# Đề 1_đáp án

**1.** Which of the following alternative describes NOT a major task of test implementation?...[K2].

a) Executing tests either manually or by using test execution tools.
b) Developing and prioritizing test procedures, and, potentially, creating automated test scripts.
c) Creating test suites from the test procedures and (if any) automated test scripts.
d) Preparing test data and ensuring it is properly loaded in the test environment.

**2.** Which of the following alternatives describes fundamental test process?[K1]

a) Test planning - Test monitoring and control -Test analysis - Test design - Test implementation - Test execution - Test exit
b) Test planning - Test progress control - Test analysis - Test design - Test implementation - Test execution - Test completion
c) Test planning - Test monitoring - Test analysis - Test design - Test implementation - Test execution - Test completion
d) Test planning - Test monitoring and control - Test analysis - Test design - Test implementation - Test execution - Test completion

**3.** Which of the following statement describes correctly about software testing terms for problem in software?[K1]

a) Errors or mistakes result in faults, which, when executed, may result in failures.
b) Errors result in failures which, when executed, may result in incidents.
c) Human failures may result in defects, which, when executed, will result in incidents.
d) Problems during analysis and design may result in errors, which during execution may result in failures.

**4.** Which of following alternative describes a general testing principle…

a) Defects are evenly distributed through the system.
b) Repeating the same test cases over again in new versions of the software finds less and less defects.
c) Testing can prove that there are no defects
d) If testing shows no defects, then the system is useful.

**5.** Which of the following statements contains a valuable objective for a test team?

a) The goal is to fulfill all testing activity requirements as specified in the project handbook.
b) The goal is to cause as many failures as possible so that faults can be identified and corrected.
c) The goal is to prove that all faults are identified.
d) The goal is to prove that failures may not be caused any more by the remaining defects

**6.** You are running a written test which other testers have run previously. In addition, this test has found bugs previously, and those bugs have been confirmed to be fixed. The test manager has encouraged you to the specific way in which you run the test, such as the order of certain actions, use of mouse versus hot-keys, and the particular input values, based on the way users will use in the system. Which of the following is a testing principle that could explain the test manager's directive?

a) Early testing
b) Absence –of –errors fallacy
c) Random testing
d) Pesticide paradox

Question about “Testing in the Software Lifecycle”

**7.** Which goal is usually NOT part of component testing?
a) Testing correct functionality of the component
b) Testing correct interactions between component
c) Testing completeness of the component’s functionality
d) Testing robustness of the component

**8.** Which of alternatives describes the reasons of why there are different level of testing?
A. Because every test level has a definite task and should concern the typical defects for that level.
B. Because the test levels are executed by different personnel
C. Because defects can be found earlier by testing in many levels
D. Because execution of the earlier test levels tends to reduce over of later test levels with too many bugs
E. In order to make project planning and follow-up easier, the testing objects are divided into test levels
a) A and B are true; C,D and E are false
b) A,C and D are true; B and E are false
c) B,C and D are true; A and B are false
d) C,D and E are true; A and B are false

**9.** The following descriptions are related to acceptance testing. Which of the following alternative describes NOT true?
a) Site acceptance testing is to determine whether or not a component or system satisfies the user/customer needs and fits within the business process, normally including hardware as well as software.
b) Acceptance testing is formal testing with respect to users needs, requirements, and business processes conducted to determine whether or not a system satisfies the acceptance criteria and to enable the user, customers or other authorized entity to determine whether or not to accept the system.
c) User acceptance testing verifies the fitness for use of the system and usability of business perspective.
d) Regulation acceptance testing is verifies the fitness for use of the system and usability of business perspective.
e) Regulation acceptance testing is performed against any regulations that must be adhered to, such as governmental, legal or safety regulations.

**10.** Which of the following alternative describes the main difference between "system testing" and "Acceptance testing"?

a) System testing is done on the development platform, while acceptance testing is done on the customer platform
b) System testing is done against the developers' interpretation of the requirements, acceptance testing against customer understanding.
c) System testing concentrates on functional testing, while acceptance testing concentrates on nonfunctional testing.
d) Acceptance testing is a regression test for the changes implemented during system testing.

**11.** Which of following is correct about regression testing? [K2]

a) During regression test a part of the already executed tests are repeated after the unit, build or system under test is modified, in order to check that the changes have NOT created new defects
b) During regression test all already executed tests are repeated after the unit, build or system under test is modified in order to assure that changes of the test object have NOT created new defect
c) During regression test a part of the already executed tests are repeated after the unit, build or system under test is modified in order to check if the defects found so far are corrected
d) During regression test a part of the already executed tests are repeated after the unit, build or system under test is modified in order to check if the defected found so far are corrected

**12.** In which testing level should performance be tested?

a) Performance may be tested in earlier test levels than system testing.
b) Performance should be tested in system testing.
c) Performance must be tested in system and acceptance testing.
d) Performance must be tested in every test level

**13.** Which of the following alternative describes about "System test"

a) System test only checks functional requirements. Nonfunctional requirements shall be validated in a review.
b) System testing only checks nonfunctional requirements. Functional requirements shall be validated in a review
c) System testing checks functional as well as nonfunctional requirements.
d) System testing check only requirements specified in the requirements specification.

**14.** When should structural testing be used?

a) Structural testing should be used in component testing.
b) Structural testing can be used in any test level. However, structural techniques are best used after specification based techniques.
c) Structural testing should be used mainly in integration testing to verify if the structure of the product is sound and robust. Additional, it may be applied in later test levels.
d) Structural testing must be used in component testing but may be used later test levels.

**15.** Which of the following test aspects is important for "maintainability" described in ISO 9126 Standard?

a) Memory use
b) Response time
c) Modularity
d) Robustness

Question about " Static Testing"

**16.** Which of the statements about reviews are correct?

a) Any type of Reviews can help find bugs early resulting in savings of cost.
b) It is wise to exclude testers in review of specifications because it can bias them
c) Reviews are useful because they help management to assign responsibility of failure of individual developers.
d) Requirement of additional time for reviews is likely to result in longer development cycle.

