



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

Foundation Certificate in Software Testing Version 2018

Examination Questions B 2019-10-25

**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>Which of the following statements CORRECTLY describes a role of impact analysis in Maintenance Testing?</p> <ul style="list-style-type: none">a) Impact analysis is used to determine the effectiveness of new maintenance test casesb) Impact analysis is used to decide which hot fixes are of most value to the userc) Impact analysis is used when deciding if a fix to a maintained system is worthwhiled) Impact analysis is used to identify how data should be migrated into the maintained system <p>Please select exactly 1 option</p>
2.	<p>Which of the following CORRECTLY matches the roles and responsibilities in a formal review?</p> <ul style="list-style-type: none">a) Manager – Decides on the execution of reviewsb) Moderator – Monitors ongoing cost-effectivenessc) Review Leader - Ensures effective running of review meetingsd) Scribe – Fixes defects in the work product under review <p>Please select exactly 1 option</p>
3.	<p>Which of the following BEST describes the concept behind error guessing?</p> <ul style="list-style-type: none">a) Error guessing involves using your personal experience of development and the mistakes you made as a developerb) Error guessing involves using your knowledge and experience of defects found in the past and typical mistakes made by developersc) Error guessing requires you to rapidly duplicate the development task to identify the sort of mistakes a developer might maked) Error guessing requires you to imagine you are the user of the test object and guess mistakes the user could make interacting with it <p>Please select exactly 1 option</p>

4.	<p>Given that the testing being performed has the following attributes:</p> <ol style="list-style-type: none">1. based on interface specifications2. focused on finding failures in communication3. the test approach uses both functional and structural test types <p>Which of the following test levels is MOST LIKELY being performed?</p> <ol style="list-style-type: none">a) Component integration testingb) Component testingc) Acceptance testingd) System testing <p>Please select exactly 1 option</p>
5.	<p>The reviews being used in your organization have the following attributes</p> <ul style="list-style-type: none">• There is a role of a scribe• The purpose is to detect potential defects• The review meeting is led by the author• Reviewers find potential defects by individual review• A review report is produced <p>Which of the following review types is MOST likely being used?</p> <ol style="list-style-type: none">a) Inspectionb) Technical Reviewc) Walkthroughd) Informal Review <p>Please select exactly 1 option</p>
6.	<p>Which of the following descriptions of statement coverage is CORRECT?</p> <ol style="list-style-type: none">a) Statement coverage is a measure of the number of lines of source code (minus comments) exercised by testsb) Statement coverage is a measure of the number of executable statements in the source code exercised by testsc) Statement coverage is a measure of the percentage of lines of source code exercised by testsd) Statement coverage is a measure of the proportion of executable statements in the source code exercised by tests <p>Please select exactly 1 option</p>

<p>7.</p>	<p>Which of the following statements CORRECTLY reflects the value of static testing?</p> <ul style="list-style-type: none"> a) Using static testing means we have better control and cheaper defect management due to the ease of removing defects later in the lifecycle b) Since we started using static analysis, we found coding defects that might have not been found by performing only dynamic testing c) Now that we require the use of static analysis, missed requirements have decreased and communication between testers and developers has improved d) By introducing reviews, we have found that both the quality of specifications and the time required for development and testing have increased <p>Please select exactly 1 option</p>
<p>8.</p>	<p>Which of the following qualities is MORE LIKELY to be found in a tester's mindset rather than in a developer's?</p> <ul style="list-style-type: none"> a) Attention to detail b) Good communication with team members c) Experience on which to base their efforts d) Ability to see what might go wrong <p>Please select exactly 1 option</p>
<p>9.</p>	<p>Which of the following BEST matches the descriptions with the different categories of test techniques?</p> <ul style="list-style-type: none"> 1. Coverage is measured based on a selected structure of the test object 2. The processing within the test object is checked 3. Tests are based on defects' likelihood and their distribution 4. Deviations from the requirements are checked 5. User stories are used as the test basis <p>Black - Black-box test techniques White - White-box test techniques Experience - Experience-based test techniques</p> <ul style="list-style-type: none"> a) Black – 3 White – 1, 2 Experience – 4, 5 b) Black – 4, 5 White – 1, 2 Experience – 3 c) Black – 1, 3, 5 White – 2 Experience – 4 d) Black – 4 White – 1, 2 Experience – 3, 5 <p>Please select exactly 1 option</p>

