

# ISTQB Certification

Sample Question Papers

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## Question Paper 1:

1. An input field takes the year of birth between 1900 and 2004  
The boundary values for testing this field are
  - a. 0,1900,2004,2005
  - b. 1900, 2004
  - c. 1899,1900,2004,2005
  - d. 1899, 1900, 1901,2003,2004,2005
  
2. Which one of the following are non-functional testing methods?
  - a. System testing
  - b. Usability testing
  - c. Performance testing
  - d. Both b & c
  
3. Which of the following tools would be involved in the automation of regression test?
  - a. Data tester
  - b. Boundary tester
  - c. Capture/Playback
  - d. Output comparator.
  
4. Incorrect form of Logic coverage is:
  - a. Statement Coverage
  - b. Pole Coverage
  - c. Condition Coverage
  - d. Path Coverage
  
5. Which of the following is not a quality characteristic listed in ISO 9126 Standard?
  - a. Functionality
  - b. Usability
  - c. Supportability
  - d. Maintainability
  
6. To test a function, the programmer has to write a \_\_\_\_\_, which calls the function to be tested and passes it test data.
  - a. Stub
  - b. Driver
  - c. Proxy
  - d. None of the above
  
7. Boundary value testing
  - a. Is the same as equivalence partitioning tests
  - b. Test boundary conditions on, below and above the edges of input and output equivalence classes
  - c. Tests combinations of input circumstances
  - d. Is used in white box testing strategy

8. Pick the best definition of quality
  - a. Quality is job one
  - b. Zero defects
  - c. Conformance to requirements
  - d. Work as designed
  
9. Fault Masking is
  - a. Error condition hiding another error condition
  - b. Creating a test case which does not reveal a fault
  - c. Masking a fault by developer
  - d. Masking a fault by a tester
  
10. One Key reason why developers have difficulty testing their own work is :
  - a. Lack of technical documentation
  - b. Lack of test tools on the market for developers
  - c. Lack of training
  - d. Lack of Objectivity
  
11. During the software development process, at what point can the test process start?
  - a. When the code is complete.
  - b. When the design is complete.
  - c. When the software requirements have been approved.
  - d. When the first code module is ready for unit testing
  
12. In a review meeting a moderator is a person who
  - a. Takes minutes of the meeting
  - b. Mediates between people
  - c. Takes telephone calls
  - d. Writes the documents to be reviewed

13. Given the Following program

```

IF X < Y
THEN Statement 1;
ELSE IF Y >= Z
THEN Statement 2;
END

```

McCabe's Cyclomatic Complexity is :

- a. 2
  - b. 3
  - c. 4
  - d. 5
- 
14. How many test cases are necessary to cover all the possible sequences of statements (paths) for the following program fragment? Assume that the two conditions are independent of each other : -
- .....
- ```

if (Condition 1)
then statement 1

```

```
else statement 2
fi
if (Condition 2)
then statement 3
fi
```

.....

- a. Test Cases
  - b. 3 Test Cases
  - c. 4 Test Cases
  - d. Not achievable
15. Acceptance test cases are based on what?
- a. Requirements
  - b. Design
  - c. Code
  - d. Decision table
16. "How much testing is enough?"
- a. This question is impossible to answer
  - b. This question is easy to answer
  - c. The answer depends on the risk for your industry, contract and special requirements
  - d. This answer depends on the maturity of your developers
17. A common test technique during component test is
- a. Statement and branch testing
  - b. Usability testing
  - c. Security testing
  - d. Performance testing
18. Statement Coverage will not check for the following.
- a. Missing Statements
  - b. Unused Branches
  - c. Dead Code
  - d. Unused Statement
19. Independent Verification & Validation is
- a. Done by the Developer
  - b. Done by the Test Engineers
  - c. Done By Management
  - d. Done by an Entity Outside the Project's sphere of influence
20. Code Coverage is used as a measure of what ?
- a. Defects
  - b. Trends analysis
  - c. Test Effectiveness
  - d. Time Spent Testing

## Question Paper 2:

NOTE: Only one answer per question

Q1 A deviation from the specified or expected behaviour that is visible to end-users is called:

- a) an error
- b) a fault
- c) a failure
- d) a defect

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| Q2 | <p>Regression testing should be performed:</p> <ul style="list-style-type: none"><li>v) every week</li><li>w) after the software has changed</li><li>x) as often as possible</li><li>y) when the environment has changed</li><li>z) when the project manager says</li></ul> <ul style="list-style-type: none"><li>a) v &amp; w are true, x, y &amp; z are false</li><li>b) w, x &amp; y are true, v &amp; z are false</li><li>c) w &amp; y are true, v, x &amp; z are false</li><li>d) w is true, v, x, y &amp; z are false</li></ul> |
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| Q3 | <p>IEEE 829 test plan documentation standard contains all of the following except</p> <ul style="list-style-type: none"><li>a) test items</li><li>b) test deliverables</li><li>c) test tasks</li><li>d) test specifications</li></ul> |
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Q4 When should testing be stopped?

- a) when all the planned tests have been run
- b) when time has run out
- c) when all faults have been fixed correctly
- d) it depends on the risks for the system being tested