**17.** Which of following review types has its purpose of learning, gaining understanding and finding defect? [K2]

a) Informal
b) Walkthrough
c) Technical review
d) Inspection

**18.** If you are test Manager, what is a main task in Review activity?

a) Main task is to make sure review take place and that the participants have time to prepare and attend.
b) Main task is to check that the participants prepare well enough during individual preparation for a review.
c) Main task is to check that the documents fulfill the previously agreed upon rules and standards.
d) Main task is to choose the moderator to lead the review and follow up moderator performance and training.

**19.** Which of the following is a difference between the contents of a test case specification and a test procedure specification?

a) The test procedure specification is used only for automated test execution
b) The two terms are synonyms and have exactly the same contents
c) The test case specification specifies the sequence of action for the execution of a test.
d) The test procedure specification specifies the sequence of action for the execution of a test

**20.** Which of the following describes NOT related with testing objective? [K1]

a) Gaining confidence about the level of quality
b) Providing information for decision –making
c) Preventing defects

d) Making a zero defect Software

**21.** With the help of testing, It is possible to measure the quality of software in terms of defects found for both functional and non-functional software requirements and characteristics (e.g., reliability, usability, efficiency, maintainability and portability). Which of following international standards describe on software characteristics? [K1]

a) IEEE 829
b) IEEE 1028
c) ISO 25010 (9126)
d) ISO 15504

**22.** You are working on a project on which any slippage in the test execution completion date would result in financial penalties for your employer. Achieving the planned delivery date is seen as the highest single priority. Which benefit of static techniques is likely to convince management to use them?
a) Productivity improvements
b) Improved communication within the team
c) Reduced post-release support costs
d) Reduced testing cost and time.

Question about "Dynamic Testing"

**23.** You are testing System Response Time under load testing. What test type are you performing?
a) Structural
b) Acceptance
c) Functional
d) Non-functional

**24.** You are brought in as the sole tester at the end of a project. You are were selected because of your understanding of the system and its intended behavior, Users, customers, and other project stakeholders consider the software low-risk. You are give one week to execute tests to see if any show-stopping defects are present.
a) Specification-based
b) Experience-based
c) Structure-based
d) Static testing

**25.** Which of the following techniques is considered as a typical structure-based technique?
a) State transition testing
b) Decision coverage testing
c) Boundary value analysis
d) Equivalence partitioning

[Specification A] The following specification is given for question 26 and 27.
Vietnam Railway company runs a train from Ho Chi Minh City to Hanoi. This train has four different kinds of accommodation with different ticket prices: Hard seat, soft seat, hard sleeper, and soft sleepers. For hard sleeper, there are different prices for lower, middle and upper berth. For soft sleeper, there is a different price for lower and upper berth. For sleeping accommodation, different prices apply for non-air-condition and air-condition. For soft sleeper, a higher price applies for compartments with own bathroom. High-speed trains exist, but have only hard and soft seat, and they have another price than "normal" trains.

**26.** In above [Specification A] how many different valid combinations of inputs exist for computing the price?

a) 36
b) 24
c) 18
d) 12

**27.** In above [Specification A], which of the following testing technique is most likely to be selected to minimize testing effort within limited time frame? Assume that other facts are considered already.

a) Equivalence Partitioning techniques
b) Pair Wise Technique and Orthogonal Array Techniques
c) State Transition Techniques
d) Condition-Decision Coverage Technique

**28.** The following program code is given. How many test cases do you need for 100% statement coverage?

```
IF (Age>18) THEN
        CustomerPotential :=1.000
        IF Gender =”Male” THEN
                ProductSet:=”Technique”
        ELSE
                ProductSet:=”Clothes”
        END IF
END IF
IF ( Country = “Vietnam”) THEN
        International:=”No”
ELSE
        International :=”Yes”
END IF
```

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

**29.** The following rule must be followed when using the equivalence class partitioning method:

a) Divides possible inputs into class that have the same behavior
b) Makes use of only positive test cases for the equivalence partitions

c) Muss always include at least two values from every equivalence partition
d) Can be used only for testing equivalence partitions inputs from a Graphical User Interface

**30.** Which of the following is NOT true about Multiple condition coverage?...[K3]
a) 100% multiple condition coverage implies 100% condition determination coverage
b) In this coverage, all possible combinations of true/false conditions are identified.
c) White box test design technique
d) The percentage of combinations of all multi condition outcomes within one statement that have been exercised by a test suite

**31.** Which of the following is NOT true about Condition Determination Testing and Coverage?[K3]
a) 100% decision condition coverage implies 100% condition determination coverage
b) A white box test design technique in which test cases are independently affect a decision outcome that have been exercised by a test case suite.
c) The percentage of all single condition outcomes that independently affect a decision outcome that have been exercised by a test case suite.
d) The possible combination of true/false conditions that can affect decisions are identified.

**32.** Which of the following is Common characteristics of structure-based test design techniques ? [K2]
a) Information about how the software is constructed is used to derive the test cases.
b) Test cases can be derived systematically from these models
c) The knowledge and experience of people are used to derive the test cases
d) Models, either formal or informal, are used for the specification of the problem to be solved, the software or its components

Question about “Test Management”

**33.** Which of the following alternative describes NOT true about usage of identifying product risks…
a) It is used to decide about the tool support for the test.
b) It is used to determine the test techniques to be used
c) It is used to decide the extent of testing activity
d) It is used to decide what to test early

**34.** You are working as the manager of an independent test team. At a project meeting, you are explaining the results of your testing so far. You show the team that, while testing is proceeding productively, it is talking a while to get some critical bugs and test failures resolved. Another manager comments that he is concerned that the test team is delaying the release of the software. Which of the following is a drawback of independent testing illustrated by this manager’s comment?
a) Independent testers can verify assumptions that other people made
b) The test team is seen as responsible for the delays
c) Independent testers see other and different defects, and are unbiased

d) The test team is isolated from the rest of the project team

**35.** Which of the following alternative describes about incident management NOT correctly?
a) Incident management should show product quality through use of metrics.
b) Registration of problems, faults and failures are required to manage incidents
c) New software requirements should be defined and implemented
d) Incident management deals to develop of proposals to correct faults.