- 10. A daily radiation recorder for plants produces a sunshine score based on a combination of the number of hours a plant is exposed to the sun (below 3 hours, 3 to 6 hours or above 6 hours) and the average intensity of the sunshine (very low, low, medium, high).**

Given the following test cases:

	Hours	Intensity	Score
T1	1.5	v. low	10
T2	7.0	medium	60
T3	0.5	v. low	10

What is the minimum number of additional test cases that are needed to ensure full coverage of all valid **INPUT** equivalence partitions?

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

Please select exactly 1 option

- 11. Given the following examples of entry and exit criteria.**

1. The original testing budget of \$30,000 plus contingency of \$7,000 has been spent.
2. 96% of planned tests for the drawing package have been executed and the remaining tests are now out of scope.
3. The trading performance test environment has been designed, set-up and verified.
4. Current status is no outstanding critical defects and two high-priority ones.
5. The autopilot design specifications have been reviewed and reworked.
6. The tax rate calculation component has passed unit testing.

Which of the following **BEST** categorizes them as entry and exit criteria?

- a) Entry criteria – 5, 6 Exit criteria – 1, 2, 3, 4
- b) Entry criteria – 2, 3, 6 Exit criteria – 1, 4, 5
- c) Entry criteria – 3, 5, 6 Exit criteria – 1, 2, 4
- d) Entry criteria – 1, 3 Exit criteria – 2, 4, 5, 6

Please select exactly 1 option

12.	<p>Which of the following is a defect rather than a root cause in a fitness tracker?</p> <ul style="list-style-type: none">a) The tester of the smartphone interface had not been trained in state transition testing, so missed a major defectb) Because he was unfamiliar with the domain of fitness training, the author of the requirements wrongly assumed that users wanted heartbeat in beats per hourc) An incorrect configuration variable implemented for the GPS function could cause location problems during daylight saving timesd) Because she had never worked on wearable devices before, the designer of the user interface misunderstood the effects of reflected sunlight <p>Please select exactly 1 option</p>
13.	<p>Which of the following provides the BEST description of exploratory testing?</p> <ul style="list-style-type: none">a) An approach to test design in which test activities are planned as uninterrupted sessions of test analysis and design, often used in conjunction with checklist-based testingb) An approach to testing whereby the testers dynamically design and execute tests based on their knowledge, exploration of the test item and the results of previous testsc) A testing practice in which an in-depth investigation of the background of the test object is used to identify potential weaknesses that are examined by test casesd) Testing based on the tester's experience, knowledge and intuition <p>Please select exactly 1 option</p>
14.	<p>Given the following test activities and tasks:</p> <ul style="list-style-type: none">A. Test designB. Test implementationC. Test executionD. Test completion <ul style="list-style-type: none">1. Entering change requests for open defect reports2. Identifying test data to support the test cases3. Prioritizing test procedures and creating test data4. Analyzing discrepancies to determine their cause <p>Which of the following BEST matches the activities with the tasks?</p> <ul style="list-style-type: none">a) A-2, B-3, C-4, D-1b) A-3, B-2, C-4, D-1c) A-3, B-2, C-1, D-4d) A-2, B-1, C-3, D-4 <p>Please select exactly 1 option</p>

15. Which TWO of the following is MOST likely to be an example of a PRODUCT risk?

- a) An algorithm may give erroneous result under special conditions
- b) The expected security features may not be supported by the system architecture
- c) The test cases may not provide full coverage of the specified requirements
- d) The performance test environment may not be ready before the system is due for delivery
- e) The developers may not have time to fix all the defects found by the test team

