 defines functional safety as absence of unreasonable risk due to hazards caused by malfunctioning behavior of E/E systems. ISO 26262 does not focus on the safety of the intended function during normal operation.</p> <p>d) Is not correct. As functional safety must be separated from cybersecurity and ISO 26262 only offers limited statements regarding cybersecurity.</p>	AuT-2.2.1	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
15	a	a) Is correct. Because the tester contributes to several phases but performs tests that mainly take place in the product development phase. b) Is not correct. Because the tester performs activities related to test planning and test design in the concept phase but does not execute tests in this phase. c) Is not correct. Because the focus of test execution is the product development phase. d) Is not correct. Because the focus of test execution is the product development phase.	AuT-2.2.2	K2	1
16	d	a) Is not correct. Because there is no compelling causal relationship (“must”) between the number of test techniques and the test scope. Furthermore, a higher ASIL does not necessarily require more test techniques. b) Is not correct. Because there is no compelling causal relationship (“must”) between the number of test techniques and the number of derived test cases, and since a higher ASIL does not necessarily require more test techniques. c) Is not correct. Because a higher ASIL typically requires more or more intensive test techniques. However, there is no rule that requires doubling the number of recommended test techniques and test types which each ASIL typically requires more tests. d) Is correct. Because a higher ASIL typically requires more tests, or more intensive test techniques, which typically results in more test cases and therefore possibly more coverage.	AuT-2.2.4	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
17	a	<p>Due to the numbering scheme for the methods, i.e., 1a, 1b and 1c, indicates that these are alternative methods, i.e., usually at least one method must be selected.</p> <p>a) Is correct. Because the justification is correct (see CTFL) and therefore in ASIL A, a method is used that is at least as good as the highly recommended statement coverage for ASIL A. Furthermore, branch coverage is recommended for ASIL A anyway.</p> <p>b) Is not correct. Because the order of the methods in the table does not matter and for ASIL B, branch coverage is highly recommended as well. Thus, a plausible content-related justification is necessary to explain why this method is not used.</p> <p>c) Is not correct. Because the justification is not sufficient to exclude the strongly recommended modified condition/decision coverage (MC/DC) for ASIL D. This would only be possible if there were no multiple conditions, as in exactly this special case, 100% MC/DC and 100% branch coverage provide the same test result.</p> <p>d) Is not correct. Because the justification is factually incorrect and therefore the highly recommended branch coverage for ASIL B is not used.</p>	AuT-2.2.5	K3	1
18	d	<p>a) Is not correct. Because Automotive Open System Architecture (AUTOSAR) defines an open architecture.</p> <p>b) Is not correct. Because AUTOSAR is compliant with international standards.</p> <p>c) Is not correct. Because AUTOSAR supports data exchange with non AUTOSAR systems.</p> <p>d) Is correct. Because it is one of the objectives of the AUTOSAR project.</p>	AuT-2.3.1	K1	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
19	b	<p>a) Is not correct. As AUTOSAR SW-Cs can be tested virtually in a runtime environment (RTE) simulation.</p> <p>b) Is correct. As the RTE can be used to stimulate the AUTOSAR software components (SW-Cs).</p> <p>c) Is not correct. As the AUTOSAR acceptance test is optional.</p> <p>d) Is not correct. As AUTOSAR also provides the infrastructure for functionality distributed over several electronic control units (ECUs), therefore supporting testing many ECUs at once.</p>	AuT-2.3.3	K1	1
20	b	<p>a) Is not correct. Because Automotive SPICE® defines the capability of the product development process, no matter on which supplier level.</p> <p>b) Is correct. Because this statement is true for Automotive SPICE®, but not for the ISO 26262.</p> <p>c) Is not correct. Because ISO 26262 is supposed to avoid these risks.</p> <p>d) Is not correct. Because ISO 26262 defines these requirements.</p>	AuT-2.4.1	K1	1
