

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

**Advanced Certificate in Software Testing
Technical Test Analyst
Version 2019
Examination Questions
2020-03-18**

**Time allowed: 2:00
(For non-native English speakers: 2:30)**

There are 45 questions.

K2 question: Correct answer 1 point, wrong answer 0 point
K3 question: Correct answer 2 points, wrong answer 0 point
K4 question: Correct answer 3 points, wrong answer 0 point

Total 76 points; You need 49 points to pass (65%)

You must follow directives given to you by the proctor during the whole exam

Mark your answers in the provided answer sheet. Try to answer all 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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SCENARIOS

A Photo Traffic Control

You are testing a photo-enforcement system for traffic control in an intersection. The requirements state a photo shall be taken if the signal light is red (RED) or the car is speeding (SPEED) and if the front wheels of the car are over the line marking the beginning of the intersection (WHEELS).

Consider these sets of values:

1. RED + SPEED + WHEELS
2. RED + SPEED + not WHEELS
3. RED + not SPEED + WHEELS
4. RED + not SPEED + not WHEELS
5. not RED + SPEED + WHEELS
6. not RED + SPEED + not WHEELS
7. not RED + not SPEED + WHEELS
8. not RED + not SPEED + not WHEELS

Assume the logic in the code is as follows:

If ((RED or SPEED) and WHEELS) then

 Take the photo

Else

 Do not take the photo

B TRICKY program

Below is the pseudo-code for a TRICKY program:

```
0   program TRICKY
1   var1, var2, var3 : integer
2   begin
3       read ( var2 )
4       read ( var1 )
5       while var2 < 10 loop
6           var3 = var2 + var1
7           var2 = 4
8           var1 = var2 + 1
9           print ( var3 )
10          if var1 = 5 then
11              print ( var1 )
12          else
13              print ( var1+1 )
14          endif
15          var2 = var2 + 1
16      endloop
17      write ( "Wow – that was tricky!" )
18      write ( "But the answer is..." )
19      write ( var2+var1 )
20  end program TRICKY
```

QUESTIONS

No	Point	Question
1.	2	<p>Given the information in Scenario “Photo Traffic Control”, which set(s) of values provide the minimum tests to achieve full coverage of basis paths?</p> <p>a) 3, 4, 5, 7 b) 1, 3, 8 c) 2, 3 d) 1</p> <p>Please select exactly 1 option</p>
2.	2	<p>Given the information in Scenario “Photo Traffic Control”, which sets of values provides the minimum tests to achieve 100% modified condition/decision coverage?</p> <p>a) 1, 5, 7, 8 b) 3, 4, 5, 7 c) 2, 8 d) 1, 3, 8</p> <p>Please select exactly 1 option</p>
3.	2	<p>Given the information in Scenario “Photo Traffic Control”, which sets of values provide the minimum tests to achieve 100% multiple condition coverage?</p> <p>a) 1, 5, 7, and 8 b) 1, 3, and 8 c) 3, 4, 5, and 7 d) All the sets are needed</p> <p>Please select exactly 1 option</p>
4.	2	<p>Consider the pseudo-code in scenario “TRICKY program” In which areas could the use of static analysis best improve the maintainability of the program?</p> <p>a) Improving the naming of variables b) Reduce program coupling c) Restructuring the code d) Improving the amount of comments</p> <p>Please select exactly 1 option</p>