Please select exactly 2 options

16. Decision table testing is being performed on a speeding fine system. Two test cases have already been generated for rules 1 and 4, which are shown below:

Rules		R1	R4
Conditions	Speed > 50	T	F
	School Zone	T	F
Actions	\$250 Fine	F	F
	Jail	T	F

Given the following additional test cases:

Rules		DT1	DT2	DT3	DT4
Input	Speed	55	44	66	77
	School Zone	T	T	T	F
Expected Result	\$250 Fine	F	F	F	T
	Jail	T	F	T	F

Which **TWO** of the additional test cases would achieve full coverage of the complete decision table (when combined with the test cases that have already been generated for rules 1 and 4)?

- a) DT2, DT3
- b) DT3, DT4
- c) DT1, DT2
- d) DT2, DT4

Please select exactly 1 option

17. You are performing system testing of a train booking system and have found that occasionally the system reports that there are no available trains when you believe that there should be, based on the test cases you have run. You have provided the development manager with a summary of the defect and the version of the system you are testing. The developers recognize the urgency of the defect and are now waiting for you to provide more details so that they can fix it.

Apart from the description of the defect, which includes a database dump and screenshots, which **TWO** pieces of information would be **MOST** useful to include in the initial defect report?

- a) Urgency/priority to fix
- b) Actual results
- c) Degree of impact (severity) of the defect
- d) Identification of the test item
- e) Details of the test environment.