21	d	<p>a) Is not correct. Because Automotive SPICE® does usually not make any statement about the test techniques to be used for each test level.</p> <p>b) Is not correct. Because ISTQB® usually defines the test techniques independently of the test levels.</p> <p>c) Is not correct. Because method tables are only defined by the ISO 26262 and not by Automotive SPICE®.</p> <p>d) Is correct. Because the ISO 26262 provides method tables that recommend test techniques depending on the ASIL.</p>	AuT-2.4.2	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
22	a	<p>a) Is correct. All three items are included in the list in section 3.1.2.</p> <p>b) Is not correct. The report database is not part of the test environment because the test report is a downstream step in the test process.</p> <p>c) Is not correct. The specification documents are required for test design and the test case generation. However, these documents are not part of the test environment.</p> <p>d) Is not correct. Data management tools are upstream or downstream systems in the test process, which are not part of the test environment.</p>	AuT-3.1.2	K1	1
23	d	<p>a) Is not correct. The environment model does not belong to the ECU.</p> <p>b) Is not correct. The sensor interface is not an interface, but a monitoring mechanism of the software processes.</p> <p>c) Is not correct. The supply voltage is not an information carrier.</p> <p>d) Is correct. All three interfaces are mentioned in section 3.1.4 as information interfaces.</p>	AuT-3.1.4	K1	1
24	b	<p>a) Is not correct. In a closed-loop system, the link between the output signals and to the inputs of the test object is not direct, but through the environment model.</p> <p>b) Is correct. The stimulation in the closed-loop system takes into account the output of the test object with a control loop in the test environment.</p> <p>c) Is not correct. This statement describes a closed-loop system.</p> <p>d) Is not correct. This statement is an extension of answer c.) and describes a closed-loop system.</p>	AuT-3.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
25	c	<p>a) Is not correct. The test object is human-readable because it exists as a model and has not yet been compiled.</p> <p>b) Is not correct. The test object in a model-in-the-loop (MiL) test environment is usually a model and has not yet been compiled.</p> <p>c) Is correct. The MiL test environment does not require any additional hardware.</p> <p>d) Is not correct. The environment model of a MiL test environment is usually implemented in the same development environment as the test object and can therefore be used very early in the development process.</p>	AuT-3.2.1	K2	1
26	a	<p>a) Is correct. The test is executed on a computer without specific hardware, i.e., no additional hardware is required.</p> <p>b) Is not correct. The source code of the test object is compiled.</p> <p>c) Is not correct. A wrapper generates access points in the test object.</p> <p>d) Is not correct. The number of access points is limited by the wrapper.</p>	AuT-3.2.2	K1	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
27	d	<p>a) Is not correct. Realistic runtimes of diagnostic requests can only be determined if the environment model has simulated the target hardware in detail, because the target hardware is not available in the software-in-the-loop (SiL) test environment. Such tests would typically be performed in a hardware-in-the-loop (HiL) test environment, since detailed hardware simulation takes a lot of effort.</p> <p>b) Is not correct. Tests for electromagnetic compatibility are only possible in a SiL test environment if the environment model simulates the target hardware in detail, because the target hardware is not available in a SiL test environment. Such tests would typically be performed in a HiL test environment, as a detailed hardware simulation takes a lot of effort.</p> <p>c) Is not correct. Performance efficiency tests cannot be performed in a SiL test environment because the hardware does not yet exist.</p> <p>d) Is correct. Interface tests and integration tests are typical parts of a SiL test environment.</p>	AuT-3.2.2	K1	1
28	c	<p>a) Is not correct. The test case generator is a software tool for generating test cases and is not part of the test environment.</p> <p>b) Is not correct. The software compiler is part of the build environment and is not part of the test environment.</p> <p>c) Is correct. The listed parts are all included in the list from section 3.2.3.1.</p> <p>d) Is not correct. The processor simulation is not a part of the HiL test environment, because real hardware is available for the test object.</p>	AuT-3.2.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