No	Point	Question																														
5.	2	<p>Consider the pseudo-code in scenario “TRICKY program” Which of the following statements about the TRICKY program MOST correctly describes any control flow anomalies in it?</p> <p>a) The TRICKY program contains no control flow anomalies b) The TRICKY program contains a loop with multiple entry points c) The TRICKY program contains unreachable code and an infinite loop d) The TRICKY program contains unreachable code</p> <p>Please select exactly 1 option</p>																														
6.	2	<p>You have been provided with the following system-wide average measures for the four systems, W, X, Y and Z.</p> <table border="1"> <thead> <tr> <th>System</th> <th>W</th> <th>X</th> <th>Y</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td>Cyclomatic Complexity (CC)</td> <td>23</td> <td>8</td> <td>12</td> <td>7</td> </tr> <tr> <td>Cohesion (CH)</td> <td>High</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Coupling (CP)</td> <td>Low</td> <td>High</td> <td>Medium</td> <td>Medium</td> </tr> <tr> <td>Commented Code (CO)</td> <td>60%</td> <td>10%</td> <td>45%</td> <td>8%</td> </tr> <tr> <td>Repeated code instances (RE)</td> <td>9</td> <td>2</td> <td>3</td> <td>12</td> </tr> </tbody> </table> <p>Budget is available to improve the maintainability of the code in each of the four systems by applying the results of static analysis to the individual components.</p> <p>Which of the following is the BEST application of static analysis if only two measures per system can be resourced?</p> <p>a) W – CH, CO X – CC, RE Y – CP, RE Z – CC, CH b) W – CC, CP X – CH, CO Y – CC, CH Z – CO, RE c) W – CC, RE X – CP, CO Y – CC, CH Z – CO, RE d) W – CO, RE X – CC, CH Y – CP, CO Z – CC, RE</p> <p>Please select exactly 1 option</p>	System	W	X	Y	Z	Cyclomatic Complexity (CC)	23	8	12	7	Cohesion (CH)	High	Medium	Low	High	Coupling (CP)	Low	High	Medium	Medium	Commented Code (CO)	60%	10%	45%	8%	Repeated code instances (RE)	9	2	3	12
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7.	2	<p>Assume that you are working for a start-up company with big ambitions but a limited initial funding.</p> <p>They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized businesses selling to customers on the web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers enroll in the companies' loyalty and rewards program. Each subsequent purchase earns points, and both companies and their customers can manage the program; for example, companies can determine the number of points required for customers to receive a free product or service, and customers can monitor their points.</p> <p>Your employer's marketing staff is heavily promoting the system, offering aggressive discounts on the first year's fees to sign up new companies. The marketing materials state that the service will be highly reliable and extremely fast for companies and their customers.</p> <p>At this time, the requirements are complete, and development of the software has just begun. The current schedule will allow companies and their customers to enroll starting in three months.</p> <p>Your employer intends to use cloud computing resources to host this service, and to have no hardware resources other than ordinary office computers for its developers, testers, and other engineers and managers. Industry-standard web-based application software components will be used to build the system.</p> <p>Assume that you are executing security tests against the system. Which of the following types of defects would you expect to find during this testing?</p> <ul style="list-style-type: none"> a) System clears screen too quickly after login b) System allows access from unsupported browser c) System allows unauthorized access to data d) System removes user temporary files after logout <p>Please select exactly 1 option</p>
8.	1	<p>A new personal banking system is to be developed for use on mobile devices.</p> <p>Which of the following reasons would justify to include security testing in the test approach?</p> <ul style="list-style-type: none"> a) To check that available functions are correctly implemented b) To ensure the product can be effectively and efficiently modified without introducing defects c) To ensure that the software does not exhibit unintended side-effects when performing its intended function d) To evaluate whether the application installs correctly on a mobile device e) To ensure that no sensitive data can be copied <p>Please select exactly 2 options</p>

No	Point	Question
9.	3	<p>You are participating in a code review and have noticed a problem in the following section of pseudo-code. (assume *** indicates a comment).</p> <p>*** this pseudo-code calculates the average sales per month achieved by an organization ***</p> <pre> 0 program SALES 1 month_counter, sales_in_month, total_sales, fileID,: integer 2 average_sales: float 3 begin 4 *** open the sales file*** 5 fileID = open file ("Sales") 6 If (fileID = 0) then 7 *** File cannot be opened*** 8 Display error message 333 9 Else 10 *** get the number of months you want to consider 11 Read (number_of_months) 12 month_counter = 1 13 while month_counter <= number_of_months loop 14 *** get sales for month from sales file using the GetSales function*** 15 sales_in_month = GetSales (month_counter, FileID) 16 *** add the sales to the total*** 17 total_sales = total_sales + sales_in_month 18 month_counter = month_counter + 1 19 endloop 20 *** calculate the average monthly sales and output that value*** 21 average_sales = total_sales / number_of_months 22 Write (average_sales) 23 Endif 24 end program SALES </pre> <p>Which of the following problems is demonstrated in this section of the code?</p> <ul style="list-style-type: none"> a) Comments are inconsistent with the code b) Divisors are not tested for zero c) There are unused variables d) Files are not checked for existence before attempting to access <p>Please select exactly 1 option</p>

