



**Swedish Software Testing Board (SSTB)
International Software Testing Qualifications Board (ISTQB)**

Foundation Certificate in Software Testing Version 2018

Examination Questions 2019-12-01

**Time allowed: 1:00
(For non-native English speakers 1:15)**

**There are 40 questions, each question 1 point
You need 26 points or more to pass**

You have to follow directives given to you by the invigilator during the whole exam

**Mark your answers in the provided answer sheet. Try to answer all 40 questions.
Select one option per question if nothing else indicated. Erase any answer you
decide to change and mark your new chosen answer clearly.**

**You are not allowed to keep the questionnaire, other documents or notes. All papers
must be handed back to the invigilator at the end of the exam.**

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1.	<p>A tester participated in a discussion about proposed database structure. The tester identified a potential performance problem related to certain common user searches. This possible problem was explained to the development team. Which of the following is a testing contribution to success that BEST matches this situation?</p> <ul style="list-style-type: none">a) Ensuring processes are carried out properlyb) Enabling required tests to be identified at an early stagec) Reducing the risk of fundamental design defectsd) Reducing the risk of untestable functionality <p>Please select exactly 1 option</p>
2.	<p>Which of the following statements is true?</p> <ul style="list-style-type: none">a) Confirmation testing is useful for regression testing during system designb) Confirmation testing is useful for impact analysis during maintenance testingc) Impact analysis is useful for regression testing during maintenance testingd) Impact analysis is useful for confirmation testing during maintenance testing <p>Please select exactly 1 option</p>
3.	<p>Consider a mobile app that allows customers to access and manage their bank accounts. A user story has just been added to the set of features that checks customers' social media accounts and bank records to give personalized greetings on birthdays and other personal milestones.</p> <p>Which of the following test techniques could a developer use during a unit test of the code to ensure that coverage of situations when the greetings ARE supposed to occur and when the greetings ARE NOT supposed to occur?</p> <ul style="list-style-type: none">a) Statement testingb) Decision testingc) State transition testingd) Exploratory testing <p>Please select exactly 1 option</p>

4.	<p>A product owner says that your role as a tester on an Agile team is to catch all the bugs before the end of each iteration. Which of the following is a testing principle that could be used to respond to this statement?</p> <ul style="list-style-type: none">a) Defect clusteringb) Testing shows the presence of defectsc) Absence of error fallacyd) Root cause analysis <p>Please select exactly 1 option</p>
5.	<p>Consider the following types of defects a test level might focus on:</p> <ul style="list-style-type: none">1. Defects in separately testable modules or objects2. Not focused on identifying defects3. Defects in interfaces and interactions4. Defects in the whole test object <p>Also consider the following test levels defined in FL Syllabus:</p> <ul style="list-style-type: none">A. Component testB. System testC. Acceptance testD. Integration test <p>Match the types of defects a test level might focus on (1-4) with the test levels (A-D).</p> <ul style="list-style-type: none">a) 1D, 2B, 3A, 4Cb) 1A, 2C, 3D, 4Bc) 1A, 2C, 3B, 4Dd) 1D, 2A, 3B, 4C <p>Please select exactly 1 option</p>
6.	<p>Which of the following is a true statement about exploratory testing?</p> <ul style="list-style-type: none">a) The time required to complete an exploratory testing session cannot be predicted in advanceb) Exploratory testing does not identify any additional tests beyond those that would result from formal test techniquesc) More experienced testers who have tested similar applications and technologies are likely to do better than less experienced testers at exploratory testingd) Exploratory testing can involve the use of black-box techniques but not white-box techniques <p>Please select exactly 1 option</p>