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| Q5 | <p>Order numbers on a stock control system can range between 10000 and 99999 inclusive. Which of the following inputs might be a result of designing tests for only <u>valid</u> equivalence classes and <u>valid</u> boundaries?</p> <ul style="list-style-type: none"><li>a) 1000, 50000, 99999</li><li>b) 9999, 50000, 100000</li><li>c) 10000, 50000, 99999</li><li>d) 10000, 99999, 100000</li></ul> |
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| Q6 | <p>Consider the following statements about early test design:</p> <ul style="list-style-type: none"> <li>i. early test design can prevent fault multiplication</li> <li>ii. faults found during early test design are more expensive to fix</li> <li>iii. early test design can find faults</li> <li>iv. early test design can cause changes to the requirements</li> <li>v. early test design normally takes more effort</li> </ul> <ul style="list-style-type: none"> <li>a) i, iii &amp; iv are true; ii &amp; v are false</li> <li>b) iii &amp; iv are true; i, ii &amp; v are false</li> <li>c) i, iii, iv &amp; v are true; ii is false</li> <li>d) i &amp; ii are true; iii, iv &amp; v are false</li> </ul> |
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| Q7 | <p>Non-functional system testing includes:</p> <ul style="list-style-type: none"> <li>a) testing to see where the system does not function correctly</li> <li>b) testing quality attributes of the system including performance and usability</li> <li>c) testing a system function using only the software required for that function</li> <li>d) testing for functions that should not exist</li> </ul> |
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| Q8 | <p>Which of the following is NOT part of configuration management?</p> <ul style="list-style-type: none"> <li>a) auditing conformance to ISO 9000</li> <li>b) status accounting of configuration items</li> <li>c) identification of test versions</li> <li>d) controlled library access</li> </ul> |
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| Q9 | <p>Which of the following is the main purpose of the integration strategy for integration testing in the small?</p> <ul style="list-style-type: none"> <li>a) to ensure that all of the small modules are tested adequately</li> <li>b) to ensure that the system interfaces to other systems and networks</li> <li>c) to specify which modules to combine when, and how many at once</li> <li>d) to specify how the software should be divided into modules</li> </ul> |
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| Q10 | <p>What is the purpose of a test completion criterion?</p> <ul style="list-style-type: none"> <li>a) to know when a specific test has finished its execution</li> <li>b) to ensure that the test case specification is complete</li> <li>c) to set the criteria used in generating test inputs</li> <li>d) to determine when to stop testing</li> </ul> |
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| Q11 | <p>Consider the following statements:</p> <ul style="list-style-type: none"> <li>i. an incident may be closed without being fixed.</li> <li>ii. incidents may not be raised against documentation.</li> <li>iii. the final stage of incident tracking is fixing.</li> <li>iv. the incident record does not include information on test environments.</li> </ul> <ul style="list-style-type: none"> <li>a) ii is true, i, iii and iv are false</li> <li>b) i is true, ii, iii and iv are false</li> <li>c) i and iv are true, ii and iii are false</li> <li>d) i and ii are true, iii and iv are false</li> </ul> |
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| Q12 | <p>Given the following code, which statement is true about the minimum number of test cases required for full statement and branch coverage?</p> <pre style="margin-left: 40px;"> Read p Read q IF p+q &gt; 100 THEN   Print "Large" ENDIF IF p &gt; 50 THEN   Print "p Large" ENDIF </pre> <p>a) 1 test for statement coverage, 3 for branch coverage<br/> b) 1 test for statement coverage, 2 for branch coverage<br/> c) 1 test for statement coverage, 1 for branch coverage<br/> d) 2 tests for statement coverage, 2 for branch coverage</p> |
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| Q13 | <p>Consider the following statements:</p> <ul style="list-style-type: none"> <li>i. 100% statement coverage guarantees 100% branch coverage.</li> <li>ii. 100% branch coverage guarantees 100% statement coverage.</li> <li>iii. 100% branch coverage guarantees 100% decision coverage.</li> <li>iv. 100% decision coverage guarantees 100% branch coverage.</li> <li>v. 100% statement coverage guarantees 100% decision coverage.</li> </ul> <p>a) ii is True; i, iii, iv &amp; v are False<br/> b) i &amp; v are True; ii, iii &amp; iv are False<br/> c) ii &amp; iii are True; i, iv &amp; v are False<br/> d) ii, iii &amp; iv are True; i &amp; v are False</p> |
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| Q14 | <p>Functional system testing is:</p> <p>a) testing that the system functions with other systems<br/> b) testing that the components that comprise the system function together<br/> c) testing the end to end functionality of the system as a whole<br/> d) testing the system performs functions within specified response times</p> |
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| Q15 | <p>Incidents would not be raised against:</p> <p>a) requirements<br/> b) documentation<br/> c) test cases<br/> d) improvements suggested by users</p> |
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| Q16 | <p>Which of the following items would not come under Configuration Management?</p> <p>a) operating systems<br/> b) test documentation<br/> c) live data<br/> d) user requirement documents</p> |
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| Q17 | <p>Maintenance testing is:</p> <ul style="list-style-type: none"> <li>a) updating tests when the software has changed</li> <li>b) testing a released system that has been changed</li> <li>c) testing by users to ensure that the system meets a business need</li> <li>d) testing to maintain business advantage</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| Q18 | <p>What can static analysis NOT find?</p> <ul style="list-style-type: none"> <li>a) the use of a variable before it has been defined</li> <li>b) unreachable ("dead") code</li> <li>c) memory leaks</li> <li>d) array bound violations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                          |
| Q19 | <p>Which of the following techniques is NOT a black box technique?</p> <ul style="list-style-type: none"> <li>a) state transition testing</li> <li>b) LCSAJ</li> <li>c) syntax testing</li> <li>d) boundary value analysis</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Q20 | <p>Beta testing is:</p> <ul style="list-style-type: none"> <li>a) performed by customers at their own site</li> <li>b) performed by customers at the software developer's site</li> <li>c) performed by an Independent Test Team</li> <li>d) performed as early as possible in the lifecycle</li> </ul>                                                                                                                                                                                                                                                                                                                                                    |
| Q21 | <p>Given the following types of tool, which tools would typically be used by developers, and which by an independent system test team?</p> <ul style="list-style-type: none"> <li>i. static analysis</li> <li>ii. performance testing</li> <li>iii. test management</li> <li>iv. dynamic analysis</li> </ul> <ul style="list-style-type: none"> <li>a) developers would typically use i and iv; test team ii and iii</li> <li>b) developers would typically use i and iii; test team ii and iv</li> <li>c) developers would typically use ii and iv; test team i and iii</li> <li>d) developers would typically use i, iii and iv; test team ii</li> </ul> |
| Q22 | <p>The main focus of acceptance testing is:</p> <ul style="list-style-type: none"> <li>a) finding faults in the system</li> <li>b) ensuring that the system is acceptable to all users</li> <li>c) testing the system with other systems</li> <li>d) testing from a business perspective</li> </ul>                                                                                                                                                                                                                                                                                                                                                        |

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| Q23 | <p>Which of the following statements about component testing is FALSE?</p> <ul style="list-style-type: none"><li>a) black box test design techniques all have an associated test measurement technique</li><li>b) white box test design techniques all have an associated test measurement technique</li><li>c) cyclomatic complexity is not a test measurement technique</li><li>d) black box test measurement techniques all have an associated test design technique</li></ul>                                                                   |
| Q24 | <p>Which of the following statements is NOT true?</p> <ul style="list-style-type: none"><li>a) inspection is the most formal review process</li><li>b) inspections should be led by a trained leader</li><li>c) managers can perform inspections on management documents</li><li>d) inspection is appropriate even when there are no written documents</li></ul>                                                                                                                                                                                    |
| Q25 | <p>A typical commercial test execution tool would be able to perform all of the following, EXCEPT:</p> <ul style="list-style-type: none"><li>a) calculating expected outputs</li><li>b) comparison of expected outcomes with actual outcomes</li><li>c) recording test inputs</li><li>d) reading test values from a data file</li></ul>                                                                                                                                                                                                             |
| Q26 | <p>The difference between re-testing and regression testing is:</p> <ul style="list-style-type: none"><li>a) re-testing ensures the original fault has been removed; regression testing looks for unexpected side-effects</li><li>b) re-testing looks for unexpected side-effects; regression testing ensures the original fault has been removed</li><li>c) re-testing is done after faults are fixed; regression testing is done earlier</li><li>d) re-testing is done by developers; regression testing is done by independent testers</li></ul> |
| Q27 | <p>Expected results are:</p> <ul style="list-style-type: none"><li>a) only important in system testing</li><li>b) only used in component testing</li><li>c) most useful when specified in advance</li><li>d) derived from the code</li></ul>                                                                                                                                                                                                                                                                                                        |
| Q28 | <p>What type of review requires formal entry and exit criteria, including metrics:</p> <ul style="list-style-type: none"><li>a) walkthrough</li><li>b) inspection</li><li>c) management review</li><li>d) post project review</li></ul>                                                                                                                                                                                                                                                                                                             |
| Q29 | <p>Which of the following uses Impact Analysis most?</p> <ul style="list-style-type: none"><li>a) component testing</li><li>b) non-functional system testing</li><li>c) user acceptance testing</li><li>d) maintenance testing</li></ul>                                                                                                                                                                                                                                                                                                            |

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| Q30 | <p>What is NOT included in typical costs for an inspection process?</p> <ul style="list-style-type: none"> <li>a) setting up forms and databases</li> <li>b) analysing metrics and improving processes</li> <li>c) writing the documents to be inspected</li> <li>d) time spent on the document outside the meeting</li> </ul>                                                                                                                                                                                                                                                                                                                                                                 |
| Q31 | <p>Which of the following is NOT a reasonable test objective:</p> <ul style="list-style-type: none"> <li>a) to find faults in the software</li> <li>b) to prove that the software has no faults</li> <li>c) to give confidence in the software</li> <li>d) to find performance problems</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                             |
| Q32 | <p>Which expression best matches the following characteristics of the review processes:</p> <ol style="list-style-type: none"> <li>1. led by the author</li> <li>2. undocumented</li> <li>3. no management participation</li> <li>4. led by a moderator or leader</li> <li>5. uses entry and exit criteria</li> </ol> <ul style="list-style-type: none"> <li>s) inspection</li> <li>t) peer review</li> <li>u) informal review</li> <li>v) walkthrough</li> </ul> <ul style="list-style-type: none"> <li>a) s = 4 and 5, t = 3, u = 2, v = 1</li> <li>b) s = 4, t = 3, u = 2 and 5, v = 1</li> <li>c) s = 1 and 5, t = 3, u = 2, v = 4</li> <li>d) s = 4 and 5, t = 1, u = 2, v = 3</li> </ul> |
| Q33 | <p>Which of the following is NOT part of system testing?</p> <ul style="list-style-type: none"> <li>a) business process-based testing</li> <li>b) performance, load and stress testing</li> <li>c) usability testing</li> <li>d) top-down integration testing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Q34 | <p>Which statement about expected outcomes is FALSE?</p> <ul style="list-style-type: none"> <li>a) expected outcomes are defined by the software's behaviour</li> <li>b) expected outcomes are derived from a specification, not from the code</li> <li>c) expected outcomes should be predicted before a test is run</li> <li>d) expected outcomes may include timing constraints such as response times</li> </ul>                                                                                                                                                                                                                                                                           |
| Q35 | <p>The standard that gives definitions of testing terms is:</p> <ul style="list-style-type: none"> <li>a) ISO/IEC 12207</li> <li>b) BS 7925-1</li> <li>c) ANSI/IEEE 829</li> <li>d) ANSI/IEEE 729</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Q36 | <p>The cost of fixing a fault:</p> <ul style="list-style-type: none"><li>a) is not important</li><li>b) increases the later a fault is found</li><li>c) decreases the later a fault is found</li><li>d) can never be determined</li></ul>                                                                                                                                              |
| Q37 | <p>Which of the following is NOT included in the Test Plan document of the Test Documentation Standard?</p> <ul style="list-style-type: none"><li>a) what is not to be tested</li><li>b) test environment properties</li><li>c) quality plans</li><li>d) schedules and deadlines</li></ul>                                                                                             |
| Q38 | <p>Could reviews or inspections be considered part of testing?</p> <ul style="list-style-type: none"><li>a) no, because they apply to development documentation</li><li>b) no, because they are normally applied before testing</li><li>c) yes, because both help detect faults and improve quality</li><li>d) yes, because testing includes all non-constructive activities</li></ul> |
| Q39 | <p>Which of the following is not part of performance testing?</p> <ul style="list-style-type: none"><li>a) measuring response times</li><li>b) recovery testing</li><li>c) simulating many users</li><li>d) generating many transactions</li></ul>                                                                                                                                     |
| Q40 | <p>Error guessing is best used:</p> <ul style="list-style-type: none"><li>a) after more formal techniques have been applied</li><li>b) as the first approach to deriving test cases</li><li>c) by inexperienced testers</li><li>d) after the system has gone live</li></ul>                                                                                                            |

