

Sample Exam

Certified Model-Based Tester
Foundation Level

Answers

ASTQB Created - 2018

American Software Testing Qualifications Board



Copyright Notice

This document may be copied in its entirety, or extracts made, if the source is acknowledged

ISTQB Model-Based Tester Foundation Level
Sample Exam
Answer Key and Rationale

| Question | Answer | Explanation / Rationale | Learning Objective (LO) | Number of Points |
|----------|--------|--|-------------------------|------------------|
| 1 | B | B is correct. Generating test cases from a model is one of the expected capabilities of model-based testing. A is not correct. Automated testing may be used in MBT, but the generated test cases may be manual or automated. C and D are not real terms. | Term | 1 |
| 2 | B | B is correct. The models help to demonstrate the common perception and aid in the understanding of the requirements. A is not correct because written documentation is still needed, but some of it may be automatically generated. C is not correct because the models do not generate the requirements. D is not correct because the models use abstraction to help identify problematic areas of the system. | FM-1.1.1 | 1 |
| 3 | C | C is correct. The tester may introduce errors when creating the model and these will have to be discovered by testing the model. A is not correct because models are created by testers rather than algorithms and can have defects. B is not correct because the defects are introduced by the testers. D is not correct because they could be right, but we'd still test because we are suspicious people. | FM-1.1.2 | 1 |
| 4 | A | A is correct. Tool selection and implementation normally occurs as part of the planning phase of the fundamental test process. | FM-1.2.1 | 1 |
| 5 | B | B is correct. The test execution schedule is an expected output artifact of MBT. A and D are input artifacts. C is not an artifact of MBT. | FM-1.2.2 | 1 |
| 6 | C | C is correct. Linkage with user stories would be expected in an Agile lifecycle model rather than a sequential model or an incremental model. A and B are not correct as these are examples of sequential models. D is not a lifecycle model. | FM-1.3.1 | 1 |
| 7 | C | C is correct. By using the stories as inputs to the models, the resulting model can be reviewed to get agreement that the requirements are correct. A is not correct because no specific syntax is required for MBT. B is not correct because it is not the intention to convert the stories into an executable form but rather to build usage models. D is not correct because the models do not validate the quality of the acceptance criteria. | FM-1.3.2 | 1 |
| 8 | C | C is correct. A is not correct because it only allows the person to buy one item or one set of items. B is not correct because it always gives the 5% and 20% discounts and doesn't check the conditions | FM-2.1.1 | 1 |

| Question | Answer | Explanation / Rationale | Learning Objective (LO) | Number of Points |
|----------|--------|--|-------------------------|------------------|
| | | D is not correct because the start and end symbols are reversed. | | |
| 9 | B | B is correct. A is not correct because it does not have a way to handle a non-preferred customer. C is not correct because the transitions are not labeled D is not correct because the discount for purchasing over \$200 is not handled. | FM-2.1.2 | 1 |
| 10 | A | A is correct. This is a state diagram which is used to verify that the system provides the correct responses to requests when in a specific state. | FM-2.1.3 | 1 |
| 11 | A | A is correct. This is testing that the system will behave correctly and is focused on the suitability of the environment and presentation. | FM-2.1.4 | 1 |
| 12 | B | B is correct. This is an example of a modeling language that would be defined by its syntax. | FM-2.2.1 | 1 |
| 13 | C | C is correct. Business Process Modeling Notation (BPMN) is used when describing behavior models. | FM-2.2.2 | 1 |
| 14 | C | C is correct. Suitability is another term for pragmatic quality. | FM-2.3.1 | 1 |
| 15 | B | B is correct. In this case there is not enough abstraction. Any changes to the requirements are likely to require changes to the model and the test objectives will likely only be met in specific areas. | FM-2.3.2 | 1 |
| 16 | B | B is correct. Traceability between the requirements and the tests that will be generated is required if you want to generate tests for only a specific requirement or set of requirements. A is not correct because impact analysis is facilitated by having traceability. C is not correct because assessing regressions, or the potential of regressions, requires traceability. D is not correct because this will not give the mapping between the requirements and the specific tests, but will rather tell you what is missing vs. what is covered. | FM-2.3.3 | 1 |
| 17 | A | A is correct. Using similar syntax and semantics will improve the readability of models since the same terminology and techniques will be used to solve the same problems. B is not correct because this set may or may not improve execution speed – they aren't necessarily related items. C is not correct because authors will be more efficient with a known set of rules. D is not correct because while there may be a need to expand the rules at times, just allowing unlimited growth will likely result in multiple ways to solve the same problem. | FM-2.3.4 | 1 |
| 18 | C | C is correct. This is the most efficient approach because it leverages the existing model (verification) but still allows the tester to add important tests such as error conditions and unusual circumstances that a user is likely to encounter (validation). | FM-2.3.5 | 1 |
| 19 | D | D is correct. This is called a model simulator. | FM-2.3.6 | 1 |