7.	<p>Which of the following is an example of an individual task that can be carried out as part of the test process?</p> <ul style="list-style-type: none">a) Assigning a version to a test itemb) Analyzing a defectc) Designing test datad) Writing a user story <p>Please select exactly 1 option</p>
8.	<p>Which of the following is a typical test objective?</p> <ul style="list-style-type: none">a) Building quality confidenceb) Analyzing the cause of failurec) Comparing actual results to expected resultsd) Repairing defectse) Preventing defects <p>Please select exactly 2 options</p>
9.	<p>In a formal review, what is the role name for the participant who runs an inspection meeting?</p> <ul style="list-style-type: none">a) Project managerb) Authorc) Facilitatord) Programmer <p>Please select exactly 1 option</p>
10.	<p>During a period of intensive project overtime, a system architecture document is sent to various project participants, announcing a previously-unplanned technical review to occur in one week.</p> <p>No adjustments are made to the participants' list of assigned tasks.</p> <p>Based on this information alone, which of the following is a factor for review success that is MISSING?</p> <ul style="list-style-type: none">a) Adequate time to prepareb) Appropriate review typec) Well-managed review meetingd) Enough metrics to evaluate the author <p>Please select exactly 1 option</p>

<p>11.</p>	<p>You are testing an e-commerce system that sells cooking supplies such as spices, flour, and other items in bulk.</p> <p>The units in which the items are sold are either grams (for spices and other expensive items) or kilograms (for flour and other inexpensive items). Regardless of the units, the smallest valid order amount is 0.5 units (e.g., half a gram of cardamom pods) and the largest valid order amount is 25.0 units (e.g., 25 kilograms of sugar). The precision of the units field is 0.1 units.</p> <p>Which of the following is a set of input values that cover the boundary values with two-point boundary values for this field?</p> <p>a) 0.3, 10.0, 28.0 b) 0.5, 0.6, 24.9, 25.0 c) 0.4, 0.5, 25.0, 25.1 d) 0.4, 0.5, 0.6, 24.9, 25.0, 25.1</p> <p>Please select exactly 1 option</p>
<p>12.</p>	<p>Consider the following list of undesirable outcomes that could occur on a mobile app development effort:</p> <p>A. Incorrect totals on reports B. Change to acceptance criteria during acceptance testing C. Users find the soft keyboard too hard to use with your app D. System responds too slowly to user input during search string entry E. Testers not allowed to report test results in daily standup meetings</p> <p>Which of the following properly classifies these outcomes as project and product risks?</p> <p>a) Product risks: A, C, D; Project risks: B, E b) Product risks: B, E; Project risks: A, C, D c) Product risks: A, C, D, E ; Project risks: B d) Product risks: A, C; Project risks: B, D, E</p> <p>Please select exactly 1 option</p>

13.	<p>During an Agile development effort, a product owner discovers a previously-unknown regulatory requirement that applies to most of the user stories. The user stories are updated to provide for the necessary changes in software behavior. The programmers on the team are modifying the code appropriately. As a tester on the team, what types of tests will you run?</p> <ul style="list-style-type: none">a) Functional testsb) Change-related testsc) Regression testsd) Confirmation tests <p>Please select exactly 1 option</p>
14.	<p>Which of the following tools is most useful for reporting test metrics?</p> <ul style="list-style-type: none">a) Test management toolb) Coverage toolc) Security toold) Static analysis tool <p>Please select exactly 1 option</p>
15.	<p>You are working as a tester on an online banking system. Availability is considered one of the top product (quality) risks for the system. You find a reproducible failure that results in customers losing their connections to the bank Web site when transferring funds between common types of accounts and being unable to reconnect for between three and five minutes.</p> <p>Which of the following would be a good summary for a defect report for this failure, one that captures both the essence of the failure and its impact on stakeholders?</p> <ul style="list-style-type: none">a) Developers have introduced major availability defect which will seriously upset our customersb) Typical funds-transfer transaction results in termination of customer session, with a delay in availability when attempting to reconnectc) Web server logs show error 0x44AB27 when running test 07.005, which is not an expected error message in /tmp filesystemd) Performance is slow and reliability flaky under load <p>Please select exactly 1 option</p>