No	Point	Question
10.	2	<p>The simplified logic of a program has been specified as follows:</p> <pre> Statement P IF A THEN IF B THEN Statement Q ELSE Statement R ENDIF ELSE Statement S IF C THEN Statement T ELSE Statement U ENDIF ENDIF Statement V </pre> <p>How many test cases would you design to achieve 100% decision coverage?</p> <p>a) 4 b) 3 c) 5 d) 2</p> <p>Please select exactly 1 option</p>
11.	1	<p>Which of the following statements is correct?</p> <p>a) Co-existence testing is normally performed after module testing has been completed b) Reliability tests are commonly done as part of system testing c) Replaceability tests may only be performed once the overall system and potential replaceable components are available d) Adaptability tests may be performed in conjunction with security tests</p> <p>Please select exactly 1 option</p>

No	Point	Question
12.	3	<p>You are advising the developers in an agile team on the appropriate test coverage to be achieved in the next sprint.</p> <p>Three business-critical user stories are on the sprint backlog. Each user story requires that several sequential actions are performed with some simple error handling routines.</p> <p>Which is the level of test coverage you would expect to be achieved in the testing of the user stories?</p> <p>a) Multiple Condition coverage b) Decision coverage + Modified Condition/Decision coverage c) Modified Condition/Decision coverage d) Decision coverage + Statement coverage</p> <p>Please select exactly 1 option</p>
13.	2	<p>Assume that you are involved in testing a mature application.</p> <p>This application is an online dating service that allows users: to enter a profile of themselves; to meet orientation-appropriate people who would be a good match for them; to arrange social events with those people; and, to block people they don't want to contact them.</p> <p>Defects and test cases are managed in an existing commercial test management tool, which is working well. Source code and other project work products are stored in an open source configuration management system.</p> <p>Your manager directs you to help her select a test execution automation tool to automate most of the regression testing.</p> <p>Assume you are using a keyword-driven automation approach. Which of the options would be the <u>MOST LIKELY</u> keywords for this application?</p> <p>a) Find_Match b) Remove_Test_Data c) Enter_profile d) Enter_Test_Data e) Pay_Bill</p> <p>Please select exactly 2 options</p>

No	Point	Question
14.	1	<p>A web-based holiday booking system expects to handle three times its average number of visitors during the peak booking month of the year. Which TWO of the following reasons would justify having performance testing in the test approach?</p> <ul style="list-style-type: none"> a) The web servers may be unable to handle the maximum number of transactions b) Skills in using performance testing tools are available c) Functional tests can be re-used for performance testing d) Business analysts are available for generating the expected peak load e) The response time to holiday enquiries may be unacceptable for users <p>Please select exactly 2 options</p>
15.	1	<p>Which of the following BEST describes how tools can support the practice of model-based testing (MBT)?</p> <ul style="list-style-type: none"> a) MBT tools significantly increase the number of paths that can be generated in a model b) MBT tools can be used to generate test cases by saving interesting execution threads c) MBT tools often provide an engine that enables 'execution' of models, but execution threads cannot be saved d) MBT tools provide an alternative view of the internal structure of the software under test <p>Please select exactly 1 option</p>
16.	1	<p>A commercial point of sales (POS) system is being developed which is intended to be the first of several similar product developments.</p> <p>Which of the following maintainability characteristics should be given priority in the test approach?</p> <ul style="list-style-type: none"> a) Analyzability b) Modifiability c) Reusability d) Modularity <p>Please select exactly 1 option</p>