**36.** Which of the following is a way in which configuration management supports testing?
a) Automatically determines the location of any defects found
b) No benefits; configuration management supports testing
c) Uniquely identifies the tested item
d) Ensures that code has been unit tested

Question about "Test Tool"

**37.** Which of the following alternative describes NOT true about Why test automation often fail?
a) The automation tool does not support all features in the interface
b) The test script are too difficult to maintain.
c) Learning effort for the test tool scripting language is too high
d) There are not enough tool licenses available

**38.** You are currently engaged in working as a test manager on a large program. You anticipate a large number of defects in the system. What kind of tool support might be helpful to you as a manager?
a) Test execution
b) Test comparator
c) Static analysis
d) Incident management

**39.** Which of the following alternative describes the success factors for deployment for testing tool into your organization?
a) Should spend most of time for Testing tool Evaluating
b) Implementing the new tool in rapidly will ensure and helpful
c) Tool deployment is recommended to define a test process in parallel
d) Required to provide training and coaching for new users

**40.** Which of the following terms is used, when the developers are releasing code for testing that is not version controlled? [K2]
a) Incident management
b) Configuration management
c) Test monitoring
d) Risk management

# Đề 2_đáp án

1. Which statement about testing is true? …[K1]

a) Testing is started after the code is written so that we have a system with which to work.
b) Testing is started as early as possible in the life cycle.
c) Testing is most economically done at the end of the life cycle.
d) Testing can only be done by an independent test team.

2. The risk of an undetected defect … [K2]

a) … does not influence testing in any way.
b) … has influence on test comprehensiveness and intensity.
c) … has no influence on the specification of the test cases.
d) … has no influence on the prioritization of the tests.

3. During testing, … [K2]

a) … all parts of the system should be tested with the same intensity, because defects can be everywhere.
b) … the user interface should primarily be tested, because failures in it are most annoying for the customer.
c) … system parts where failures may cause great risks should be tested most intensively.
d) … data base access should be tested intensively, in order to prevent wrong data and inconsistencies an the database.

4. According to ISTQB syllabus, A software error can be described as…[K1]

a) A mismatch between the program and its specification.
b) A description of the relationship between two or more variables or set members in which the values of one does not influence the values of others.
c) The process in which developers determinate the root cause of a bug and identify possible fixes.
d) Any ill-advised, substandard, or temporary fix applied to an urgent problem in the (often misguided) belief that doing so will keep a project moving forward.

5. Deciding how much testing is enough should take account of followings except? [K2]

a) Project constraints
b) Level of Risk
c) Decision Table
d) Safety

6. Which of the following Is NOT " Test Analysis and Design" activity in "Fundamental Test Process" [K2]

a) Identifying necessary test data to support the test conditions and test cases
b) Identifying and prioritizing test conditions based on analyses of test items, the specification, behavior and structure of the software.
c) Creating bi-directional traceability between test basic and test cases.
d) Creating test suites from the test procedures for efficient test execution.

7. Which is not a goal of writing effective Problem/Bug report?[K2]

a) Explain how to reproduce the problem.
b) Analyze the error so you can describe it in a minimum number of steps.
c) Write a report that is complete, easy to understand, and non-antagonistic
d) Illustrate how to fix the problem

Question about "Testing in the Software Lifecycle"

8. Which of the following is true of the V-model …. [K2]

a) … it only models the test phase
b) … it specifies the test techniques to be used
c) … it includes the verification of design
d) … it only states that testing against user requirement

9. Dynamic and----------approaches, such as exploratory testing were testing is more reactive to events than pre-planned, and where execution and evaluation are concurrent tasks…[K2]

a) Heuristic
b) Exploratory
c) Regression-averse
d) Analytical

10. Testing according to the V-model has the following fundamental principles [K2]

a) For every development level, there must be a corresponding test level.
b) For every development level, there must be a corresponding test level. For every test level early test design should be implemented.
c) There must a least be the following test levels: Component testing, integration testing, system testing and acceptance testing.
d) The model is only useful for large critical software projects where there is one delivery only.

11. Integration testing has this fundamental purpose: [K2]

a) Testing the new system together with the systems existing before.
b) Testing components together in a hierarchical, incremental way like top-down or bottom-up.
c) Testing the client part together with different other layers of the software (like for example, application server code, database server code etc.).
d) Testing interfaces between components, interactions between different parts of the system, as well as interfaces between systems.

12. Negative test is … [K1]

a) … Test aimed at showing that a component or system does work.
b) … Tests aimed at showing that a component or system does not work.
c) … Not related to the testers' attitude.
d) … Related to a specific test approach or test design technique.

13. Which of these is a functional test? … [K1]

a) Measuring response time on an on-line booking system.
b) Checking the effect of high-volumes of traffic in a call-center system.
c) Checking the online bookings screen information and the database contents against the information on the letter to the customers.
d) Checking how easy the system is to use.

14. Acceptance testing may occur at more than just a single test level. With the exception of…[K3]

a) Acceptance testing after a change has been released to the user community.
b) Acceptance testing of the usability of a component may be done during component testing.
c) Acceptance testing of a new functional enhancement may come before system testing.
d) A COST software product may be acceptance tested when it installed or integrated.

15. Non-functional testing includes … [K1]

a) Testing to see where the system does not function correctly.
b) Testing the quality attributes of the system including reliability and usability.
c) Gaining user approval for the system.
d) Testing a system feature using only the software required for that function.

Questions about "Static Testing"

16. What is the fundamental difference between "static analysis" and test? [K2]

a) Static analysis can be applied at any time during the software life cycle. Test can only be applied after implementation.
b) Static analysis is done without executing the test object. A test is an examination during "run time".
c) Static analysis is applied only in the early phases, test only in the late phases of the software life cycle.
d) Static analysis checks only documents without a formal structure. Test checks software systems.

17. Which of the following characteristics and types of review processes belong together? … [K2]
a. Inspection
b. Informal review
c. Peer review
d. Walkthrough
1. Led by the author
2. Undocumented
3. Uses entry and exit criteria
4. Review by peers

a) a=3, b=2, c=1, d=4
b) a=2, b=3, c=4, d=1
c) a=3, b=2, c=4, d=1
d) a=1, b=2, c=3, d=4

18. Which of the following options are roles in a formal review?
a) Developer, Moderator, Review leader, Reviewer, Tester.
b) Author, Moderator, Manager, Reviewer, Developer.
c) Author, Manager, Review leader, Reviewer, Designer.
d) Author, Moderator, Review leader, Reviewer, Scribe.