| Question | Answer | Explanation / Rationale | Learning Objective (LO) | Number of Points |
|----------|--------|---|-------------------------|------------------|
| 20 | D | D is correct. Using the iterative development process and reviewing the model and the produced artifacts in increments will help testers validate the artifacts and areas to be tested in smaller chunks. A is not correct because this may not be an option. Some models are necessarily complex because they are modeling complex behavior. B is not correct because it's easier to have the data creation occurring within the model when the test cases are created. C is not correct because it may not be possible to separate the models into meaningful pieces. | FM-2.3.7 | 1 |
| 21 | A | A is correct. Model coverage is the degree to which the specified elements of a model are covered by tests. B is not correct because the coverage is looking at the coverage of the aspects of the MBT model, not the requirements. Requirements coverage is assessed with traceability. C is not correct because this is not the goal of model coverage. D is not correct because the behavior model is not the overall MBT model. | Term | 1 |
| 22 | D | D is correct. Test selection criteria are the criteria used to select test cases in order to limit the size of a test. | Term | 1 |
| 23 | D | D is correct. This is one of the MBT model elements. A and B are not correct because boundary value analysis and pairwise are test design techniques that are used to support the data-related test selection criteria. C is not correct because these are used for coverage of the selected requirements. | FM-3.1.1 | 1 |
| 24 | C | C is correct. This will provide full path coverage and will exercise all possible paths through the model. | FM-3.1.2 | 1 |
| 25 | B | B is correct. A user story or a use case are examples of using scenarios to determine which test cases to select for a particular test execution. | FM-3.1.3 | 1 |
| 26 | C | C is correct. Decision coverage and statement coverage are used for a textual model. A is not correct because this used for the decision tables. B is not correct because the EP technique can be used to define the data for use in the data domain of the model. D is not correct because this is used for activity diagrams or business process models. | FM-3.1.4 | 1 |
| 27 | C | C is correct. Automated test generation means the tests will be generated and can be executed without further intervention. A is not correct as this is a description of semi-automated test generation. B is not correct because this is dealing with the selection of the tests rather than the generation of the tests. D is not correct because this is not related to the generated test cases themselves. | FM-3.2.1 | 1 |
| 28 | C | C is correct. There are 7 partitions to be tested: Valid login Invalid login < 3 times Invalid login > 3 times Withdrawal No withdrawal Deposit No deposit | FM-3.2.2 | 1 |

| Question | Answer | Explanation / Rationale | Learning Objective (LO) | Number of Points |
|----------|--------|---|-------------------------|------------------|
| 29 | B | B is correct. Using structural test selection criteria to cover all paths may lead to test case explosion as many, many tests are created. A may be correct, but it's not a likely problem since all coded paths should be there for a business purpose. C is not correct since scenarios are not a consideration for this technique. D is not correct because this is needed for traceability, not path coverage. | FM-3.2.3 | 1 |
| 30 | B | B is correct. The test adaptation layer takes the tests generated from the MBT and provides a wrapper that makes them executable. A is not correct because it does not affect the requirements. C is not correct because the model is not modified, only the generated tests. D is not correct because the adaptation layer does not convert anything to machine language. | Term | 1 |
| 31 | A | A is correct. The data values may be defined in terms of general equivalence partitions (such as a value between 1 – 100), but a specific value is not provided for the tester. B, C and D are all true of concrete test cases. | FM-4.1.1 | 1 |
| 32 | C | C is correct. The adaptation approach and the mixed approach both use the adaptation layer. | FM-4.1.2 | 1 |
| 33 | B | B is correct. This has removed the test for the number of invalid logins and allows the user to continue to attempt the login. A is not correct. This is the original model with no changes. C is not correct. This has removed the test for whether or not the login is valid and allows all logins to work. D is not correct. This allows only one failed login attempt. | FM-4.1.3 | 1 |
| 34 | B | B is correct. Pre-conditions must be set up in each script so that it will have the environment it needs for execution. A is not correct unless the post-conditions are also the pre-conditions for the next script. C is part of pre-conditions. D is part of post-conditions. | FM-4.2.1 | 1 |
| 35 | C | C is correct. Finding defects earlier, in this case by starting MBT early and utilizing the advanced efficiencies to make the finding more effective, reduces the overall costs of a project because defects become more expensive the later they are found. A is not correct because early defect detection does increase the ROI (improving the return on the investment). B is not correct because we're not looking for the defects in the MBT, although finding them early is always a good idea. D is not correct because while this is a true statement, it does not increase ROI. | FM-5.1.1 | 1 |
| 36 | C | C is correct and is an example of improved communication because more stakeholders will be able to understand the tests and provide feedback. A is not correct as the automation will help reduce the testing effort but not improve communication. B and D are ways in which quality is improved. | FM-5.1.2 | 1 |
| 37 | D | D is correct. This is a metric that should be tracked for MBT. A would have to be tracked manually as MBT does not track lines of code. B is not correct because other tools would be required to calculate this. C is not correct because stakeholder satisfaction is usually measured by surveys and questionnaires. | FM-5.1.3 | 1 |

| Question | Answer | Explanation / Rationale | Learning Objective (LO) | Number of Points |
|----------|--------|---|-------------------------|------------------|
| 38 | A | A is correct. This is a necessary characteristic for testing the backlog items as they are implemented. B is not correct because versioning is required. C and D are not correct being CM is needed on all artifacts and is mandatory. | FM-5.2.1 | 1 |
| 39 | A | A is correct. Depending on the license, this can be an initial cost (single purchase) or an on-going running cost (yearly license renewal). B and C are not correct as these are only running costs. D is not correct because this is only an initial cost. | FM-5.2.2 | 1 |
| 40 | A | A is correct. The MBT tool should use the test adaptation layer that is provided by the test automation framework. B is not correct because the model simulator is part of the MBT tool. C is not correct because the requirements are stored in the requirements management tool. D is not correct because known defects are stored in the test management tool, not the MBT tool. | FM-5.2.3 | 1 |