Please select exactly 2 options

18. Given the following state model of a battery charger software

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graph TD
    WAIT <--> OFF
    TRICKLE <--> WAIT
    TRICKLE <--> CHARGE
    CHARGE <--> LOW
    CHARGE <--> HIGH
  
```

Which of the following sequences of transitions provides the **HIGHEST** level of transition coverage for the model?

- a) OFF → WAIT → OFF → WAIT → TRICKLE → CHARGE → HIGH → CHARGE → LOW
- b) WAIT → TRICKLE → CHARGE → HIGH → CHARGE → TRICKLE → WAIT → OFF → WAIT
- c) HIGH → CHARGE → LOW → CHARGE → TRICKLE → WAIT → TRICKLE → WAIT → TRICKLE
- d) WAIT → TRICKLE → WAIT → OFF → WAIT → TRICKLE → CHARGE → LOW → CHARGE

Please select exactly 1 option

19. Which of the following is LEAST likely to be an example of product risk analysis CORRECTLY influencing the testing?

- a) Testing has found the quality of the network module to be higher than expected, so additional testing will now be performed in that area
- b) The users had problems with the user interface of the previous system, so additional usability testing is planned for the replacement system
- c) The potential impact of security flaws has been identified as being particularly high, so security testing has been prioritized ahead of some other testing activities
- d) The time needed to load web pages is crucial to the success of the new website, so an expert in performance testing has been employed for this project

Please select exactly 1 option

20. Given the following priorities and dependencies for these test cases:

Test Case	Priority	Technical dependency on:	Logical dependency on:
TC1	High	TC4	
TC2	Low		
TC3	High		TC4
TC4	Medium		
TC5	Low		TC2
TC6	Medium	TC5	

Which of the following test execution schedules BEST considers the priorities and technical and logical dependencies?

- a) TC4 – TC1 – TC3 – TC5 – TC6 – TC2
- b) TC1 – TC3 – TC4 – TC6 – TC2 – TC5
- c) TC4 – TC2 – TC5 – TC1 – TC3 – TC6
- d) TC4 – TC3 – TC1 – TC2 – TC5 – TC6

Please select exactly 1 option

21.	<p>Given the following statements about the relationships between software development activities and test activities in the software development lifecycle:</p> <ol style="list-style-type: none">1. Each development activity should have a corresponding testing activity2. Reviewing should start as soon as final versions of documents become available3. The design and implementation of tests should start during the corresponding development activity4. Testing activities should start in the early stages of the software development lifecycle <p>Which of the following shows CORRECTLY which are true and false?</p> <p>a) True – 1, 2; False – 3, 4 b) True – 2, 3; False – 1, 2 c) True – 1, 4; False – 2, 3 d) True – 1, 2, 4; False – 3</p> <p>Please select exactly 1 option</p>
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22. You have been asked to take part in a checklist-based review of the following excerpt from the requirements specification for a library system

Librarians can:

1. Register new borrowers.
2. Return books from borrowers.
3. Accept fines from borrowers.
4. Add new books to the system with their ISBN, author and title.
5. Remove books from the system.
6. Get system responses within 5 seconds.

Borrowers can:

7. Borrow a maximum of 3 books at one time.
8. View the history of books they have borrowed/reserved.
9. Be fined for failing to return a book within 3 weeks.
10. Get system responses within 3 seconds.
11. Borrow a book at no cost for a maximum of 4 weeks.
12. Reserve books (if they are on-loan).

All users (librarians and borrowers):

13. Can search for books by ISBN, author, or title.
14. Can browse the system catalogue.
15. The system shall respond to user requests within 3 seconds.
16. The user interface shall be easy-to-use.

You have been assigned the checklist entry that requires you to review the specification for inconsistencies between individual requirements (i.e. conflicts between requirements).

Which of the following **CORRECTLY** identifies inconsistencies between pairs of requirements?

- a) 6-10, 6-15, 7-12
- b) 6-15, 7-12
- c) 6-10, 6-15, 9-11
- d) 6-15, 9-11

Please select exactly 1 option

<p>23.</p>	<p>A smart home app measures the average temperature in the house over the previous week and provides feedback to the occupants on their environmental friendliness based on this temperature.</p> <p>The feedback for different average temperature ranges (to the nearest °C) should be:</p> <p>Up to 10°C - Icy Cool! 11°C to 15°C - Chilled Out! 16°C to 19°C - Cool Man! 20°C to 22°C - Too Warm! Above 22°C - Hot & Sweaty!</p> <p>Using two-point BVA, which of the following sets of test inputs provides the HIGHEST level of boundary coverage? All values in °C.</p> <p>a) 14, 15, 18, 19, 21, 22 b) 10, 16, 19, 22, 23 c) 9, 15, 19, 23, 100 d) 0, 11, 20, 22, 23</p> <p>Please select exactly 1 option</p>
<p>24.</p>	<p>Which of the following descriptions of decision coverage is CORRECT?</p> <p>a) Decision coverage is a measure of the proportion of decision outcomes in the source code exercised by tests b) Decision coverage is a measure of the percentage of business flows through the component exercised by tests c) Decision coverage is a measure of the 'if' statements in the code that are exercised with both the true and false outcomes d) Decision coverage is a measure of the percentage of possible paths through the source code exercised by tests</p> <p>Please select exactly 1 option</p>