29	b	a) Is not correct. MiL and SiL test environments are suitable mainly for integration tests. The HiL test environment specializes in system tests. b) Is correct. MiL and SiL test environments are suitable for component tests. c) Is not correct. A MiL test environment is not suitable for system tests. d) Is not correct. Not every test environment can be used at every test level.	AuT-3.2.4	K3	1
30	a	a) Is correct. The more complex a system, the more computing time or more power a computer needs to provide all the information. b) Is not correct. These access points are not common in the MiL test environment. c) Is not correct. This implementation is not common in the MiL test environment. d) Is not correct. Pausing is one of the greatest advantages of a MiL test environment.	AuT-3.2.1	K2	1
31	c	a) Is not correct. The overall system requirements can be tested in the system HiL test environment, but not in the component HiL test environment. b) Is not correct. Driving behavior is a complex function and is performed by several ECUs. Therefore, the component HiL test environment is not suitable. c) Is correct. The component HiL test environment tests single ECUs and their functions. d) Is not correct. To test the data exchange between ECUs, at least two ECUs are required. Therefore, these tests must be performed in the system HiL test environment.	AuT-3.2.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
32	b	<p>a) Is not correct. The cost of defect handling in the test environments increases in following order: MiL, SiL, and HiL test environments. Therefore, the cost is lowest in the MiL test environment.</p> <p>b) Is correct. Realism increases in the test environments in the following order: MiL, SiL, and HiL test environments. The HiL test environment is the most realistic compared to the other test environments.</p> <p>c) Is not correct. The commissioning and maintenance effort increases in the test environments in the following order: MiL, SiL, and HiL test environments. The effort is therefore highest in the HiL test environment.</p> <p>d) Is not correct. The required maturity of the test object increases in the test environments in the following order: MiL, SiL, and HiL test environments. In a SiL test environment the test object typically does not include the target hardware, but only the software.</p>	AuT-3.2.4	K3	1
33	c	<p>a) Is not correct. As there is no hardware that can be used in the HiL test environment.</p> <p>b) Is not correct. As a SiL test environment does not require additional hardware such as a development kit.</p> <p>c) Is correct. As no hardware is available and the test object is available as a model, a MiL test environment is preferable.</p> <p>d) Is not correct. Even without the hardware, tests are already possible.</p>	AuT-3.2.3	K2	1
34	c	<p>a) Is not correct. Not compliant with the definition of the term.</p> <p>b) Is not correct. Not compliant with the definition of the term.</p> <p>c) Is correct. See the definition of the term coding standard.</p> <p>d) Is not correct. Not compliant with the definition of the term.</p>	Keyword	K1	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
35	c	<ul style="list-style-type: none"> a) Is not correct. “Required” guidelines may be disregarded by the developer, only if the developer can provide a compelling reason. b) Is not correct. Organizations can reinforce the binding character of a rule for themselves. c) Is correct. Coding guidelines help to avoid anomalies. Typical violations of coding standards are part of those anomalies. d) Is not correct. Directives are not fully testable by static analysis tools. 	AuT-4.1.1	K2	1
36	b	<ul style="list-style-type: none"> a) Is not correct. Requirement 1 is verifiable and can therefore be verified in a simple system test. b) Is correct. Requirement 2 can be split into two requirements: one requirement about the internal states in a switched-on state and one about the switched-off state. c) Is not correct. Requirement 3 is not inconsistent. d) Is not correct. Requirement 4 is unambiguous. It clearly states what should be considered. 	AuT-4.1.2	K3	1
37	c	<ul style="list-style-type: none"> a) Is not correct. Because requirements-based testing encourages the use of additional test approaches such as exploratory testing. b) Is not correct. Because the test objective is to test whether the product meets the requirements, not to test the requirements themselves for consistency and completeness. c) Is correct. Because the test objective is to cover the requirements with test cases. d) Is not correct. Because the effectiveness of requirements-based testing is directly related to the quality of the customer requirements. 	AuT-4.2.4	K1	1