<p>16.</p>	<p>You are working on a video game development project, using Agile methods. It is based on Greek mythology and history, and players can play key roles in scenarios such as the battles between the Greeks and Trojans. Consider the following user story and its associated acceptance criteria:</p> <p>As a player, I want to be able to acquire the Rod of Midas (a new magic object), so that I can turn objects and other players into gold</p> <p>AC1: The Rod must work on any object or player, no matter what size, which can be touched anywhere by the player holding the Rod</p> <p>AC2: Holding the Rod does not change the player holding it into gold</p> <p>AC3: Any object or player touched by the Rod transforms completely into gold within one millisecond</p> <p>AC4: The Rod appears as shown in Prototype O.W.RoM</p> <p>AC5: The transformation starts at the point of contact with the Rod and moves at a rate of one meter per millisecond</p> <p>You are participating in a checklist-based review session of this user story. This user story and its associated acceptance criteria contain which of the following typical defects identified by static testing in this type of work product? Which of the following typical defects discovered by static testing is identified with this user story and its associated acceptance criteria?</p> <ul style="list-style-type: none">a) Contradictionb) Coverage gapsc) Security vulnerabilityd) Deviation from standards <p>Please select exactly 1 option</p>
<p>17.</p>	<p>Which of the following is a common test metric often used to monitor BOTH test preparation and test execution?</p> <ul style="list-style-type: none">a) Defect find/fix ratesb) Estimated cost to find the next defectc) Test environment preparationd) Test case status <p>Please select exactly 1 option</p>

18. What is decision coverage?

- a) The percentage of executable statements that have been exercised by a test suite
- b) Decision coverage is a synonym for statement coverage
- c) The percentage of condition outcomes that have been exercised by a test suite
- d) The percentage of decision outcomes that have been exercised by a test suite

Please select exactly 1 option

19. You are testing a mobile app that allows users to find a nearby restaurant, based on the type of food they want to eat.

Consider the following list of test cases, priorities (smaller number is high priority), and dependencies, in the following format:

Test case number	Test condition covered	Priority	Logical dependency
1	Select type of food	3	none
2	Select restaurant	2	1
3	Get directions	1	2
4	Call restaurant	1	2
5	Make reservation	3	2

Which of the following is a possible test execution schedule that considers both priorities and dependencies?

- a) 1, 2, 4, 3, 4
- b) 3, 4, 2, 1, 2
- c) 1, 2, 3, 5, 4
- d) 1, 2, 4, 3, 5

Please select exactly 1 option

20. Consider the following decision table for the portion of an online airline reservation system that allows frequent flyers to redeem points for reward travel:

Condition	1	2	3
Account/password okay	No	Yes	Yes
Enough points	-	No	Yes
Action			
Show flight history	No	Yes	Yes
Allow reward travel	No	No	Yes

Suppose that there are two equivalence partitions for the condition where Account/password okay is not true, one where the account is invalid and another where the account is valid, but the password is invalid. Suppose that there is only one equivalence partition corresponding to the condition where Account/password okay is true, where both the account and password are valid.

If you want to design tests to cover the equivalence partitions for Account/password okay and for this portion of the decision table, what is the minimum number of tests required?

- a) 2
- b) 9
- c) 4
- d) 3

Please select exactly 1 option

21. A phone ringing in an adjacent cubicle momentarily distracts a programmer, causing the programmer to improperly program the logic that checks the upper boundary of an input variable.
Later, during system testing, a tester notices that this input field accepts invalid input values.

What is the improperly coded logic for the upper boundary check?