19. Which is the most formal kind of review in the following list? [K2]

a) Peer review
b) Walkthrough
c) Informal review
d) Inspection

20. Static code analysis typically identifies all but one the following problems. Which is it? [K1]

a) Unreachable code.
b) Undeclared variables.
c) Faults in the requirements.
d) Too few comments.

21. Which of the following sequences BEST shows the main activities of the work product review process?
a) Initiate review – Reviewer selection – Individual review – Issue communication and analysis – Rework
b) Planning & preparation – Overview meeting – Individual review – Fix– Report
c) Preparation – Issue Detection – Issue communication and analysis – Rework – Report
d) Plan – Initiate review – Individual review – Issue communication and analysis – Fix defects & report

22. Static analysis … [K2]

a) … serves for creating test cases
b) … is the precondition for executing the dynamic analysis
c) … is the check of the program code for compliance with the documentation rules
d) … is an analysis without execution of the test object (under analysis)

23. Which alternative contains ONLY defects which can be discovered by static analysis … [K2]

a) Referencing a variable with an undefined value, unreachable (dead) code, security vulnerabilities, race conditions.
b) Violations of coding standards, referencing a variable with an undefined value, unreachable (dead) code, security vulnerabilities.
c) Referencing a variable with an undefined value, deadlocks, unreachable (dead) code, security vulnerabilities.
d) Referencing a variable with an undefined value, unreachable (dead) code, inconsistent interface between modules and components, race conditions.

24. How is "expected result" defined? [K1]

a) The behavior predicted by the specification, or another sources, of the test object when executed under specified conditions.
b) Intended output and/or state value when executing a test object with test data.
c) The intended behavior and output of the test object when executed under specified conditions.
d) The output result computed by the test object.

25. In which document described in IEEE 29119 (IEEE 829) would you find instructions for the steps to be taken for a test including set-up, logging, environment and measurement? … [K2]

a) Test plan.
b) Test design specification.
c) Test case specification.
d) Test procedure specification.

26. White Box techniques … [K1]

a) … are useful in system testing
b) … check the interfaces of component
c) … take into consideration the structure of the test object
d) … find if not initials are used

27. Which test technique is a black box technique? [K1]

a) Condition coverage
b) Equivalence class partitioning
c) Statement coverage
d) Data flow testing

28. If a test of a test object achieved 100% decision coverage then it is guaranteed that … [K3]

a) … 50% path coverage has been achieved
b) … 100% statement coverage has been achieved
c) … 100% minimal condition coverage has been achieved
d) … no other coverage has been achieved

29. Which of the following is usually not be a coverage measure for state transition testing? [K2]

a) All states have been reached.
b) The response time for each transaction is adequate.
c) Every transition has been exercised.
d) Specific sequences of transitions have been exercised.

30. The following equivalence class for integer numbers is given: $0 \leq x < 100$. After boundary value analysis, the following test data shall be used: [K3]

a) 0; 100
b) 0; 1; 100; 101
c) -1; 0; 99; 100
d) -1; 0; 1; 99; 100

31. How do experience-based techniques differ from specification-based techniques? …[K2]

a) They depend on the tester's understanding of the way the system is structured rather than on a documented record of what the system should do.
b) They depend on having older testers rather than younger testers.
c) They depend on a documented record of what the system should do rather than on an individual's personal view.
d) They depend on an individual's personal view rather than on a documented record of what the system should do.

32. Use case testing is useful for which of the following?
A. Designing acceptance tests with users or customers.
B. Making sure that the mainstream business processes are tested.
C. Finding defects in the interaction between components.
D. Identifying the maximum and minimum values for every input field.
E. Identifying the percentage of statements exercised by sets of tests.

a) A, B and C
b) B, D and E
c) A, B and D
d) C, D and E

33. How many test cases are necessary in order to achieve 100% branch or decision coverage of the following program part? We assume that the two conditions are independent of each other. [K3]

```
….
If (condition 1)
        then statement 1
        else statement 2
end if
If (condition 2)
        then statement 3
end if
…
```

a) 2 test cases
b) 3 test cases
c) 4 test cases
d) Not achievable

34. Which of following is the repeated testing of an already tested program, after modification, to discover any defects introduced or uncovered as a result of the change? [K3]

a) Regression Testing
b) Structural Testing
c) Functional Testing
d) Non-Functional Testing

35. Non-functional requirements … [K1]

a) … are always documented in detail in the specification by the customers.
b) … need only to be considered in the test if they are documented in the requirements specification.
c) … should only be validated by the customer, because only the customer can decide if they fulfill his requirements.
d) … are often overlooked when writing specification documents, but should be checked anyway.

Questions about “Test Management”

36. Incident management deals with…[K2]
A. …. Management of deviations from the project plan.
B. … Registration of problems, faults and failures.
C. … Showing product quality through use of metrics.
D. … Definition and implementation of new software requirements.
E. … Development of proposals to correct faults.

a) A, B and E are true, C and D are false
b) A, C and D are true, B and E are false

c) A, B and C are true, D and E are false
d) B and C are true, A, D and E are false

Question about “Test Tools”

37. What is a potential risk in using tools to support testing? … [K2]

a) Unrealistic expectations, expecting the tool to do too much.
b) Insufficient reliance on the tool, i.e. still doing manual testing when a test execution tool has been purchased.
c) The tool many find defects that aren’t there.
d) The tool will repeat exactly the same thing it did the previous time.

38. Comparators belong to this category of tools … [K2]

a) … Tools for planning and test management
b) … Tools for test specification and test design
c) … Tools for test execution
d) … Tools for test results analysis and test object analysis

39. The selection of a test tool should be done in six steps: [K1]

a) Requirement specification, Evaluation, Market research, Tool demonstrations, Review, Final selection of tool.
b) Requirement specification, Market research, Evaluation, Tool demonstrations, Review, Final selection of tool.
c) Requirement specification, Market research, Review, Tool demonstrations, Evaluation, Final selection of tool.
d) Requirement specification, Market research, Tool demonstrations, Evaluation, Review, Final selection of tool.