<p>25.</p>	<p>Which of the following statements about test types and test levels is CORRECT?</p> <ul style="list-style-type: none">a) Functional and non-functional testing can be performed at system and acceptance test levels, while white-box testing is restricted to component and integration testingb) Functional and non-functional testing can be performed at any test level, while Whitebox testing is restricted to component and integration testingc) Functional testing can be performed at any test level, while white-box testing is restricted to component testingd) It is possible to perform functional, non-functional and white-box testing at any test level <p>Please select exactly 1 option</p>
<p>26.</p>	<p>Which of the following statements BEST compares the purposes of confirmation testing and regression testing?</p> <ul style="list-style-type: none">a) The purpose of confirmation testing is to check that a previously found defect has been fixed, while the purpose of regression testing is to ensure that no other parts of the system have been adversely affected by the fixb) The purpose of regression testing is to ensure that any changes to one part of the system have not caused another part to fail, while the purpose of confirmation testing is to check that all previously run tests still provide the same results as beforec) The purpose of confirmation testing is to confirm that changes to the system were made successfully, while the purpose of regression testing is to run tests that previously failed to ensure that they now work correctlyd) The purpose of regression testing is to ensure that all previously run tests still work correctly, while the purpose of confirmation testing is to ensure that any fixes made to one part of the system have not adversely affected other parts <p>Please select exactly 1 option</p>
<p>27.</p>	<p>Which of the following is MOST likely to be used as a reason for using a pilot project to introduce a tool into an organization?</p> <ul style="list-style-type: none">a) The need to evaluate the test automation skills and training, mentoring and coaching needs of the testers who will use the toolb) The need to evaluate how the tool fits with existing processes and practices and determining what would need to changec) The need to evaluate whether the tool provides the required functionality and does not duplicate existing test toolsd) The need to evaluate the tool vendor in terms of the training and other support they provide <p>Please select exactly 1 option</p>

<p>28.</p>	<p>A fitness app measures the number of steps that are walked each day and provides feedback to encourage the user to keep fit.</p> <p>The feedback for different numbers of steps should be:</p> <table><tr><td>Up to 1000</td><td>- Couch Potato!</td></tr><tr><td>Above 1000, up to 2000</td><td>- Lazy Bones!</td></tr><tr><td>Above 2000, up to 4000</td><td>- Getting There!</td></tr><tr><td>Above 4000, up to 6000</td><td>- Not Bad!</td></tr><tr><td>Above 6000</td><td>- Way to Go!</td></tr></table> <p>Which of the following sets of test inputs would achieve the HIGHEST equivalence partition coverage?</p> <p>a) 123, 2345, 3456, 4567, 5678 b) 1000, 2001, 4000, 4001, 6000 c) 0, 1000, 2000, 3000, 4000 d) 666, 999, 2222, 5555, 6666</p> <p>Please select exactly 1 option</p>	Up to 1000	- Couch Potato!	Above 1000, up to 2000	- Lazy Bones!	Above 2000, up to 4000	- Getting There!	Above 4000, up to 6000	- Not Bad!	Above 6000	- Way to Go!
Up to 1000	- Couch Potato!										
Above 1000, up to 2000	- Lazy Bones!										
Above 2000, up to 4000	- Getting There!										
Above 4000, up to 6000	- Not Bad!										
Above 6000	- Way to Go!										
<p>29.</p>	<p>As a result of risk analysis, more testing is being directed to those areas of the system under test where initial testing found more defects than average.</p> <p>Which of the following testing principles is being applied?</p> <p>a) Defects cluster together b) Absence-of-errors is a fallacy c) Testing is context dependent d) Beware of the pesticide paradox</p> <p>Please select exactly 1 option</p>										

<p>30.</p>	<p>Given the following test activities and test tools:</p> <ol style="list-style-type: none">1. Performance measurement and dynamic analysis2. Test execution and logging3. Management of testing and testware4. Test design <p>A. Requirements coverage tools B. Dynamic analysis tools C. Test data preparation tools D. Defect management tools</p> <p>Which of the following BEST matches the activities and tools?</p> <ol style="list-style-type: none">a) 1 – A, 2 – B, 3 – D, 4 – Cb) 1 – B, 2 – A, 3 – D, 4 – Cc) 1 – B, 2 – C, 3 – D, 4 – Ad) 1 – B, 2 – A, 3 – C, 4 – D <p>Please select exactly 1 option</p>
<p>31.</p>	<p>Which of the following is a major objective of testing?</p> <ol style="list-style-type: none">a) To prevent defectsb) To validate the project plan works as requiredc) To make release decisions for the system under testd) To gain confidence in the development team <p>Please select exactly 1 option</p>
<p>32.</p>	<p>Which of the following statements about test estimation approaches is CORRECT?</p> <ol style="list-style-type: none">a) With the expert-based approach, a group of expert users identified by the client recommends the necessary testing budgetb) With the metrics-based approach, an average of the testing costs recorded from several past projects is used as the testing budgetc) With the expert-based approach, the test managers responsible for the different testing activities predict the expected testing effortd) With the metrics-based approach, the estimate is based on test measures from the project and so this estimate is only available after the testing starts <p>Please select exactly 1 option</p>