No	Point	Question
17.	1	<p>Which of the following statements about performance testing and monitoring tools is correct?</p> <ul style="list-style-type: none"> a) These tools generate a load by simulating a large number of virtual users following their designated operational profiles to generate specific volumes of input data b) These tools drive the application at the communications protocol level rather than through its user interface to more accurately measure response times c) These tools capture a script from an individual user interaction and multiple identical copies of the script are then replayed in parallel to represent the full range of possible users d) These tools take a wide range of measurements after test execution to enable the analysis of the most significant performance characteristics of the test object <p>Please select exactly 1 option</p>
18.	1	<p>Which TWO of the following are typical activities performed by a Technical Test Analyst when setting up a test automation project?</p> <ul style="list-style-type: none"> a) Designing the test data for the automated test cases b) Scheduling the test automation project and allocating time for maintenance with the test manager c) Tools read test cases written with keywords and create the appropriate scripts for execution d) Defining the interface requirements between the project's test management tool and the test automation tool e) Determining who will be responsible for the test analysis and design of test cases to be automated <p>Please select exactly 2 options</p>
19.	1	<p>Which of the following is a way to use call graphs to determine integration testing requirements?</p> <ul style="list-style-type: none"> a) Establishing the number of locations within the software from where a module or system is called b) Detecting areas to be targeted for possible memory leaks c) Determining conditional and unconditional calls for performance analysis d) Establishing the number of locations within the software from where a method or function is called <p>Please select exactly 1 option</p>

No	Point	Question
20.	1	<p>Which of the following statements is <u>NOT</u> correct?</p> <ul style="list-style-type: none"> a) Because security issues can be introduced during the architecture, design and implementation of the system, security testing should happen after functional testing is done b) It is desirable to conduct initial performance efficiency tests as early as possible, even if a production-like environment is not yet available c) Maintainability can be evaluated early in the lifecycle without having to wait for a completed and running system d) Availability testing is performed both before and after entering operational service <p>Please select exactly 1 option</p>
21.	1	<p>Which of the following factors must be considered when planning reliability tests?</p> <ul style="list-style-type: none"> a) Monitoring resources used b) Ability to simulate hardware and operating system faults c) Establishing reliability vulnerabilities d) Determining the peak loads for the system <p>Please select exactly 1 option</p>
22.	1	<p>A Technical Test Analyst has been invited to the review of an architectural design specification.</p> <p>The review has been called at short notice for the following day and although there is nothing in the analyst's diary for that time, there is no time to prepare.</p> <p>Which of the following would be the most appropriate response to the invitation?</p> <ul style="list-style-type: none"> a) I do not have time to prepare but I will attend rather than cause a delay b) I cannot attend the review because I am unfamiliar with the specification c) I will not have enough time to prepare for a review meeting tomorrow, so I must decline unless the review can be postponed d) I am free at that time and I will be pleased to attend <p>Please select exactly 1 option</p>

No	Point	Question
23.	2	<p>You are the Technical Test Analyst working on a project developing a new Ambulance Dispatch System (ADS).</p> <p>This ADS assists operators in taking calls about incidents, identifying available ambulances and mobilizing ambulances to handle the incidents. You know that the ADS was designed using an object-oriented approach and implemented using a language with automated garbage collection. During system and acceptance testing the system has been perceived to be generally performing correctly, but also rather slowly, and it has also occasionally 'crashed'; the subsequent (brief) investigations were inconclusive.</p> <p>Which of the following statements would BEST justify the use of dynamic analysis in this situation?</p> <ul style="list-style-type: none"> a) Dynamic analysis could be used to determine if defects introduced by programmers failing to release allocated memory are causing the 'crashes' b) Dynamic analysis could be used to generate call graphs of the system to allow targeted performance enhancement c) Dynamic analysis could be used to measure response times for various functions to subsequently allow system tuning d) Dynamic analysis could identify memory access violations caused by a wild pointer that result in the occasional 'crashes' <p>Please select exactly 1 option</p>
24.	3	<p>Assume you are working as a technical test analyst on a project where a new banking system is being developed.</p> <p>This system will store customer financial data, including personally identifying information, account numbers and balances, and transaction history.</p> <p>Based on this information, which of the following topics are you most likely to need to contribute to the test plan?</p> <ul style="list-style-type: none"> a) Testing data encryption b) Coordination of distributed components c) Testing in production d) Test data anonymization <p>Please select exactly 1 option</p>