### Question Paper 3:

1. What is failure?
  - A. Deviation from expected result to actual result
  - B. Defect in the software.
  - C. Error in the program code.
  - D. Fault in the system.
  
2. People who don't participate in technical reviews
  - A. Analysts
  - B. Management
  - C. Developers
  - D. Testers
  
3. What type of testing is done to supplement the rigorous testing?
  - A. Regression testing.
  - B. Integration testing.
  - C. Error Guessing
  - D. System testing.
  
4. Capture and replay facilities are least likely to be used to ...
  - A. Performance testing
  - B. Recovery testing
  - C. GUI testing
  - D. User requirements.
  
5. What is the smallest number of test cases required to Provide 100% branch coverage?  
If(x>y) x=x+1; else y=y+1;  
while(x>y)  
{  
y=x\*y; x=x+1;  
}
  - A. 1
  - B. 2
  - C. 3
  - D. 4
  
6. Cyclomatic complexity is used to calculate
  - A. number of independent paths in the basis set of a program
  - B. number of binary decisions + 1
  - C. upper bound for the number of tests that must be conducted to ensure that all statements have been executed at least once
  - D. number of branches and decisions

7. If a candidate is given an exam of 40 questions, should get 25 marks to pass (61%) and should get 80% for distinction, what is equivalence class.

- A. 23, 24, 25
- B. 0, 12, 25
- C. 30, 36, 39
- D. 32,37,40

8. Match the following:

- 1. Test estimation
  - 2. Test control
  - 3. Test monitoring
  - a. measures of tracking process
  - b. effort required to perform activities
  - c. reallocation of resources
- A. 1-b, 2-c, 3-a
  - B. 1-b, 2-a, 3-c
  - C. 1-c, 2-a, 3-b
  - D. 1-a, 2-b, 3-c

9. One of the following is not a part of white box testing as per BS7925-II standards.

- A. Random testing
- B. Data Flow testing.
- C. Statement testing.
- D. Syntax testing.

10. Exclusive use of white box testing in a test-phase will:

- A. Ensure the test item is adequately tested.
- B. Make the need for black-box testing redundant.
- C. Run the risk that the requirements are not satisfied.
- D. Suffices for the unit testing phase.

11. Match the following.

- 1. Configuration identification
  - 2. Configuration control
  - 3. Status reporting
  - 4. Configuration auditing
- a. Maintains of CI's in a library
  - b. Checks on the contents of the library
  - c. Function recording and tracking problems.
  - d. Requires the all CI's and their versions in the system are known

- A. 1-d, 2-c, 3-d, 4-a.
- B. 1-d, 2-a, 3-c, 4-b.
- C. 1-a, 2-b, 3-d, 4-c.
- D. 1-c, 2-b, 3-a, 4-d.

12. Cost of the reviews will not include.

- A. Review process itself
- B. Metrics analysis
- C. Tool support.
- D. Process improvement.

13. What type of testing will you perform on internet banking solution?

- A. System integration
- B. Functional testing
- C. Non-functional testing.
- D. Requirements testing

14. Which tool will be used to test the flag memory leaks and unassigned pointers

- A. Dynamic analysis tool
- B. Static Analysis tool.
- C. Maintenance tool.
- D. Configuration tool.

15. Which of the following is not included in Test Plan.

- A. Features to be tested.
- B. Environmental needs.
- C. Suspension criteria.
- D. Expected results.

16. A piece of software has been given....what tests in the Following will you perform?

- 1) Test the areas most critical to business processes
- 2) Test the areas where faults will be maximum
- 3) Test the easiest functionalities

- A. 1&2 are true and 3 is false.
- B. 1,2&3 are true.
- C. 1 is true, 2&3 are false.
- D. 1&2 are false, 3 is true.

17. Amount of testing performed will not depend on

- A. Risks involved
- B. Contractual requirements
- C. Legal requirements

D. Test data.

18. Which of the following provides the biggest potential cost saving from use of CAST?

- A. Test management
- B. Test design
- C. Test planning
- D. Test execution

19. Testing is not done to ....

- A. Find faults
- B. Improve quality
- C. Check user friendliness.
- D. Improve software accuracy

20. Software quality is not relevant to ...

- A. Correctness
- B. Usability
- C. Viability
- D. Reusability.

21. Which of the following are false?

- A. Incidents should always be investigated and resolved.
- B. Incidents occur when expected and actual results differ.
- C. Incidents can be analyzed to assist in test process improvement.
- D. An incident can be raised against documentation.

22. Which of the following is a type of non-functional testing?

- A. Usability testing.
- B. Statement Coverage.
- C. Dataflow testing.
- D. Cause-effect graphing.

23. To make a test effective it is most important that:

- A. It is easy to execute.
- B. It is designed to detect faults if present.
- C. The expected outcome is specified before execution.
- D. It is unlikely to delay progress.

24. Error guessing is:

- A. An appropriate way of deriving system tests.
- B. Only used if good requirements are not available.
- C. Only used when good requirements are available.
- D. The most appropriate way of deriving system tests.



25. A standard for software testing terminology is:
- A. IEEE 802.11
  - B. ISO 9001
  - C. BS 7925-1
  - D. BS 7925-2
26. Which of the following is true of V-model?
- A. It includes the verification of designs.
  - B. It states that modules are tested against user requirements.
  - C. It specifies the test techniques to be used.
  - D. It only models the testing phase.
27. Which of the following is NOT part of a high level test plan?
- A. Functions not to be tested.
  - B. Environmental requirements.
  - C. Analysis of Specifications.
  - D. Entry and Exit criteria.
28. When do you stop testing?
- A. When the specified number of faults are found.
  - B. When the test completion criteria are met.
  - C. When all high and medium priority tests are complete.
  - D. When all statements have been executed.
29. Which of the following is least important in test management?
- A. Estimating test duration.
  - B. Incident Management.
  - C. Configuration Management.
  - D. De-bugging.
30. How would you estimate the amount of re-testing likely to be required?
- A. Metrics from previous similar projects.
  - B. Discussions with the development team.
  - C. Time allocated for regression testing.
  - D. Both A & B.
31. Which of the following statements is true of static analysis:
- A. Compiling code is not a form of static analysis.
  - B. Static analysis need not be performed before imperative code is executed.
  - C. Static analysis can find faults that are hard to find with

dynamic testing.

D. Extensive statistic analysis will not be needed if white-Box testing is to be performed.

32. Regression testing always involves

A. Testing whether a known software fault been fixed.

B. Executing a large number of different tests.

C. Testing whether modifications have introduced adverse side effects.

D. Using a test automation tool.

33. A field failure occurs when multiple users access a system.

Which of the following is true?