40. Which of the following would NOT be done as part of selecting a tool for an organization? …[K2]

a) Assess organization maturity, strengths and weaknesses.
b) Roll out the tool to as many users as possible within the organization.
c) Evaluate the tool features against clear requirements and objective criteria.
d) Identify internal requirements for coaching and mentoring in the use of the tool.

# Đề 3_đáp án

1. Which is a correct relation between test conditions and test cases?...[K1]

a) Test conditions explain procedures to execute of test case.
b) Test cases are design to fill test conditions.
c) Test conditions are design to fill certain test cases.
d) Test conditions are equivalent to certain test cases.

2. Which of following is NOT related with Inspection type of review? [K1]

a) Result may be documented
b) Led by trained moderator
c) Includes metrics gathering
d) Specified entry and exit criteria for acceptance of the software product.

3. Which of following is NOT success factors for review? [K1]

a) Developers should not involve to increase effectiveness of defect identification
b) Test are valued reviewers who contributes to the review and also learn about the product which enables them to prepare tests earlier
c) Defects found are welcomed and expressed objectively
d) The review is conducted in an atmosphere of trust

4. Which of the following are NOT a reasonable conclusions you could draw from the test principles?...[K1]

a) Safety critical systems are tested exhaustively
b) The testing coverage required in one organization may not be appropriate in another organization.
c) Risk assessment is required to understand how much testing is enough for each system.
d) Safety critical systems are likely to need more coverage than non-safety critical system.

5. Which of the following alternatives is true? [K2]

a) Independence assures effective testing.
b) Component testing is best done by developers. System testing must be done by a group independent from the developers.
c) A certain degree of independent is often more effective in finding defects.
d) Tests are best designed by the person who wrote the Software Quality Engineering.

6. In any software development life cycle (SDLC) model, which of the following are characteristics of good testing?

I. Providing complete test coverage of all branches of the system code
II. Having a corresponding testing activity for each development activity.
III. Testers should be involved in reviewing documents as soon as drafts are available
IV. Each test level has test objectives specific to that level.

a) I and III

b) II, III and IV
c) I, III and IV
d) I and II

7. Which of following is NOT correct regarding of Interactive-incremental Development Models?[K1]
a) This is the process of establishing requirements, designing, building and testing a system in a series of short development cycles.
b) This model demonstrates the relationships between each phase of the life cycle and its associated phase of testing.
c) A system that is produced using this model is tested at several test levels during each iteration.
d) Regression testing is increasing important on all iterations after the first one.

8. Which of the following is NOT classified as a Non-Functional Testing?...[K1]
a) Performance Testing
b) Usability testing
c) Structural Testing
d) Reliability testing

9. Which of following is NOT a typical defects discovered by static analysis tools? [K2]
a) Referencing a variable with an undefined value
b) Inconsistent interfaces between modules and components
c) Unreachable code
d) Memory leak

10. Which of the following is true of acceptance testing?

a. A goal of acceptance testing is to stress-test the system.
b. A goal of acceptance testing is to establish confidence in the system.
c. Acceptance testing is performed by technical staff.
d. Acceptance testing is only used to address functionality issues within the system.

11. In this type of software testing techniques, inputs to the software or system are divided into groups that are expected to exhibit similar behavior, so they are likely to be processed In the same way. Which of following techniques is correct? [K2]
a) Equivalence Partitioning
b) Boundary values analysis
c) Use Case Testing
d) Decision Testing

12. Which of following is NOT a Specification-based or Black-box Techniques? [K2]
a) Decision Table Testing
b) Decision testing and Coverage
c) State Transition Testing
d) Use Case Testing

13. Which of the following statements are true for Review?..[K1]
A. Meeting is led by author
B. Main purpose is to review inexpensive way to get some benefit.
C. Main purpose is to discuss problems and check conformance to specifications and standard
D. Formal process based on rules and checklists with entry and exit criteria.

T. Informal
U. Walkthrough
V. Technical Review
W. Inspection

a) A and T, B and U, C and V, D and W
b) A and U, B and T, C and V, D and W
c) A and W, B and V, C and T, D and U
d) A and U, B and T, C and W, D and V

14. Which of the following are included as part of static testing?..[K2]
a) Inspection of work products and analysis of software artifacts using tools.
b) Inspections, execution of the software, and walkthroughs.
c) Inspections, walkthroughs, and comparison of expected to actual results
d) Walkthroughs, simulation, and defect tracking.

15. This testing includes regression testing to parts of the system that have not been changed. The scope of this testing is related to the risk of the change, the size of the existing system and to be the size of the change. What is this testing?[K1]
a) Maintenance Testing
b) Interoperability testing
c) Re-Testing
d) Structural Testing

16. Which of following is NOT correct? [K2]

a) Statement coverage is determined by the number of all executable statements in the code under test
b) Decision coverage is determined by the number of all decision outcomes covered by test cases divided by the number of all possible decision outcomes in the code under test
c) Decision coverage is a form of control flow testing as it follows a specific flow of control through the decision points.
d) 100% statement coverage guarantees 100% decision coverage

17. Company ABC is going to provide their employees with a bonus which will be based on the employee's length of service in the company. The bonus calculation will be zero if they have been with the company for less than two years, 10% of their salary for more than two but less than five years, and 25% for five to ten years, 35% for ten years or more. The interface will not allow a negative value to be input, but it will allow a zero to be input. How many equivalence partitions are needed to test the calculation of the bonus?...[K3]

a) Two equivalence partitions.
b) Three equivalence partitions
c) Four equivalence partitions
d) Five equivalence partitions

18. Which of the following statements about functional testing is TRUE?...[K2]
a) Functional testing is primarily concerned with "what" a system does rather than "how" it does it.
b) Control flow models and menu structure models are used primarily in functional testing.
c) Functional testing includes, but is not limited to, load testing, stress testing and reliability testing.
d) Functional testing is often referred to as "structural" testing by testers and developers

19. A defect was found during testing that the system crashed when the network got disconnected while receiving data the server. The defect was fixed by correcting codes which check the network availability during data transferring. The corresponding module did cover 100% of statement with existing test cases. To verify the fix and ensure more extensive coverage, some tests were designed and added to the test suite. What types of testing are mentioned above?..[K3]
    A. Functional testing
    B. Structural testing
    C. Confirmation testing
    D. Performance testing

a) A, B and D
b) A and C
c) A, B and C
d) A, C and D

20. Which is a correct explanation about non functional testing?..[K2]
a) Non functional testing shall not be executed in component testing, because non functional testing is required to integrate whole functions.
b) Non functional testing is a testing which measure and judge various quality attributes.
c) Non functional testing shall be executed based on ISO/IEC 9126 (Software Product Quality)
d) Non functional testing is a testing which requires inspirations and experiences, and has difficulty with numeric evaluation.