No	Point	Question
25.	1	<p>Which of the following statements best captures the difference between emulators and simulators when used in a mobile application testing context?</p> <ul style="list-style-type: none"> a) Simulators are useful in the early stage of development and emulators are useful in the later stages b) Emulators and simulators allow the setting of various usage parameters c) Applications compiled to be deployed and tested on a simulator could be also used by the real device. This is not the case for emulators d) A mobile emulator models the mobile platform's runtime environment and a simulator utilizes the same runtime environment as the physical hardware <p>Please select exactly 1 option</p>
26.	2	<p>The system integration tests for a new version of a stocks trading system are being planned.</p> <p>You are planning the performance efficiency tests for the new version of the system. The system has so far received a positive response and the number of users has steadily increased. It enables users to trade individual stocks with a simple transaction consisting only of the user identity, stock number, quantity and action (buy or sell).</p> <p>The system's response time to user inputs is regularly monitored by conducting performance tests supported by a tool and using a fully representative test environment. At present the system runs reliably and response times to user trading transactions are just below the maximum specified.</p> <p>The marketing department anticipates that with the new functionality being introduced in the next release, the number of users is expected to double over the next 12 months. You have included scalability tests into your performance testing strategy.</p> <p>When planning the performance tests, which of the following types of defects would you target in the system integration test plan as being the most likely to occur?</p> <ul style="list-style-type: none"> a) Required disk capacity exceeds the resources available b) The system fails c) The increase in the number of virtual users to be simulated by the tool will result in data volumes which exceed the available bandwidth of the test environment d) The system fails to meet future response time requirements for the anticipated numbers of users <p>Please select exactly 1 option</p>

No	Point	Question
27.	1	<p>Which of the following types of defects are targeted by API testing?</p> <ul style="list-style-type: none"> a) Non-conformance to coding standards b) Loss of transactions c) Installation defects d) GUI faults e) Incorrect data handling <p>Please select exactly 2 options</p>
28.	1	<p>Which of the following statements about component testing tools and build automation tools is FALSE?</p> <ul style="list-style-type: none"> a) Component testing tools can be used against multiple programming languages; build automation tools allow a new build to be triggered when a component changes b) A JUnit framework can simplify automation of component testing in a Java environment; build automation tools automatically trigger the component tests whenever a component changes in a build c) An xUnit framework can be used to automate component testing; build automation tools that execute automated component tests d) Component testing frameworks can simplify automation of component testing; build automation tools allow a new build to be triggered when a component is changed <p>Please select exactly 1 option</p>
29.	1	<p>When participating in a risk analysis, the Technical Test Analyst is expected to work closely with which of the following sets of people?</p> <ul style="list-style-type: none"> a) Users b) Developers c) Project sponsors d) Business analysts <p>Please select exactly 1 option</p>

No	Point	Question
30.	1	<p>Which of the following statements best captures the difference between data-driven and keyword-driven test automation?</p> <ul style="list-style-type: none"> a) Data-driven test automation extends keyword-driven automation by defining data corresponding to business processes b) Keyword-driven test automation is easier to develop than data-driven test automation c) Keyword-driven test automation extends data-driven automation by defining keywords corresponding to business processes d) Data-driven test automation is more maintainable than keyword-driven test automation <p>Please select exactly 1 option</p>
31.	3	<p>You have been participating in an architectural review of a new product design.</p> <p>This is an embedded product that has severe memory restrictions. Consider the following lists of programming practices and problems that can result from using those practices.</p> <p>Programming Practices:</p> <ul style="list-style-type: none"> 1. Connection pooling 2. Data caching 3. Lazy instantiation 4. Transaction concurrency <p>Problems:</p> <ul style="list-style-type: none"> A. Performance impact when the instantiation is needed B. Transaction loss due to processor unavailability C. Errors in multi-threading logic D. Stale data <p>Which of the above is a programming practice that can be used to reduce unnecessary memory use in this scenario and what are the possible problems in using this practice?</p> <ul style="list-style-type: none"> a) Practice 4, Problem C b) Practice 3, Problem A c) Practice 2, Problem D d) Practice 1, Problem B <p>Please select exactly 1 option</p>