A. This is an acceptable risk of a multi-user system.

B. Insufficient functional testing has been performed.

C. This indicates an important non-functional requirement was not specified and tested.

D. It is not possible to test against such events prior to release.

34. Integration testing in the large involves:

A. Testing the system when combined with other systems.

B. Testing a sub-system using stubs and drivers.

C. Testing a system with a large number of users.

D. Combing software components and testing them in one go.

35. Data flow analysis studies:

A. How rapidly data is transferred through a program.

B. The rate of change of data values as a program executes.

C. The use of data on paths through the code.

D. The intrinsic complexity of the code.

36. The oracle assumption is that:

A. There is some existing system against which test output may be checked.

B. The tester knows everything about the software under test.

C. The tester can routinely identify the correct outcome of a test.

D. Tools are used to check the results of testing.

36 The following text will be used in Q.37 and Q.38. In a system designed to work out the tax to be paid:

An employee has \$4000 of salary tax free

The next \$1500 is taxed at 10%  
The next \$28000 is taxed at 22%  
Any further amount is taxed at 40%

37. To the nearest \$ which of these is a valid Boundary Value Analysis test case?

- A. \$1500
- B. \$32001
- C. \$28000
- D. \$33501

38. Which of these groups of numbers would fall into the same equivalence class?

- A. \$5800; \$28000; \$32000
- B. \$0; \$200; \$4200
- C. \$5200; \$5500; \$28000
- D. \$28001; \$32000; \$35000

39. Which of the following is NOT a characteristic of User Acceptance Testing?

- A. Use of automated test execution tools.
- B. Testing performed by users.
- C. Testing against acceptance test criteria.
- D. Integration of system with user documentation.

40. For software to be reliable it must:

- A. Be easy to maintain.
- B. Be unlikely to cause a failure.
- C. Never fail under any circumstances.
- D. Be written according to coding standards

## Question Paper 4:

1 We split testing into distinct stages primarily because:

- a) Each test stage has a different purpose.
- b) It is easier to manage testing in stages.
- c) We can run different tests in different environments.
- d) The more stages we have, the better the testing.

2 Which of the following is likely to benefit most from the use of test tools providing test capture and replay facilities?

- a) Regression testing
- b) Integration testing
- c) System testing
- d) User acceptance testing

3 Which of the following statements is NOT correct?

- a) A minimal test set that achieves 100% LCSAJ coverage will also achieve 100% branch coverage.
- b) A minimal test set that achieves 100% path coverage will also achieve 100% statement coverage.
- c) A minimal test set that achieves 100% path coverage will generally detect more faults than one that achieves 100% statement coverage.
- d) A minimal test set that achieves 100% statement coverage will generally detect more faults than one that achieves 100% branch coverage.

4 Which of the following requirements is testable?

- a) The system shall be user friendly.
- b) The safety-critical parts of the system shall contain 0 faults.
- c) The response time shall be less than one second for the specified design load.
- d) The system shall be built to be portable.

5 Analyse the following highly simplified procedure:

Ask: "What type of ticket do you require, single or return?"

IF the customer wants 'return'

Ask: "What rate, Standard or Cheap-day?"

IF the customer replies 'Cheap-day'

Say: "That will be £11:20"

ELSE

Say: "That will be £19:50"

ENDIF

ELSE

Say: "That will be £9:75"

ENDIF

Now decide the minimum number of tests that are needed to ensure that all the questions have been asked, all combinations have occurred and all replies given.

- a) 3
- b) 4
- c) 5d) 6

6 Error guessing:

- a) supplements formal test design techniques.
- b) can only be used in component, integration and system testing.
- c) is only performed in user acceptance testing.
- d) is not repeatable and should not be used.

7 Which of the following is NOT true of test coverage criteria?

- a) Test coverage criteria can be measured in terms of items exercised by a test suite.
- b) A measure of test coverage criteria is the percentage of user requirements covered.
- c) A measure of test coverage criteria is the percentage of faults found.
- d) Test coverage criteria are often used when specifying test completion criteria.

8 In prioritising what to test, the most important objective is to:

- a) find as many faults as possible.
- b) test high risk areas.
- c) obtain good test coverage.
- d) test whatever is easiest to test.

9 Given the following sets of test management terms (v-z), and activity descriptions (1-5), which one of the following best pairs the two sets?

- v – test control
- w – test monitoring
- x - test estimation
- y - incident management
- z - configuration control

- 1 - calculation of required test resources
- 2 - maintenance of record of test results
- 3 - re-allocation of resources when tests overrun
- 4 - report on deviation from test plan
- 5 - tracking of anomalous test results

- a) v-3,w-2,x-1,y-5,z-4
- b) v-2,w-5,x-1,y-4,z-3
- c) v-3,w-4,x-1,y-5,z-2
- d) v-2,w-1,x-4,y-3,z-5

10 Which one of the following statements about system testing is NOT true?

- a) System tests are often performed by independent teams.
- b) Functional testing is used more than structural testing.
- c) Faults found during system tests can be very expensive to fix.
- d) End-users should be involved in system tests.

11 Which of the following is false?

- a) Incidents should always be fixed.
- b) An incident occurs when expected and actual results differ.
- c) Incidents can be analysed to assist in test process improvement.
- d) An incident can be raised against documentation.

12 Enough testing has been performed when:

- a) time runs out.
- b) the required level of confidence has been achieved.
- c) no more faults are found.
- d) the users won't find any serious faults.

13 Which of the following is NOT true of incidents?

- a) Incident resolution is the responsibility of the author of the software under test.
- b) Incidents may be raised against user requirements.
- c) Incidents require investigation and/or correction.
- d) Incidents are raised when expected and actual results differ.

14 Which of the following is not described in a unit test standard?

- a) syntax testing
- b) equivalence partitioning
- c) stress testing
- d) modified condition/decision coverage

15 Which of the following is false?

- a) In a system two different failures may have different severities.
- b) A system is necessarily more reliable after debugging for the removal of a fault.
- c) A fault need not affect the reliability of a system.
- d) Undetected errors may lead to faults and eventually to incorrect behaviour.

16 Which one of the following statements, about capture-replay tools, is NOT correct?

- a) They are used to support multi-user testing.
- b) They are used to capture and animate user requirements.
- c) They are the most frequently purchased types of CAST tool.
- d) They capture aspects of user behaviour.

17 How would you estimate the amount of re-testing likely to be required?

- a) Metrics from previous similar projects
- b) Discussions with the development team
- c) Time allocated for regression testing
- d) a & b

18 Which of the following is true of the V-model?

- a) It states that modules are tested against user requirements.
- b) It only models the testing phase.
- c) It specifies the test techniques to be used.
- d) It includes the verification of designs.

19 The oracle assumption:

- a) is that there is some existing system against which test output may be checked.
- b) is that the tester can routinely identify the correct outcome of a test.
- c) is that the tester knows everything about the software under test.
- d) is that the tests are reviewed by experienced testers.

20 Which of the following characterises the cost of faults?

- a) They are cheapest to find in the early development phases and the most expensive to fix in the latest test phases.
- b) They are easiest to find during system testing but the most expensive to fix then.
- c) Faults are cheapest to find in the early development phases but the most expensive to fix then.
- d) Although faults are most expensive to find during early development phases, they are cheapest to fix then.

21 Which of the following should NOT normally be an objective for a test?

- a) To find faults in the software.
- b) To assess whether the software is ready for release.
- c) To demonstrate that the software doesn't work.
- d) To prove that the software is correct.

22 Which of the following is a form of functional testing?

- a) Boundary value analysis
- b) Usability testing
- c) Performance testing
- d) Security testing

23 Which of the following would NOT normally form part of a test plan?

- a) Features to be tested
- b) Incident reports
- c) Risks
- d) Schedule

24 Which of these activities provides the biggest potential cost saving from the use of CAST?

- a) Test management
- b) Test design
- c) Test execution
- d) Test planning

25 Which of the following is NOT a white box technique?

- a) Statement testing
- b) Path testing
- c) Data flow testing
- d) State transition testing

26 Data flow analysis studies:

- a) possible communications bottlenecks in a program.
- b) the rate of change of data values as a program executes.
- c) the use of data on paths through the code.
- d) the intrinsic complexity of the code.