38	c	<ul style="list-style-type: none"> a) Is not correct. This statement is correct. b) Is not correct. This statement is correct. c) Is correct. This statement is incorrect, because fault injection tests are not about defects in requirements, but about defects in the system. d) Is not correct. This statement is correct. 	AuT-4.2.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
39	c	<p>a) Is not correct. Decision table testing can be useful when multiple combinations of inputs result in different outputs. However, in this scenario, the specification does not define such output behavior for combinations of inputs, and ISO 26262 does not list decision table testing among its recommended test techniques. Therefore, while it may seem attractive, it is not the most appropriate choice in this context.</p> <p>b) Is not correct. Boundary value analysis is effective for inputs with ordered numerical ranges where boundary violations pose a risk. In this scenario, the inputs are purely categorical, and no boundaries are defined. Therefore, boundary value analysis is not applicable here, although it is generally recommended by ISO 26262.</p> <p>c) Is correct. The selection of a suitable test technique depends on several factors, including the test basis, test level, and alignment with ISO 26262 recommendations. In this case, the inputs are provided as predefined categories without numeric ranges, and the source code is not available. Equivalence partitioning matches this context perfectly and is also recommended by ISO 26262 for ASIL D on the system level.</p> <p>d) Is not correct. MC/DC is a white-box test technique recommended by ISO 26262 for testing a software unit, particularly at high ASIL levels. However, it requires access to the source code and is not applicable at the system test level when only the system specification is available. Therefore, it is not the most appropriate choice in this scenario.</p>	AuT-4.2.5	K3	1

40	d	<table border="1" data-bbox="533 288 1514 464"> <thead> <tr> <th>B1</th> <th>B2</th> <th>B3</th> <th>(B1 AND B2) OR B3</th> <th>Test Case</th> </tr> </thead> <tbody> <tr> <td>TRUE</td> <td>TRUE</td> <td>FALSE</td> <td>TRUE</td> <td>TC 1</td> </tr> <tr> <td>FALSE</td> <td>TRUE</td> <td>TRUE</td> <td>TRUE</td> <td>TC 3</td> </tr> <tr> <td>FALSE</td> <td>TRUE</td> <td>FALSE</td> <td>FALSE</td> <td>TC 2</td> </tr> </tbody> </table> <p data-bbox="533 483 1312 512">To achieve 100% MC/DC, the following criteria must be met:</p> <ol data-bbox="584 533 1480 1002" style="list-style-type: none"> Each decision must be evaluated to be both TRUE and FALSE → Fulfilled: Decision is TRUE in TC 1 and TC 3, FALSE in TC 2. Each individual condition must be evaluated to be both TRUE and FALSE → While MC/DC does not explicitly require each condition to be evaluated to be both TRUE and FALSE, this typically results as a side-effect of satisfying the independent requirement for each condition. In this case, B2 is always TRUE and thus cannot be shown to affect the decision independently. For each condition, there must be at least one pair of test cases where only that condition changes, and the decision outcome changes. → Fulfilled for B1 (TC 1 vs TC 2) and for B3 (TC 2 vs TC 3) → Not fulfilled for B2, as B2 is always TRUE. <p data-bbox="533 1023 1420 1086">An additional test case must show the isolated influence of B2 on the decision, i.e.,</p> <ul data-bbox="544 1107 1447 1238" style="list-style-type: none"> - B2 = FALSE - Difference only in B2 - The decision outcome must differ to demonstrate that the condition independently affects the decision. 	B1	B2	B3	(B1 AND B2) OR B3	Test Case	TRUE	TRUE	FALSE	TRUE	TC 1	FALSE	TRUE	TRUE	TRUE	TC 3	FALSE	TRUE	FALSE	FALSE	TC 2	AuT-4.2.1	K3	1
B1	B2	B3	(B1 AND B2) OR B3	Test Case																					
TRUE	TRUE	FALSE	TRUE	TC 1																					
FALSE	TRUE	TRUE	TRUE	TC 3																					
FALSE	TRUE	FALSE	FALSE	TC 2																					

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
		a) Is not correct. The test case does not isolate B2 as the only changing condition compared to any existing test case with a different decision outcome. b) Is not correct. B2 is TRUE. No effect of B2 can be tested. c) Is not correct. This test case and TC 2 differ only in B2. However, the test result is FALSE in both cases. Therefore, the influence of B2 is not demonstrated, and the condition fails the MC/DC independence criterion. d) Is correct. Compared to TC 1, it isolates B2 as the only changed condition. The test result changes from TRUE to FALSE, demonstrating the independent effect of B2 and satisfying the last MC/DC requirement.			