- a) The root cause
- b) The defect
- c) The failure
- d) The error

Please select exactly 1 option

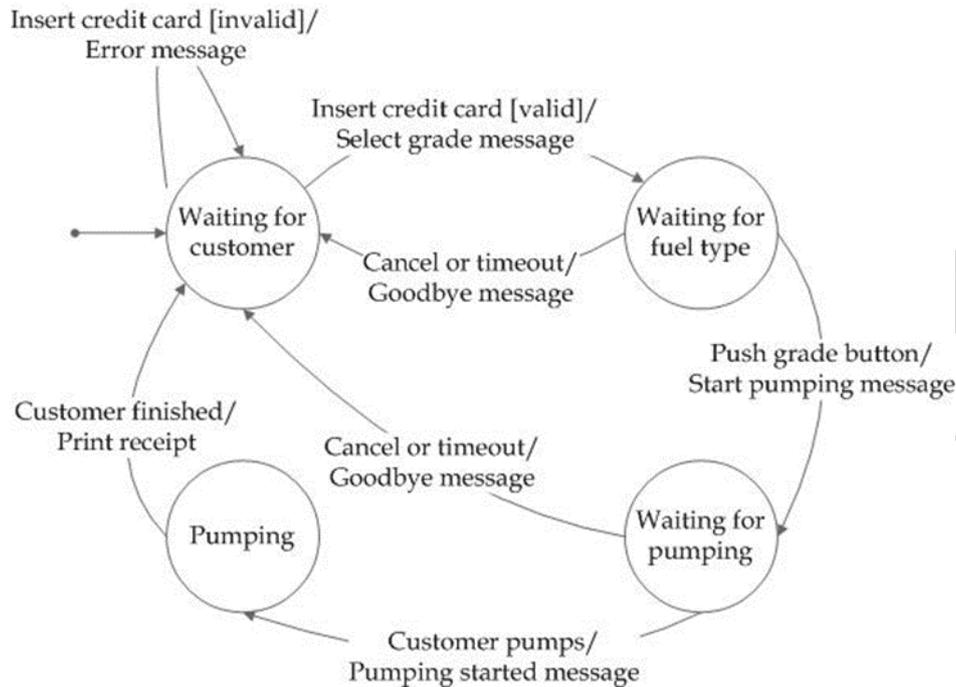
<p>22.</p>	<p>A mass market operating system software product is designed to run on any PC hardware with an x86-family processor.</p> <p>You are running a set of tests to look for defects related to support of the various PCs that use such a processor and to build confidence that important PC brands will work.</p> <p>What type of test are you performing?</p> <ul style="list-style-type: none">a) Functional testb) Performance testc) Processor testd) Portability test <p>Please select exactly 1 option</p>
<p>23.</p>	<p>You are working as a tester on an Agile team and have participated in over two dozen user story refinement sessions with the product owner and the developers on the team at the start of each iteration.</p> <p>As the reviews have gotten more effective at detecting defects in user stories and the product owner more adept at correcting those defects, you and the team notice that the team's velocity, as shown in your burndown charts, has started to increase.</p> <p>Which of the following is a benefit of static testing that MOST DIRECTLY applies to increased velocity?</p> <ul style="list-style-type: none">a) Reducing total cost of qualityb) Reducing testing costc) Increasing total cost of qualityd) Increasing development productivity <p>Please select exactly 1 option</p>
<p>24.</p>	<p>You are testing a mobile app that allows customers to access and manage their bank accounts.</p> <p>You are running a test suite that involves evaluating each screen and each field on each screen against a general list of user interface best practices, derived from a popular book on the topic, that maximize attractiveness, ease-of-use, and accessibility for such apps.</p> <p>Which of the following options BEST categorizes the test technique you are using?</p> <ul style="list-style-type: none">a) Specification-basedb) Exploratoryc) Checklist-basedd) Error guessing <p>Please select exactly 1 option</p>

25.	<p>Programmers often write and execute unit tests against code which they have written.</p> <p>During this self-testing activity, which of the following is a tester mindset that programmers should adopt to perform this unit testing effectively?</p> <ul style="list-style-type: none">a) Code coverageb) Good communication skillsc) Attention to detaild) Evaluating code defects <p>Please select exactly 1 option</p>
26.	<p>Consider the following testing activities:</p> <ul style="list-style-type: none">1. Selecting regression tests2. Evaluating completeness of test execution3. Identifying which user stories have open defect reports4. Evaluating whether the number of tests for each requirement is consistent with the level of product risk <p>Consider the following ways traceability can help testing:</p> <ul style="list-style-type: none">A. Improve understandability of test status reports to include status of test basis itemsB. Make testing auditableC. Provide information to assess process qualityD. Analyze the impact of changes <p>Which of the following best matches the testing activity with how traceability can assist that activity?</p> <ul style="list-style-type: none">a) 1D, 2C, 3A, 4Bb) 1D, 2B, 3C, 4Ac) 1B, 2D, 3A, 4Cd) 1D, 2B, 3A, 4C <p>Please select exactly 1 option</p>