21. A test case has the following elements:…[K1]
a) A test environment description, and test instructions
b) A test plan, test inputs, and logging instructions
c) Execution instructions, and a function description to help decide if the outcome is correct
d) A set of inputs, execution preconditions, and expected outcomes developed

22. You are testing an e-commerce system that sells cooking supplier such as spices, flour and other items in bulk. The units in which the items are sold are either grams (for spices and other expensive items) or kilograms (for flour and other expensive items). Regardless of the

units, the smallest valid order amount is 0.5 units (e.g.,half a gram of cardamom pods) and the largest valid order amount is 25.0 units (e.g., 25 kilograms of sugar). The precision of the units field is 0.1 units.

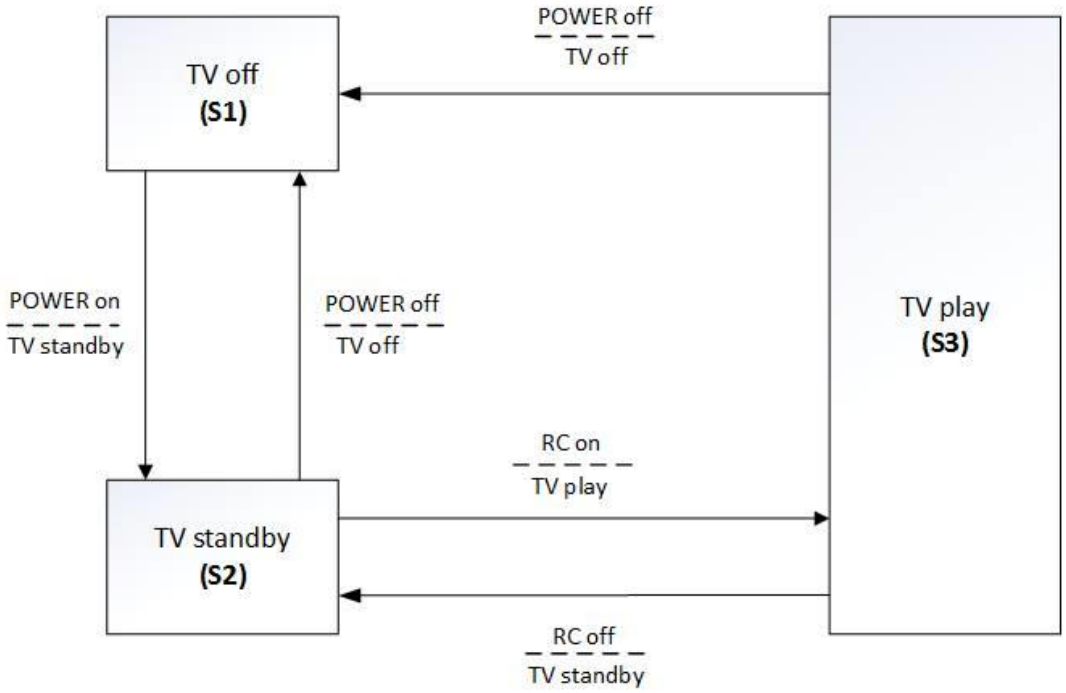
Which of the following is a set of input values that cover the equivalence partitions for this field? [K3]

a) 12.3
b) 0.4, 0.5, 25.0, 25.1
c) 0.2, 0.9, 29.5
d) 10.0, 28.0

23. The following rule must be followed when using the equivalence class partitioning method: [K3]

a) The representatives of the valid equivalence classes of the actual parameters can be combined
b) The representatives of the invalid equivalence classes of the actual parameters shall be combined
c) The representatives of the invalid equivalence classes of the actual parameters must be combined pair wise
d) The representatives of one invalid equivalence classes shall be combined with another representative of another invalid equivalence class.

24. Which of the following statements for the given state table designed with state transition test technique is NOT correct?...[K3]



| Test Case | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Input | A | Power off | RC on | RC off | Power off |
| Expected output | TV standby | TV off | B | TV standby | TV off |
| Finish State | S2 | C | S3 | S2 | D |

a) A – "Power On"
b) B – "TV Play"
c) C –" S2"
d) D –" S1"

25. For the following piece of code, how many test cases are needed to get 100% statement coverage?

```
Procedure X
Read (Color)
IF(Colors *Red*) THEN
   Call Roses(Color)
ELSEIF ( Color == *Blue*) THEN
    Call Violets(Color)
ELSE
    PRINT *User is no Shakespeare*
 SaveToDatabase(Color) End Procedure X
End Procedure X
```

a) 1
b) 3
c) 5
d) 7

26. Inspect the following piece of code: ..[K3]

```
If Payment by Cash
   If it's Vietnam Dong
        Accept the VietNam Dong
 Else
     Exchange to Vietnam Dong
 End if
Else
       Pay by Credit Card
Endif
```

How many test cases are needed at least to cover decision coverage testing?…[K3]

a) 2 test cases
b) 3 test cases
c) 4 test cases
d) 5 test cases

27. You start specification- based testing of a program. If calculates the greatest common divisor[ abbr,: GCD] of two intergers IntA and IntB bigger than zero.

The following test cases have been specified.

intcalcGCD (intintA, intintB);

INT_MAX; largest Integer (e.G,.216 = 65536);

| | IntA | IntB |
|---|---|---|
| A | 1 | 1 |
| B | INT_MAX | INT_MAX |
| C | 1 | 0 |
| D | 0 | 1 |
| E | INT_MAX+1 | 1 |
| F | 1 | INT_MAX+1 |

Which test technique has been applied in order to determine the test cases A to F?..[K3]

a) Boundary value analysis
b) Equivalence partitioning
c) State transition testing
d) Decision table testing.