27 In a system designed to work out the tax to be paid:

An employee has £4000 of salary tax free. The next £1500 is taxed at 10%

The next £28000 is taxed at 22%

Any further amount is taxed at 40%

To the nearest whole pound, which of these is a valid Boundary Value Analysis test case?

- a) £1500
- b) £32001
- c) £33501
- d) £28000

28 An important benefit of code inspections is that they:

- a) enable the code to be tested before the execution environment is ready.
- b) can be performed by the person who wrote the code.
- c) can be performed by inexperienced staff.
- d) are cheap to perform.

29 Which of the following is the best source of Expected Outcomes for User Acceptance Test scripts?

- a) Actual results
- b) Program specification
- c) User requirements
- d) System specification

30 What is the main difference between a walkthrough and an inspection?

- a) An inspection is lead by the author, whilst a walkthrough is lead by a trained moderator.
- b) An inspection has a trained leader, whilst a walkthrough has no leader.
- c) Authors are not present during inspections, whilst they are during walkthroughs.
- d) A walkthrough is lead by the author, whilst an inspection is lead by a trained moderator.

31 Which one of the following describes the major benefit of verification early in the life cycle?

- a) It allows the identification of changes in user requirements.
- b) It facilitates timely set up of the test environment.
- c) It reduces defect multiplication.
- d) It allows testers to become involved early in the project.

32 Integration testing in the small:



- a) tests the individual components that have been developed.
- b) tests interactions between modules or subsystems.
- c) only uses components that form part of the live system.
- d) tests interfaces to other systems.

33 Static analysis is best described as:

- a) the analysis of batch programs.
- b) the reviewing of test plans.
- c) the analysis of program code.
- d) the use of black box testing.

34 Alpha testing is:

- a) post-release testing by end user representatives at the developer's site.
- b) the first testing that is performed.
- c) pre-release testing by end user representatives at the developer's site.
- d) pre-release testing by end user representatives at their sites.

35 A failure is:

- a) found in the software; the result of an error.
- b) departure from specified behaviour.
- c) an incorrect step, process or data definition in a computer program.
- d) a human action that produces an incorrect result.

36 In a system designed to work out the tax to be paid:

An employee has £4000 of salary tax free. The next £1500 is taxed at 10%

The next £28000 is taxed at 22%

Any further amount is taxed at 40%

Which of these groups of numbers would fall into the same equivalence class?

- a) £4800; £14000; £28000
- b) £5200; £5500; £28000
- c) £28001; £32000; £35000
- d) £5800; £28000; £32000

37 The most important thing about early test design is that it:

- a) makes test preparation easier.
- b) means inspections are not required.
- c) can prevent fault multiplication.
- d) will find all faults.

38 Which of the following statements about reviews is true?

- a) Reviews cannot be performed on user requirements specifications.
- b) Reviews are the least effective way of testing code.
- c) Reviews are unlikely to find faults in test plans.
- d) Reviews should be performed on specifications, code, and test plans.

39 Test cases are designed during:

- a) test recording.
- b) test planning.
- c) test configuration.
- d) test specification.

40 A configuration management system would NOT normally provide:

- a) linkage of customer requirements to version numbers.
- b) facilities to compare test results with expected results.
- c) the precise differences in versions of software component source code.
- d) restricted access to the source code library.

## Question Paper 5:

1. Software testing activities should start
  - a. as soon as the code is written
  - b. during the design stage
  - c. when the requirements have been formally documented
  - d. as soon as possible in the development life cycle
  
2. Faults found by users are due to:
  - a. Poor quality software
  - b. Poor software and poor testing
  - c. bad luck
  - d. insufficient time for testing
  
3. What is the main reason for testing software before releasing it?
  - a. to show that system will work after release
  - b. to decide when the software is of sufficient quality to release
  - c. to find as many bugs as possible before release
  - d. to give information for a risk based decision about release
  
4. which of the following statements is not true
  - a. performance testing can be done during unit testing as well as during the testing of whole system
  - b. The acceptance test does not necessarily include a regression test
  - c. Verification activities should not involve testers (reviews, inspections etc)
  - d. Test environments should be as similar to production environments as possible
  
5. When reporting faults found to developers, testers should be:
  - a. as polite, constructive and helpful as possible
  - b. firm about insisting that a bug is not a “feature” if it should be fixed
  - c. diplomatic, sensitive to the way they may react to criticism
  - d. All of the above
  
6. In which order should tests be run?
  - a. the most important tests first
  - b. the most difficult tests first (to allow maximum time for fixing)
  - c. the easiest tests first (to give initial confidence)
  - d. the order they are thought of
  
7. The later in the development life cycle a fault is discovered, the more expensive it is to

fix. why?

- a. the documentation is poor, so it takes longer to find out what the software is doing.
- b. wages are rising
- c. the fault has been built into more documentation,code,tests, etc
- d. none of the above

8. Which is not true-The black box tester

- a. should be able to understand a functional specification or requirements document
- b. should be able to understand the source code.
- c. is highly motivated to find faults
- d. is creative to find the system's weaknesses

9. A test design technique is

- a. a process for selecting test cases
- b. a process for determining expected outputs
- c. a way to measure the quality of software
- d. a way to measure in a test plan what has to be done

10. Testware(test cases, test dataset)

- a. needs configuration management just like requirements, design and code
- b. should be newly constructed for each new version of the software
- c. is needed only until the software is released into production or use
- d. does not need to be documented and commented, as it does not form part of the released software system

11. An incident logging system

- a only records defects
- b is of limited value
- c is a valuable source of project information during testing if it contains all incidents
- d. should be used only by the test team.

12. Increasing the quality of the software, by better development methods, will affect the time needed for testing (the test phases) by:

- a. reducing test time
- b. no change
- c. increasing test time
- d. can't say

13. Coverage measurement

- a. is nothing to do with testing
- b. is a partial measure of test thoroughness
- c. branch coverage should be mandatory for all software
- d. can only be applied at unit or module testing, not at system testing

14. When should you stop testing?

- a. when time for testing has run out.
- b. when all planned tests have been run
- c. when the test completion criteria have been met
- d. when no faults have been found by the tests run

15. Which of the following is true?

- a. Component testing should be black box, system testing should be white box.
- b. if u find a lot of bugs in testing, you should not be very confident about the quality of software
- c. the fewer bugs you find,the better your testing was
- d. the more tests you run, the more bugs you will find.

16. What is the important criterion in deciding what testing technique to use?

- a. how well you know a particular technique
- b. the objective of the test
- c. how appropriate the technique is for testing the application
- d. whether there is a tool to support the technique

17. If the pseudocode below were a programming language ,how many tests are required to achieve 100% statement coverage?

1. If x=3 then
2. Display\_messageX;
3. If y=2 then
4. Display\_messageY;
5. Else
6. Display\_messageZ;
7. Else
8. Display\_messageZ;

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

18. Using the same code example as question 17, how many tests are required to achieve 100% branch/decision coverage?

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

19 Which of the following is NOT a type of non-functional test?

- a. State-Transition
- b. Usability
- c. Performance
- d. Security

20. Which of the following tools would you use to detect a memory leak?

- a. State analysis
- b. Coverage analysis
- c. Dynamic analysis
- d. Memory analysis

21. Which of the following is NOT a standard related to testing?

- a. IEEE829
- b. IEEE610
- c. BS7925-1
- d. BS7925-2

22. which of the following is the component test standard?

- a. IEEE 829
- b. IEEE 610
- c. BS7925-1
- d. BS7925-2

23 which of the following statements are true?

- a. Faults in program specifications are the most expensive to fix.
- b. Faults in code are the most expensive to fix.
- c. Faults in requirements are the most expensive to fix
- d. Faults in designs are the most expensive to fix.

24. Which of the following is not the integration strategy?

- a. Design based
- b. Big-bang
- c. Bottom-up
- d. Top-down

25. Which of the following is a black box design technique?

- a. statement testing
- b. equivalence partitioning
- c. error- guessing
- d. usability testing

26. A program with high cyclometric complexity is almost likely to be:

- a. Large
- b. Small
- c. Difficult to write
- d. Difficult to test

27. Which of the following is a static test?

- a. code inspection
- b. coverage analysis
- c. usability assessment
- d. installation test

28. Which of the following is the odd one out?

- a. white box
- b. glass box
- c. structural
- d. functional

29. A program validates a numeric field as follows:

values less than 10 are rejected, values between 10 and 21 are accepted, values greater than or equal to 22 are rejected

which of the following input values cover all of the equivalence partitions?