<p>27.</p>	<p>You are working as a project manager on an in-house banking software project. To prevent rework and excessive find/fix/retest cycles, the following process has been put in place for resolving a defect once it is found in the test environment:</p> <ol style="list-style-type: none">1. The assigned tester finds the defect. The developer fixes it and then creates an experimental build2. A peer developer reviews, unit tests, and confirmation tests the defect fix on his/her desktop3. A tester—usually the one who found the defect—confirmation tests the defect fix in the development environment4. Once a day, a new release with all confirmed defect fixes included, is installed in the test environment5. The same tester from step 3 confirmation tests the defect fix in the test environment <p>Nevertheless, many defects which the testers confirmed as fixed in the development environment (in step 3) are somehow failing confirmation testing in the test environment, with the resulting rework and cycle time outcomes. You have the highest confidence in your testers and have ruled out mistakes or omissions in step 3.</p> <p>Which of the following is the MOST LIKELY part of the process to check next?</p> <ol style="list-style-type: none">a) Configuration management, which may not be maintaining the integrity of the product in step 4b) The testers, who may be confused about what to test in step 5c) The developers, who may not be adequately testing in step 2d) The developers, who may not be fixing defects properly in step 1 <p>Please select exactly 1 option</p>
<p>28.</p>	<p>You are reading a user story in the product backlog to prepare for a meeting with the product owner and a developer, noting potential defects as you go. Which of the following statements is true about this activity?</p> <ol style="list-style-type: none">a) It is not static testing, because static testing involves execution of the test objectb) It is static testing, because any defects you find could be found cheaper during dynamic testingc) It is not static testing, because static testing is always performed using a toold) It is static testing, because static testing does not involve execution of the test object <p>Please select exactly 1 option</p>

<p>29.</p>	<p>You have just completed a pilot project for a regression testing tool. You understand the tool much better and have tailored your testing process to it. You have standardized an approach to using the tool and its associated work products.</p> <p>Which of the following is a typical test automation pilot project goal that remains to be carried out?</p> <ul style="list-style-type: none">a) See how the tool would fit with existing processes and practicesb) Decide on standard ways of using, managing, storing, and maintaining the tool and the test assetsc) Assess whether the benefits will be achieved at reasonable costd) Learn more details about the tool <p>Please select exactly 1 option</p>
<p>30.</p>	<p>Which <u>TWO</u> of the following are factors that can be used to determine the level of risk?</p> <ul style="list-style-type: none">a) Productb) Specificationc) Projectd) Impacte) Likelihood <p>Please select exactly 2 options</p>
<p>31.</p>	<p>During a project following Agile methods, you find a discrepancy between the developer's interpretation of an acceptance criteria and the product owner's interpretation, which you bring up during a user story refinement session.</p> <p>Which of the following is a benefit of test independence exemplified by this situation?</p> <ul style="list-style-type: none">a) Recognizing different kinds of failuresb) Taking primary responsibility for qualityc) Challenging stakeholder assumptionsd) Removing a defect early <p>Please select exactly 1 option</p>

32. Consider the following state transition diagram for a credit-card only, unattended gasoline pump:



Assume that you want to develop the minimum number of tests to cover each transition in the state transition diagram. Assume further that each test must start at the beginning state, *Waiting for customer*, and each test ends when a transition arrives at the beginning state.

How many tests do you need?