28. Which is a correct combination to achieve 100% branch coverage for following code?.. [K3]

```
Public void foo(int x, int y) {
    If (x!=0) {
        Y =y/x;
        If (y>0) {
            Y =y -1;
        }
    }
}
```

a) (x=1, y=1), (x=0, y=0), (x=1, y=0)
b) (x=1, y=1), (x=1, y=-1), (x=1, y=0)
c) (x=1, y=1), (x=0, y=0)
d) (x=1, y=1)

29. You are working on testing an e-learning application. A business analyst gives you a document that describes the most common user scenarios. You would use this document to create what kind of test?

a) Component tests
b) Structure –base test

c) Specification-based tests
d) Experiences-based tests

30. You have become the test manager of a software development project that is already underway. Which questions do you ask FIRST in order to write a test plan and to define the overall testing strategy?...[K2]

A. What are the biggest product risks?
B. Where and how are the system requirements specified?
C. Is there already test data available?
D. When is the project due to be finished?
E. Have end-users already been selected as testers?
F. Is a tool for automated testing in place?

a) A, B and D are true; C, E and F are false
b) A, C and E are true; B, D and F are false
c) A, D and F are true; B, C and E are false
d) B, C and D are true; A, E and F are false

31. Which of the following alternatives are typical test exit criteria?...[K2]

a) Thoroughness measures, reliability measures, test cost, schedule, state of defect correction and residual risks.
b) Thoroughness measures, reliability measures, degree of tester independence and product completeness.
c) Thoroughness measures, reliability measures, test cost, time to market and product completeness, number of defects.
d) Time to market, residual defects, tester qualification, degree of tester independence, thoroughness measures and test cost.

32. Which of the following are NOT valid objectives for incident reports?...[K2]

a) Provide developers and other parties with feedback about problem to enable identification, isolation and correction as necessary
b) Provide ideas for test process improvement
c) Provide a vehicle for assessing tester competence
d) Provide testers with a means of tracking the quality of the system under test.

33. Which of the following details would most likely be included in an incident report?

I. Identification of the test item (configuration item) and environment
II. Development process characteristics such as organization stability and test process used
III. A review of the test basis, such as requirements, design, interfaces
IV. Scope or degree of the impact on the stakeholders' interest.

a) I, II and III
b) II and III
c) I and IV
d) III and IV

34. Which of the following alternatives are typical project risks to be considered by the test manager?...[K2]
a) Delays and especially complex areas in the delivered product.
b) Low quality of requirements, design, code and tests, as well as failure-prone areas in the delivered product.
c) Potential failure areas in the software or system.
d) Supplier problems, organizational factor and the quality of design code and tests.

35. Which is a correct explanation about product risk?..[K1]
a) Due to shortage of budgets, testing members can't be assigned to a testing team as planned.
b) Delivery of software which may include some easy bugs.
c) Due to delay of development phase, period of test phase get to be shortened
d) Due to a wrong order of testing tools, the progress of testing phases gets to delay.

36. Which of the following alternatives are typical product risks to be considered by the test manager?...[K3]
a) Error-prone areas; the potential harm to the user; poor product characteristics
b) Low quality of requirements, design, code and tests, as well as error-prone areas.
c) Political problems and delays in especially complex areas in the product.
d) Problems in defining the right requirements; potential failure areas in the software or system.

37. A project to introduce a chosen test tool in an organization would be run like which of the alternatives?...[K2]
a) Pilot project, adaptation of processes, developing adapted rules and standards, training, step wise introduction, coaching, follow-up costs and benefits.
b) Pilot project, adaptation of processes, rules and standards, developing an FAQ, training, introduction, coaching, adaptation of the tool, follow-up of costs and benefits
c) Pilot project, step wise introduction, adaptation of processes, follow-up of costs and benefits
d) Pilot project, adaptation of processes, training, step wise introduction, coaching, follow-up of costs and benefits

38. Which of the following is characteristics of test management tools?.. [K1]
A. Logging of test results and generation of progress reports.
B. Improve the efficiency of testing activities by automating repetitive tasks.
C. Independent version control or interface with an external configuration management tool.
D. Assignment of actions to people (e.g. fix or confirmation test)

a) B & D
b) A, B & D
c) A & C
d) B, C & D

39. Which is a wrong explanation about static analysis tools?...[K2]
a) Static analysis tools measure a complexity of source codes.
b) Static analysis tools measure a codes coverage and an effectiveness of static testing.

c) Static analysis tools find defects of certain patterns of source codes.
d) Static analysis tools measure level of accordance with coding rules.

40. Which of the following testing activities can be automated?
A. Reviews and inspections
B. Collecting and measurements
C. Test planning
D. Test execution
E. Test data generation

a) B, D and E are true; A and C are false
b) A, C and D are true; B and E are false
c) B, C and E are true; A and D are false
d) A, B and C are true; D and E are false

Đề 4_đáp án

1. According to ISTQB Syllabus, A human being can make (A), which produces (B) in the program code, or in a document. Which of the following combination is correct?...[K1].

a) A- Fault, B- Mistake
b) A- Fault, B- Error
c) A- Defect, B- Bug
d) A- Error, B- Fault

2. Which of following is NOT correct regarding of Testing and Quality?...[K2]

a) Testing can give confidence in the quality of the software if it finds few or no defect.
b) A properly designed test that passes reduces the overall level of risk in a system.
c) Testing should not be integrated as one of the quality assurance activities for independent.
d) By understanding the root cause of defects found in other project, testing processes can be improved.

3. As a test leader you are collecting measures about defects. You recognize that after the first test cycle – covering all requirements – subsystem C has a defect density that 150% higher than the average. Subsystem A on the other hand has a defect density that is 60% lower than the average. What conclusions for the next test cycle could you draw from this fact?..[K3]

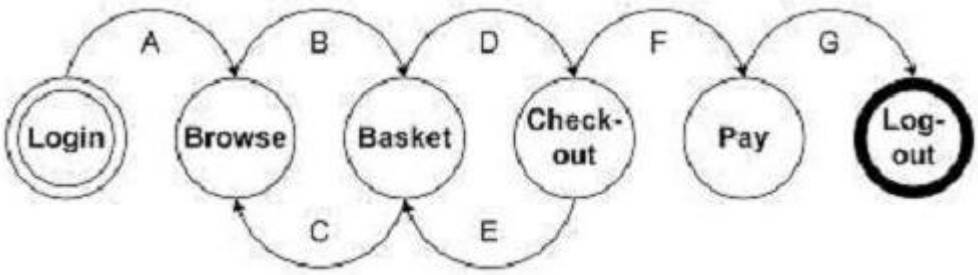
a) According to the testing principle "defect clustering" it is probable that subsystem C has still more hidden defects. Therefore we need to test subsystem C in more detail.
b) We focus testing on subsystem A, because we have found fewest defects in that module so far.
c) Because we have already found many defects in subsystem C we do not need to test it much more.
d) Observed defect density does not allow any conclusions about the amount of additional testing.