- a. 10,11,21
- b. 3,20,21

- c. 3,10,22
- d. 10,21,22

30. Using the same specifications as question 29, which of the following covers the MOST boundary values?

- a. 9,10,11,22
- b. 9,10,21,22
- c. 10,11,21,22
- d. 10,11,20,21



## Question Paper 6:

1 When what is visible to end-users is a deviation from the specific or expected behavior, this is called:

- a) an error
- b) a fault
- c) a failure
- d) a defect
- e) a mistake

2 Regression testing should be performed:

- v) every week
- w) after the software has changed
- x) as often as possible
- y) when the environment has changed
- z) when the project manager says

- a) v & w are true, x – z are false
- b) w, x & y are true, v & z are false
- c) w & y are true, v, x & z are false
- d) w is true, v, x y and z are false
- e) all of the above are true

3 IEEE 829 test plan documentation standard contains all of the following except:

- a) test items
- b) test deliverables
- c) test tasks
- d) test environment
- e) test specification

4 Testing should be stopped when:

- a) all the planned tests have been run
- b) time has run out
- c) all faults have been fixed correctly
- d) both a) and c)
- e) it depends on the risks for the system being tested

5 Order numbers on a stock control system can range between 10000 and 99999 inclusive. Which of the following inputs might be a result of designing tests for only valid equivalence classes and valid boundaries:

- a) 1000, 5000, 99999
- b) 9999, 50000, 100000
- c) 10000, 50000, 9999
- d) 10000, 99999
- e) 9999, 10000, 50000, 99999, 10000

6 Consider the following statements about early test design:

- i. early test design can prevent fault multiplication
- ii. faults found during early test design are more expensive to fix
- iii. early test design can find faults
- iv. early test design can cause changes to the requirements
- v. early test design takes more effort

- a) i, iii & iv are true. Ii & v are false
- b) iii is true, I, ii, iv & v are false
- c) iii & iv are true. i, ii & v are false
- d) i, iii, iv & v are true, ii us false
- e) i & iii are true, ii, iv & v are false

7 Non-functional system testing includes:

- a) testing to see where the system does not function properly
- b) testing quality attributes of the system including performance and usability
- c) testing a system feature using only the software required for that action
- d) testing a system feature using only the software required for that function
- e) testing for functions that should not exist

8 Which of the following is NOT part of configuration management:

- a) status accounting of configuration items
- b) auditing conformance to ISO9001
- c) identification of test versions
- d) record of changes to documentation over time
- e) controlled library access

9 Which of the following is the main purpose of the integration strategy for integration testing in the small?

- a) to ensure that all of the small modules are tested adequately
- b) to ensure that the system interfaces to other systems and networks
- c) to specify which modules to combine when and how many at once
- d) to ensure that the integration testing can be performed by a small team
- e) to specify how the software should be divided into modules

10 What is the purpose of test completion criteria in a test plan:

- a) to know when a specific test has finished its execution
- b) to ensure that the test case specification is complete
- c) to set the criteria used in generating test inputs
- d) to know when test planning is complete
- e) to plan when to stop testing

11 Consider the following statements

- i. an incident may be closed without being fixed
- ii. incidents may not be raised against documentation
- iii. the final stage of incident tracking is fixing

iv. the incident record does not include information on test environments  
v. incidents should be raised when someone other than the author of the software performs the test

- a) ii and v are true, I, iii and iv are false
- b) i and v are true, ii, iii and iv are false
- c) i, iv and v are true, ii and iii are false
- d) i and ii are true, iii, iv and v are false
- e) i is true, ii, iii, iv and v are false

12 Given the following code, which is true about the minimum number of test cases required for full statement and branch coverage:

```
Read P
Read Q
IF P+Q > 100 THEN
Print "Large"
ENDIF
If P > 50 THEN
Print "P Large"
ENDIF
```

- a) 1 test for statement coverage, 3 for branch coverage
- b) 1 test for statement coverage, 2 for branch coverage
- c) 1 test for statement coverage, 1 for branch coverage
- d) 2 tests for statement coverage, 3 for branch coverage
- e) 2 tests for statement coverage, 2 for branch coverage

13 Given the following:

```
Switch PC on
Start "outlook"
IF outlook appears THEN
Send an email
Close outlook
```

- a) 1 test for statement coverage, 1 for branch coverage
- b) 1 test for statement coverage, 2 for branch coverage
- c) 1 test for statement coverage. 3 for branch coverage
- d) 2 tests for statement coverage, 2 for branch coverage
- e) 2 tests for statement coverage, 3 for branch coverage

14 Given the following code, which is true:

```
IF A > B THEN
C = A - B
ELSE
C = A + B
ENDIF
Read D
```

```
IF C = D Then
Print "Error"
ENDIF
```

- a) 1 test for statement coverage, 3 for branch coverage
- b) 2 tests for statement coverage, 2 for branch coverage
- c) 2 tests for statement coverage. 3 for branch coverage
- d) 3 tests for statement coverage, 3 for branch coverage
- e) 3 tests for statement coverage, 2 for branch coverage

15 Consider the following:

Pick up and read the newspaper

Look at what is on television

If there is a program that you are interested in watching then switch the the television on and watch the program

Otherwise

Continue reading the newspaper

If there is a crossword in the newspaper then try and complete the crossword

- a) SC = 1 and DC = 1
- b) SC = 1 and DC = 2
- c) SC = 1 and DC = 3
- d) SC = 2 and DC = 2
- e) SC = 2 and DC = 3

16 The place to start if you want a (new) test tool is:

- a) Attend a tool exhibition
- b) Invite a vendor to give a demo
- c) Analyse your needs and requirements
- d) Find out what your budget would be for the tool
- e) Search the internet

17 When a new testing tool is purchased, it should be used first by:

- a) A small team to establish the best way to use the tool
- b) Everyone who may eventually have some use for the tool
- c) The independent testing team
- d) The managers to see what projects it should be used in
- e) The vendor contractor to write the initial scripts

18 What can static analysis NOT find?

- a) The use of a variable before it has been defined
- b) Unreachable ("dead") code
- c) Whether the value stored in a variable is correct
- d) The re-definition of a variable before it has been used
- e) Array bound violations

19 Which of the following is NOT a black box technique:

- a) Equivalence partitioning
- b) State transition testing
- c) LCSAJ
- d) Syntax testing
- e) Boundary value analysis

20 Beta testing is:

- a) Performed by customers at their own site
- b) Performed by customers at their software developer's site
- c) Performed by an independent test team
- d) Useful to test bespoke software
- e) Performed as early as possible in the lifecycle

21 Given the following types of tool, which tools would typically be used by developers and which by an independent test team:

- i. static analysis
- ii. performance testing
- iii. test management
- iv. dynamic analysis
- v. test running
- vi. test data preparation

- a) developers would typically use i, iv and vi; test team ii, iii and v
- b) developers would typically use i and iv; test team ii, iii, v and vi
- c) developers would typically use i, ii, iii and iv; test team v and vi
- d) developers would typically use ii, iv and vi; test team I, ii and v
- e) developers would typically use i, iii, iv and v; test team ii and vi

22 The main focus of acceptance testing is:

- a) finding faults in the system
- b) ensuring that the system is acceptable to all users
- c) testing the system with other systems
- d) testing for a business perspective
- e) testing by an independent test team

23 Which of the following statements about the component testing standard is false:

- a) black box design techniques all have an associated measurement technique
- b) white box design techniques all have an associated measurement technique
- c) cyclomatic complexity is not a test measurement technique
- d) black box measurement techniques all have an associated test design technique
- e) white box measurement techniques all have an associated test design technique

24 Which of the following statements is NOT true:

- a) inspection is the most formal review process
- b) inspections should be led by a trained leader

- c) managers can perform inspections on management documents
- d) inspection is appropriate even when there are no written documents
- e) inspection compares documents with predecessor (source) documents

25 A typical commercial test execution tool would be able to perform all of the following EXCEPT:

- a) generating expected outputs
- b) replaying inputs according to a programmed script
- c) comparison of expected outcomes with actual outcomes
- d) recording test inputs
- e) reading test values from a data file