No	Point	Question
32.	3	<p>Assume you are working as a Technical Test Analyst on the system integration testing of the baggage handling system for a major airport.</p> <p>Most of the system components are developed by a main contractor, but the system components for baggage redirection and for handling outsized items are being developed off-shore by separate organizations.</p> <p>The airport operator is the customer for the project and has indicated that the system must run fast even under peak morning and evening loads.</p> <p>A fully representative test environment has been made available for the system integration tests and a specialist tools team has been set up to support the functional and non-functional testing. Some of the functional tests for the continuous integration have already been implemented but progress is slow.</p> <p>Based on this information, which of the following topics are you most likely to identify as risks in the system integration test plan?</p> <ul style="list-style-type: none"> a) Organizational considerations b) Stakeholder requirements c) Test environment requirements d) Data security considerations e) Required tool acquisition and training <p>Please select exactly 2 options</p>

No	Point	Question
33.	2	<p>Consider the simplified logic of a tea-making machine: Switch on machine IF enough water THEN Boil water Add tea Show message "milk?" IF milk = yes THEN Show message "low fat?" IF low fat = yes THEN Add low fat milk ELSE Add normal milk ENDIF ENDIF Show message "sugar?" IF sugar = yes THEN Add sugar ENDIF Stir Wait 3 minutes Show message "please take your tea" ELSE Show message "please fill up water" ENDIF</p> <p>How many test cases would you design to achieve 100% statement coverage for the tea-making machine?</p> <p>a) 3 b) 6 c) 5 d) 2</p> <p>Please select exactly 1 option</p>
34.	1	<p>Which of the following are generic risk factors that should be considered by the Technical Test Analyst?</p> <p>a) Budgetary restrictions on the project b) Technology factors such as complexity and availability of tools c) Large number of defects found with the reliability of the software d) Availability of documentation from legacy systems to be used to verify the accuracy of computations e) High change rates of the business use cases</p> <p>Please select exactly 2 options</p>

No	Point	Question
35.	1	<p>Which of the following describes a common technical issue that causes automation projects to fail to achieve the planned return on investment?</p> <ul style="list-style-type: none"> a) Removal of manual checking of data exchanges between tools b) Elimination of duplication of information across tools c) Use of an integrated development environment to simplify integration between tools d) Lack of separation between code and changeable data in the testware <p>Please select exactly 1 option</p>
36.	1	<p>A new business application is being developed for deployment on a Windows-based platform. If the application is successful there are plans for deployment to other platforms.</p> <p>Which of the following quality characteristics should be given priority in the test approach?</p> <ul style="list-style-type: none"> a) Co-existence b) Adaptability c) Replaceability d) Installability <p>Please select exactly 1 option</p>
37.	3	<p>You have been participating in an architectural design review of a new product design. This is a web-based currency trading product that provides real-time information of prices for currencies selected by the user.</p> <p>The following list of practices are mentioned in the design as options for ensuring response times of less than 1 second and real-time data accuracy under maximum expected loads.</p> <p>Which of the following practices would you highlight as most promising for achieving the requirement?</p> <ul style="list-style-type: none"> a) Load balancing b) Data replication c) Object orientation d) Data caching <p>Please select exactly 1 option</p>