33.	<p>Which of the following BEST explains a benefit of independent testing?</p> <ul style="list-style-type: none">a) An independent test team can work totally separately from the developers, need not be distracted with changing project requirements, and can restrict communication with the developers to defect reporting through the defect management systemb) The use of an independent test team allows project management to assign responsibility for the quality of the final deliverable to the test team, so ensuring everyone is aware that quality is the test team's overall responsibilityc) If a test team external to the organization can be afforded, then there are distinct benefits in terms of this external team not being so easily swayed by the delivery concerns of project management and the need to meet strict delivery deadlinesd) When specifications contain ambiguities and inconsistencies, assumptions are made on their interpretation, and an independent tester can be useful in questioning those assumptions and the interpretation made by the developer <p>Please select exactly 1 option</p>
34.	<p>Which of the following sequences BEST shows the main activities of the work product review process?</p> <ul style="list-style-type: none">a) Plan – Initiate review – Individual review – Issue communication and analysis – Fix defects & reportb) Planning & preparation – Overview meeting – Individual review – Fix– Reportc) Preparation – Issue Detection – Issue communication and analysis – Rework – Reportd) Initiate review – Reviewer selection – Individual review – Issue communication and analysis –Rework <p>Please select exactly 1 option</p>
35.	<p>Which of the following is an example of a failure in a car cruise control system?</p> <ul style="list-style-type: none">a) Unnecessary code that sounds an alarm when reversing was included in the systemb) The system stops maintaining a set speed when the radio volume is increased or decreasedc) The developer of the system forgot to rename variables after a cut-and-paste operationd) The design specification for the system wrongly states speeds in mph <p>Please select exactly 1 option</p>

36.	<p>Which of the following provides the BEST description of a test case?</p> <ul style="list-style-type: none">a) An item or event of a system that could be verified by one or more test conditions, e.g., a function, transaction, feature, quality attribute, or structural elementb) A set of input values and expected results, with execution preconditions and execution postconditions, developed for a particular test conditionc) An attribute of a system specified by requirements documentation (for example reliability, usability or design constraints) that is executed in a testd) A document specifying a sequence of actions for the execution of a test. Also known as test script or manual test script <p>Please select exactly 1 option</p>
37.	<p>Which of the following BEST defines risk level?</p> <ul style="list-style-type: none">a) Risk level is estimated by multiplying the likelihood of a threat to the system by the chance that the threat will occur and will result in financial damageb) Risk level is determined by a combination of the probability of an undesirable event and the expected impact of that eventc) Risk level is calculated by adding together the probabilities of all problem situations and the financial harm that results from themd) Risk level is the sum of all potential hazards to a system multiplied by the sum of all potential losses from that system <p>Please select exactly 1 option</p>
38.	<p>Which of the following statements BEST describes how test cases are derived from a use case?</p> <ul style="list-style-type: none">a) Test cases are generated by analyzing the interactions of the actors with the system to ensure the user interfaces are easy to useb) Test cases are derived by identifying the components included in the use case and creating integration tests that exercise the interactions of these componentsc) Test cases are created to exercise defined basic, exceptional and error behaviors performed by the system under test in collaboration with actorsd) Test cases are derived to exercise each of the decision points in the business process flows of the use case, to achieve 100% decision coverage of these flows <p>Please select exactly 1 option</p>

39.	<p>Which of the following tasks is MOST LIKELY to be performed by the test manager?</p> <ul style="list-style-type: none">a) Analyze, review, and assess requirements, specifications and models for testabilityb) Create the detailed test execution schedulec) Review tests developed by othersd) Write test summary reports based on the information gathered during testing <p>Please select exactly 1 option</p>
40.	<p>Which of the following BEST describes how value is added by maintaining traceability between the test basis and test artifacts?</p> <ul style="list-style-type: none">a) It is possible to determine if a new test case has increased coverage of the requirementsb) Test managers can identify which testers found the highest severity defectsc) Maintenance testing can be fully automated based on changes to the initial requirementsd) Areas that may be impacted by side-effects of a change can be targeted by confirmation testing <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.