26 The difference between re-testing and regression testing is

- a) re-testing is running a test again; regression testing looks for unexpected side effects
- b) re-testing looks for unexpected side effects; regression testing is repeating those tests
- c) re-testing is done after faults are fixed; regression testing is done earlier
- d) re-testing uses different environments, regression testing uses the same environment
- e) re-testing is done by developers, regression testing is done by independent testers

27 Expected results are:

- a) only important in system testing
- b) only used in component testing
- c) never specified in advance
- d) most useful when specified in advance
- e) derived from the code

28 Test managers should not:

- a) report on deviations from the project plan
- b) sign the system off for release
- c) re-allocate resource to meet original plans
- d) raise incidents on faults that they have found
- e) provide information for risk analysis and quality improvement

29 Unreachable code would best be found using:

- a) code reviews
- b) code inspections
- c) a coverage tool
- d) a test management tool
- e) a static analysis tool

30 A tool that supports traceability, recording of incidents or scheduling of tests is called:

- a) a dynamic analysis tool
- b) a test execution tool
- c) a debugging tool
- d) a test management tool
- e) a configuration management tool

31 What information need not be included in a test incident report:

- a) how to fix the fault
- b) how to reproduce the fault
- c) test environment details
- d) severity, priority
- e) the actual and expected outcomes

32 Which expression best matches the following characteristics or review processes:

- 1. led by author
- 2. undocumented
- 3. no management participation
- 4. led by a trained moderator or leader
- 5. uses entry exit criteria

- s) inspection
- t) peer review
- u) informal review
- v) walkthrough

- a) s = 4, t = 3, u = 2 and 5, v = 1
- b) s = 4 and 5, t = 3, u = 2, v = 1
- c) s = 1 and 5, t = 3, u = 2, v = 4
- d) s = 5, t = 4, u = 3, v = 1 and 2
- e) s = 4 and 5, t = 1, u = 2, v = 3

33 Which of the following is NOT part of system testing:

- a) business process-based testing
- b) performance, load and stress testing
- c) requirements-based testing
- d) usability testing
- e) top-down integration testing

34 What statement about expected outcomes is FALSE:

- a) expected outcomes are defined by the software's behaviour
- b) expected outcomes are derived from a specification, not from the code
- c) expected outcomes include outputs to a screen and changes to files and databases
- d) expected outcomes should be predicted before a test is run
- e) expected outcomes may include timing constraints such as response times

35 The standard that gives definitions of testing terms is:

- a) ISO/IEC 12207
- b) BS7925-1
- c) BS7925-2
- d) ANSI/IEEE 829
- e) ANSI/IEEE 729

36 The cost of fixing a fault:

- a) Is not important
- b) Increases as we move the product towards live use
- c) Decreases as we move the product towards live use
- d) Is more expensive if found in requirements than functional design
- e) Can never be determined

37 Which of the following is NOT included in the Test Plan document of the Test Documentation Standard:

- a) Test items (i.e. software versions)
- b) What is not to be tested
- c) Test environments
- d) Quality plans
- e) Schedules and deadlines

38 Could reviews or inspections be considered part of testing:

- a) No, because they apply to development documentation
- b) No, because they are normally applied before testing
- c) No, because they do not apply to the test documentation
- d) Yes, because both help detect faults and improve quality
- e) Yes, because testing includes all non-constructive activities

39 Which of the following is not part of performance testing:

- a) Measuring response time
- b) Measuring transaction rates
- c) Recovery testing
- d) Simulating many users
- e) Generating many transactions

40 Error guessing is best used

- a) As the first approach to deriving test cases
- b) After more formal techniques have been applied
- c) By inexperienced testers
- d) After the system has gone live
- e) Only by end users



## Question Paper 7:

Q1 A deviation from the specified or expected behaviour that is visible to end-users is called:

- a) an error
- b) a fault
- c) a failure
- d) a defect

Q2 Regression testing should be performed:

- v) every week
- w) after the software has changed
- x) as often as possible
- y) when the environment has changed
- z) when the project manager says

- a) v & w are true, x, y & z are false
- b) w, x & y are true, v & z are false
- c) w & y are true, v, x & z are false
- d) w is true, v, x, y & z are false

Q3 IEEE 829 test plan documentation standard contains all of the following except

- a) test items
- b) test deliverables
- c) test tasks
- d) test specifications

Q4 When should testing be stopped?

- a) when all the planned tests have been run
- b) when time has run out
- c) when all faults have been fixed correctly
- d) it depends on the risks for the system being tested

Q5 Order numbers on a stock control system can range between 10000 and 99999 inclusive. Which of the following inputs might be a result of designing tests for only valid equivalence classes and valid boundaries?

- a) 1000, 50000, 99999
- b) 9999, 50000, 100000
- c) 10000, 50000, 99999
- d) 10000, 99999, 100000

Q6 Consider the following statements about early test design:

- i. early test design can prevent fault multiplication
- ii. faults found during early test design are more expensive to fix
- iii. early test design can find faults
- iv. early test design can cause changes to the requirements
- v. early test design normally takes more effort

- a) i, iii & iv are true; ii & v are false
- b) iii & iv are true; i, ii & v are false
- c) i, iii, iv & v are true; ii is false
- d) i & ii are true; iii, iv & v are false

Q7 Non-functional system testing includes:

- a) testing to see where the system does not function correctly
- b) testing quality attributes of the system including performance and usability
- c) testing a system function using only the software required for that function
- d) testing for functions that should not exist

Q8 Which of the following is NOT part of configuration management?

- a) auditing conformance to ISO 9000
- b) status accounting of configuration items
- c) identification of test versions
- d) controlled library access

Q9 Which of the following is the main purpose of the integration strategy for integration testing in the small?

- a) to ensure that all of the small modules are tested adequately
- b) to ensure that the system interfaces to other systems and networks
- c) to specify which modules to combine when, and how many at once
- d) to specify how the software should be divided into modules

Q10 What is the purpose of a test completion criterion?

- a) to know when a specific test has finished its execution
- b) to ensure that the test case specification is complete
- c) to set the criteria used in generating test inputs
- d) to determine when to stop testing

Q11 Consider the following statements:

- i. an incident may be closed without being fixed.
- ii. incidents may not be raised against documentation.

- iii. the final stage of incident tracking is fixing.
- iv. the incident record does not include information on test environments.

- a) ii is true, i, iii and iv are false
- b) i is true, ii, iii and iv are false
- c) i and iv are true, ii and iii are false
- d) i and ii are true, iii and iv are false

Q12 Given the following code, which statement is true about the minimum number of test cases required for full statement and branch coverage?

```
Read p
Read q
IF p+q > 100 THEN
Print "Large"
ENDIF
IF p > 50 THEN
Print "p Large"
ENDIF
```

- a) 1 test for statement coverage, 3 for branch coverage
- b) 1 test for statement coverage, 2 for branch coverage
- c) 1 test for statement coverage, 1 for branch coverage
- d) 2 tests for statement coverage, 2 for branch coverage

Q13 Consider the following statements:

- i. 100% statement coverage guarantees 100% branch coverage.
- ii. 100% branch coverage guarantees 100% statement coverage.
- iii. 100% branch coverage guarantees 100% decision coverage.
- iv. 100% decision coverage guarantees 100% branch coverage.
- v. 100% statement coverage guarantees 100% decision coverage.

- a) ii is True; i, iii, iv & v are False
- b) i & v are True; ii, iii & iv are False
- c) ii & iii are True; i, iv & v are False
- d) ii, iii & iv are True; i & v are False

Q14 Functional system testing is:

- a) testing that the system functions with other systems
- b) testing that the components that comprise the system function together
- c) testing the end to end functionality of the system as a whole
- d) testing the system performs functions within specified response times

Q15 Incidents would not be raised against:

- a) requirements
- b) documentation
- c) test cases
- d) improvements suggested by users

Q16 Which of the following items would not come under Configuration Management?

- a) operating systems
- b) test documentation
- c) live data
- d) user requirement documents

Q17 Maintenance testing is:

- a) updating tests when the software has changed
- b) testing a released system that has been changed
- c) testing by users to ensure that the system meets a business need
- d) testing to maintain business advantage

Q18 What can static analysis NOT find?

- a) the use of a variable before it has been defined
- b) unreachable (“dead”) code
- c) memory leaks
- d) array bound violations

Q19 Which of the following techniques is NOT a black box technique?