- a) Infinite
- b) 7
- c) 1
- d) 4

Please select exactly 1 option

<p>33.</p>	<p>A batch application has been in production unchanged for over two years. It runs overnight once a month to produce statements that will be e-mailed to customers. For each customer, the application goes through every account and lists every transaction on that account in the last month. It uses a nested-loop structure to process customers (outer loop), each customer's accounts (middle loop), and each account's transactions (inner loop).</p> <p>One night, the batch application terminates prematurely, failing to e-mail statements to some customers, when it encounters a customer with one account for which no transactions occurred in the last month. This is a very unusual situation and has not occurred in the years since this application was placed in production.</p> <p>While fixing the defect, a programmer asks you to recommend test techniques that are effective against this kind of defect.</p> <p>Which of the following test techniques would most likely have been able to detect the underlying defect?</p> <ul style="list-style-type: none">a) Error guessingb) Statement testingc) Checklist-based testingd) Decision testing <p>Please select exactly 1 option</p>
<p>34.</p>	<p>You are running a performance test with the objective of finding network bottlenecks in interfaces between components of a system. Which of the following describes this testing?</p> <ul style="list-style-type: none">a) Non-functional testing at the component test levelb) Non-functional testing at the integration test levelc) Functional testing at the integration test leveld) Functional testing at the component test level <p>Please select exactly 1 option</p>
<p>35.</p>	<p>You are defining the process for carrying out product risk analysis as part of each iteration on an Agile project. Which of the following is the proper place to document this process in a test plan?</p> <ul style="list-style-type: none">a) Scope of testingb) Approach of testingc) Metrics of testingd) Configuration management of the test object <p>Please select exactly 1 option</p>

<p>36.</p>	<p>You are engaged in planning a test effort for a new mobile banking application. As part of estimation, you first meet with the proposed testers and others on the project. The team is well-coordinated and has already worked on similar projects. To verify the resulting estimate, you then refer to some industry averages for testing effort and costs on similar projects, published by a reputable consultant.</p> <p>Which statement accurately describes your estimation approach?</p> <ul style="list-style-type: none">a) Primarily an expert-based approach, augmented with a metrics-based approachb) Primarily planning poker, checked by velocity from burndown chartsc) Primarily a metrics-based approach, augmented with an expert-based approachd) A simultaneous expert-based and metrics-based approach <p>Please select exactly 1 option</p>
<p>37.</p>	<p>You are testing an e-commerce system that sells cooking supplies such as spices, flour, and other items in bulk. The units in which the items are sold are either grams (for spices and other expensive items) or kilograms (for flour and other inexpensive items). Regardless of the units, the smallest valid order amount is 0.5 units (e.g., half a gram of cardamom pods) and the largest valid order amount is 25.0 units (e.g., 25 kilograms of sugar). The precision of the units field is 0.1 units.</p> <p>Which of the following is a MINIMAL set of input values that cover the equivalence partitions for this field?</p> <ul style="list-style-type: none">a) 10.0, 28.0b) 12.3c) 0.4, 0.5, 25.0, 25.1d) 0.2, 0.9, 29.5 <p>Please select exactly 1 option</p>
<p>38.</p>	<p>Prior to an iteration planning session, you are studying a user story and its acceptance criteria, deriving test conditions and associated test cases from the user story as a way of applying the principle of early test.</p> <p>What test technique are you applying?</p> <ul style="list-style-type: none">a) Black-boxb) Experience-basedc) Error guessingd) White-box <p>Please select exactly 1 option</p>

39.	<p>You are testing an unattended gasoline pump that only accepts credit cards. Once the credit card is validated, the pump nozzle placed into the tank, and the desired grade selected, the customer enters the desired amount of fuel using the keypad. The keypad only allows the entry of digits. Fuel is sold in tenths (0.1) of a liter, up to 50.0 liters.</p> <p>Which of the following is a minimum set of desired amounts that covers the equivalence partitions for this input?</p> <ul style="list-style-type: none">a) 0.0, 0.1, 50.0, 70.0b) 0.0, 0.1, 50.0c) -0.1, 0.0, 0.1, 49.9, 50.0, 50.1d) 0.0, 20.0, 60.0 <p>Please select exactly 1 option</p>
40.	<p>What is quality?</p> <ul style="list-style-type: none">a) Part of quality management focused on providing confidence that quality requirements will be fulfilledb) The total costs incurred on quality activities and issues and often split into prevention costs, appraisal costs, internal failure costs and external failure costsc) The degree to which a component, system or process meets specified requirements and/or user/customer needs and expectationsd) The degree to which a component or system protects information and data so that persons or other components or systems have the degree of access appropriate to their types and levels of authorization <p>Please select exactly 1 option</p>

Please return this questionnaire and all your notes together with your answer sheet at the end of the examination.

Sample Exam C