No	Point	Question
38.	1	<p>Below is the pseudo-code for a program that calculates and prints sales commissions:</p> <pre> 0 program Calculate Commission 1 total, number : integer 2 commission_hi, commission_lo : real 3 begin 4 read (number) 5 while number ≠ -1 loop 6 total = total + number 7 read (number) 8 endloop 9 if total > 1000 then 10 commission_hi = 100 + 0.2 * (total – 1000) 11 else 12 commission_lo = 0.15 * total 13 endif 14 write ("This salesman's commission is:") 15 write (commission_hi) 16 end program Calculate Commission </pre> <p>The code contains data flow anomalies on lines 6 and 12 (highlighted text).</p> <p>Which examples of data flow anomalies are to be found on these lines?</p> <p>a) line 6: variable "total" is not assigned a value before using it line 12: variable "commission_lo" is defined but subsequently not used b) line 6: an invalid value is assigned to variable "total" line 12: variable "commission_lo" is redefined before it is used c) line 6: the variable "number" is undefined line 12: the variable "total" is redefined before it is used d) line 6: variable "total" is out of scope line 12: the "hard-coded" value "0.15" should not be used</p> <p>Please select exactly 1 option</p>
39.	1	<p>Which of the following BEST describe the objective of tools supporting web-based testing?</p> <p>a) To isolate faults in the user interface by changing variable values during line by line code execution b) To check for accessibility standards violations c) To measure the quality of a test suite by injecting defects into the test object d) To generate test cases by executing a model of the run-time behavior e) To check for orphaned files by scanning through the server</p> <p>Please select exactly 2 options</p>

No	Point	Question
40.	2	<p>Consider the following product risk: “A different database is to be used in the future”.</p> <p>Which of the following is the appropriate test type to address this risk?</p> <p>a) Replaceability testing b) Capacity testing. c) Adaptability testing d) Co-existence testing</p> <p>Please select exactly 1 option</p>
41.	2	<p>Below is the pseudo-code for an EASY program:</p> <pre> 0 program EASY 1 var1, var2, var3 : integer 2 easy: boolean 2 begin 3 read (var2) 4 read (var1) 5 read (easy) 6 if (easy = true) then 7 var3 = var2 + var1 8 print (var3) 9 if var1 = 5 then 10 print (var1) 11 else 12 print (var1+1) 13 endif 14 var2 = var2 + 1 15 else 16 var2 = 0 17 write ("Wow – that was tricky!") 18 endif 19 write (var2) 20 end program EASY </pre> <p>What is the cyclomatic complexity for the program?</p> <p>a) 1 b) 4 c) 3 d) 2</p> <p>Please select exactly 1 option</p>

No	Point	Question
42.	3	<p>You are participating in a code review and have noticed a problem in the following section of pseudo-code. (assume *** indicates a comment).</p> <pre> *** this code checks for valid card type *** If credit card is type "Discover" then Display error message 437 Else if credit card is type "Visa" or "MasterCard" then Process purchase Else if credit card is type "AmericanExpress" then Display error message 439 Else Display error message 440 End if </pre> <p>Which of the following problems is demonstrated in this section of the code and why should it be corrected?</p> <ul style="list-style-type: none"> a) The comment in the code is incorrect, resulting in a maintainability impact b) There is no default clause, resulting in potential cases not being handled c) An external library should be used to validate the credit card, resulting in inefficiency by not re-using existing components d) The most likely case is not tested first, resulting in a potential performance impact <p>Please select exactly 1 option</p>
43.	1	<p>Which of the following statements about fault seeding tools is correct?</p> <ul style="list-style-type: none"> a) These tools insert defects into the source code to test the effectiveness of the test suite b) These tools insert defects into the source code to check the level of fault tolerance of the software c) These tools are generally used by the developer d) These tools insert defects into the source code to test the input checking capabilities of the software <p>Please select exactly 1 option</p>

No	Point	Question
44.	3	<p>You are the Technical Test Analyst working on the testing of software that will control the movement of a roof on a new national sports stadium that seats 100 000 spectators.</p> <p>A failure analysis has shown that if the software system fails it may cause the roof to break up and fall on the spectators. The government has requested that the level of testing for this software exceeds that that required by standard ISO 61508.</p> <p>Which is the level of test coverage you would expect to be achieved in the testing of the control software for the stadium roof?</p> <ul style="list-style-type: none"> a) Multiple Condition coverage b) Decision coverage + Statement coverage c) Decision coverage + Modified Condition/Decision coverage d) Modified Condition/Decision coverage <p>Please select exactly 1 option</p>
45.	2	<p>Consider the following product risk: Abnormal application termination due to network connection failure.</p> <p>Which of the following is the appropriate test type to address this risk?</p> <ul style="list-style-type: none"> a) Performance testing b) Operability testing c) Portability testing d) Reliability 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.

Sample Exam