- a) state transition testing
- b) LCSAJ
- c) syntax testing
- d) boundary value analysis

Q20 Beta testing is:

- a) performed by customers at their own site
- b) performed by customers at the software developer's site
- c) performed by an Independent Test Team
- d) performed as early as possible in the lifecycle

Q21 Given the following types of tool, which tools would typically be used by developers, and which by an independent system test team?

- i. static analysis
- ii. performance testing
- iii. test management

iv. dynamic analysis

- a) developers would typically use i and iv; test team ii and iii
- b) developers would typically use i and iii; test team ii and iv
- c) developers would typically use ii and iv; test team i and iii
- d) developers would typically use i, iii and iv; test team ii

Q22 The main focus of acceptance testing is:

- a) finding faults in the system
- b) ensuring that the system is acceptable to all users
- c) testing the system with other systems
- d) testing from a business perspective

Q23 Which of the following statements about component testing is FALSE?

- a) black box test design techniques all have an associated test measurement technique
- b) white box test design techniques all have an associated test measurement technique
- c) cyclomatic complexity is not a test measurement technique
- d) black box test measurement techniques all have an associated test design technique

Q24 Which of the following statements is NOT true?

- a) inspection is the most formal review process
- b) inspections should be led by a trained leader
- c) managers can perform inspections on management documents
- d) inspection is appropriate even when there are no written documents

Q25 A typical commercial test execution tool would be able to perform all of the following, EXCEPT:

- a) calculating expected outputs
- b) comparison of expected outcomes with actual outcomes
- c) recording test inputs
- d) reading test values from a data file

Q26 The difference between re-testing and regression testing is:

- a) re-testing ensures the original fault has been removed; regression testing looks for unexpected side-effects
- b) re-testing looks for unexpected side-effects; regression testing ensures the original fault has been removed
- c) re-testing is done after faults are fixed; regression testing is done earlier
- d) re-testing is done by developers; regression testing is done by independent testers

Q27 Expected results are:

- a) only important in system testing
- b) only used in component testing
- c) most useful when specified in advance
- d) derived from the code

Q28 What type of review requires formal entry and exit criteria, including metrics:

- a) walkthrough
- b) inspection
- c) management review
- d) post project review

Q29 Which of the following uses Impact Analysis most?

- a) component testing
- b) non-functional system testing
- c) user acceptance testing
- d) maintenance testing

Q30 What is NOT included in typical costs for an inspection process?

- a) setting up forms and databases
- b) analysing metrics and improving processes
- c) writing the documents to be inspected
- d) time spent on the document outside the meeting

Q31 Which of the following is NOT a reasonable test objective:

- a) to find faults in the software
- b) to prove that the software has no faults
- c) to give confidence in the software
- d) to find performance problems

Q32 Which expression best matches the following characteristics of the review processes:

1. led by the author
2. undocumented
3. no management participation
4. led by a moderator or leader
5. uses entry and exit criteria

- s) inspection
- t) peer review

- u) informal review
- v) walkthrough

- a)  $s = 4$  and  $5$ ,  $t = 3$ ,  $u = 2$ ,  $v = 1$
- b)  $s = 4$ ,  $t = 3$ ,  $u = 2$  and  $5$ ,  $v = 1$
- c)  $s = 1$  and  $5$ ,  $t = 3$ ,  $u = 2$ ,  $v = 4$
- d)  $s = 4$  and  $5$ ,  $t = 1$ ,  $u = 2$ ,  $v = 3$

Q33 Which of the following is NOT part of system testing?

- a) business process-based testing
- b) performance, load and stress testing
- c) usability testing
- d) top-down integration testing

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- d) ANSI/IEEE 729

Q36 The cost of fixing a fault:

- a) is not important
- b) increases the later a fault is found
- c) decreases the later a fault is found
- d) can never be determined

Q37 Which of the following is NOT included in the Test Plan document of the Test Documentation Standard?

- a) what is not to be tested
- b) test environment properties
- c) quality plans
- d) schedules and deadlines

Q38 Could reviews or inspections be considered part of testing?

- a) no, because they apply to development documentation
- b) no, because they are normally applied before testing
- c) yes, because both help detect faults and improve quality
- d) yes, because testing includes all non-constructive activities

Q39 Which of the following is not part of performance testing?

- a) measuring response times
- b) recovery testing
- c) simulating many users
- d) generating many transactions

Q40 Error guessing is best used:

- a) after more formal techniques have been applied
- b) as the first approach to deriving test cases
- c) by inexperienced testers
- d) after the system has gone live



Answers to Question Paper 1:

- 1 c
- 2 d
- 3 c
- 4 b
- 5 c
- 6 b
- 7 b
- 8 c
- 9 a
- 10 d
- 11 c
- 12 b
- 13 b
- 14 c
- 15 a
- 16 c
- 17 a
- 18 a
- 19 d
- 20 c

Answer to Question Paper 2:

| Question number | Correct answer |
|-----------------|----------------|
| 1               | C              |
| 2               | C              |
| 3               | D              |
| 4               | D              |
| 5               | C              |
| 6               | A              |
| 7               | B              |
| 8               | A              |
| 9               | C              |
| 10              | D              |
| 11              | B              |
| 12              | B              |
| 13              | D              |
| 14              | C              |
| 15              | D              |
| 16              | C              |
| 17              | B              |
| 18              | C              |
| 19              | B              |

|    |   |
|----|---|
| 20 | A |
| 21 | A |
| 22 | D |
| 23 | A |
| 24 | D |
| 25 | A |
| 26 | A |
| 27 | C |
| 28 | B |
| 29 | D |
| 30 | C |
| 31 | B |
| 32 | A |
| 33 | D |
| 34 | A |
| 35 | B |
| 36 | B |
| 37 | C |
| 38 | C |
| 39 | B |
| 40 | A |

Answer to Question Paper 3:

1. A
2. B
3. C
4. D
5. B
6. B
7. D
8. A
9. D
10. C
11. B
12. C
13. C
14. A
15. D
16. A
17. D
18. D
19. D

- 20. C
- 21. C
- 22. A
- 23. C
- 24. D
- 25. C
- 26. B
- 27. C
- 28. B
- 29. D
- 30. A
- 31. A
- 32. C
- 33. C
- 34. A
- 35. B
- 36. C
- 37. D
- 38. A
- 39. A
- 40. B

Answer to Question Paper 4:

- 1 A
- 2 A
- 3 D
- 4 C
- 5 A
- 6 A
- 7 C
- 8 B
- 9 C
- 10 D
- 11 A
- 12 B
- 13 A
- 14 C
- 15 B
- 16 B
- 17 D
- 18 D
- 19 B
- 20 A
- 21 D
- 22 A

23 B  
24 C  
25 D  
26 C  
27 C  
28 A  
29 C  
30 D  
31 C  
32 B  
33 C  
34 C  
35 B  
36 D  
37 C  
38 D  
39 D  
40 B

Answer to Question Paper 5:

1.d  
2.b  
3.d  
4.c  
5.d  
6.a  
7.c  
8.b  
9.a  
10.a  
11.c  
12.a  
13.b  
14.c  
15.b  
16.b  
17.c  
18.c  
19.a  
20.c  
21.b  
22.d  
23.c  
24.a

25.b  
26.d  
27.a  
28.d  
29.c  
30.b

Answer to Question Paper 6:

1 C  
2 C  
3 E  
4 E  
5 C  
6 A  
7 B  
8 B  
9 C  
10 E  
11 B  
12 B  
13 B  
14 B  
15 E  
16 C  
17 B  
18 C  
19 C  
20 A  
21 B  
22 D  
23 A  
24 D  
25 A  
26 A  
27 D  
28 C  
29 A  
30 E  
31 E  
32 B  
33 E  
34 A  
35 B  
36 B

37 D  
38 D  
39 C  
40 B

Answer to Question Paper 7:

1 C  
2 C  
3 D  
4 D  
5 C  
6 A  
7 B  
8 A  
9 C  
10 D  
11 B  
12 B  
13 D  
14 C  
15 D  
16 C  
17 B  
18 C  
19 B  
20 A  
21 A  
22 D  
23 A  
24 D  
25 A  
26 A  
27 C  
28 B  
29 D  
30 C  
31 B  
32 A  
33 D  
34 A  
35 B  
36 B  
37 C  
38 C  
39 B  
40 A