4. Which of following is suitable explanation about testing principle,…[K2]

One tester has tested software applications running on mobile phone for 5 years. He has great deal of information for testing the applications and is able to test faster than anyone else. However, he has not put sufficient efforts for deriving new test cases and modifying them to find new defects any longer, which led to finding less and less defects. What is the basic test principle that he has ignored?

a) Pesticide paradox
b) Early testing
c) Absence-of-errors fallacy
d) Defect clustering

5. Given the following state transition diagram Which of the following series of state transitions contains an INVALID transition which may indicate a fault in the system design?




a) Login Browse Basket Checkout Basket Checkout Pay Logout.
b) Login Browse Basket Checkout Pay Logout.
c) Login Browse Basket Checkout Basket Logout.
d) Login Browse Basket Browse Basket Checkout Pay Logout

6. Which of following activity is NOT related with Test implementation and execution the fundamental test process? [K1]

a) Creating test suites from the test procedures for efficient execution
b) Verifying that the test environment has been set up correctly
c) Finalizing, implementing and prioritizing test case including the identification test data.
d) Identifying necessary test data to support test condition and test cases.

7. Which of the following are conclusion you could draw from the test principles?[K3]

A. Web sites cannot be tested because of the vast number of combinations of platform, browser, internet route and navigation options.
B. The testing coverage required in one organization may not be appropriate in another organization.
C. Risk assessment is required to understand how much testing is enough for each system.
D. Safety critical systems are likely to need more coverage than non-safety critical system.
E. Safety critical systems are tested exhaustively.

a) A,D and E are reasonable conclusions the other are not.
b) B,C,D are reasonable conclusions, the other are not
c) B,C,E are reasonable conclusions, the other are not
d) B,D,E are reasonable conclusions, the other are not

8. Which of following describes the testing level that tests interfaces between components, interaction with different parts of a system such as the operating system, file system and hardware, and interfaces between systems? [K2]

a) Component Testing
b) Integration Testing
c) System Testing
d) Acceptance Testing

9. In any file cycle model, there are several characteristics of good testing. Which of following is NOT related? [K1]

a) For every development activity, there is a corresponding testing activity
b) Each test level has test objectives specific to that level
c) The analysis and design of tests for a given test level should not begin during the corresponding development activity.

d) Testers should be involved in reviewing documents as soon as drafts are availed in the development cycle.

10. In general, This approaches to software development and testing put less emphasis on planning tasks and more emphasis on development and testing. In contrast to the waterfall model, which emphasizes rigorous specification and planning, This approaches emphasize the necessity of adjusting requirements in reaction to knowledge gained as the project progresses. What is this?...[K3]

a) Prototyping
b) Rapid Application Development
c) Rational Unified Process
d) V-Model

11. Developers of market, or COTS, software often want to get feedback from potential existing customers in their market before the software product is put up for sale commercially. This testing is performed at the developing organization's site but not by developing team. What is this testing?...[K2]

a) Alpha Testing
b) Beta testing
c) User Acceptance Testing
d) Operational Testing

12. Which of following may NOT be included in Component testing?..[K1]

a) Testing of functionality
b) Robustness testing
c) Structural testing
d) Operational testing

13. This testing is one type of functional testing which evaluates the capability of the software product to interact with one or more specified components or system. Which of following is correct about this testing? [K2]

a) Security Testing
b) Interoperability testing
c) Integration Testing
d) System Testing

14. Which of following is NOT a typical "Planning" activity of formal review? [K1]

a) Defining the review criteria
b) Defining the entry and exit criteria for more formal review types
c) Selecting which parts of documents to review
d) Preparing for the review meeting by reviewing the documents

15. Which of the statements about reviews are correct?...[K3]

A. It is not useful to in review of specifications because it can bias them
B. Reviews are useful because they help management to assign responsibility of failure on individual developers.

C. Reviews can help find bugs early resulting in savings of cost.
D. Requirement of additional time for reviews is likely to result in longer development cycle.
a) A & C are true; B & D are false
b) C & D are true; A & B are false
c) C is true; A, B and D are false
d) D is true; A, B and C are false

16. Which of following is related a typical "Fixing and reporting" activity of formal review? [K1]
a) Recording update status of defect in formal review
b) Communicating identified potential defects
c) Analyzing potential defects, assigning ownership and status to them
d) Noting potential defects, recommendations, and questions

17. In a typical formation review, who is the person in charge of leading the review of the document or set of documents including planning the review, running the meeting, and following-up after the meeting? [K1]
a) Manager
b) Moderator
c) Author
d) Reviewer

18. Which of following review types has its purpose of discussing, making decisions, evaluation alternatives, solving technical problems and checking conformance to specifications, plans, regulations and standards? [K2]
a) Informal
b) Walkthrough
c) Technical Review
d) Inspection

19. When conducting reviews, psychological sensitivity is required. Which mistake often occurs when conducting reviews and may lead to interpersonal problems within teams?...[K2]
a) Testers and reviewers expect that defects in the software product are already found and fixed by the developers.
b) Testers and reviewers communicate defects as criticism against humans instead of against the software product.
c) Due to time constraints, tester and reviewers do not believe they can afford enough time to find failures.
d) Testers and reviewers are not sufficiently trained to accurately identify failures and faults in the item under review.

20. In the technical review process, which is true?.. [K2]
A. There is less focus on higher level and related documents.
B. The moderator does not perform a format entry check, because the document is not ready yet.
C. The steps are the same as in the inspection process, but the objective is different.
a) A is true; B and C are false

b) A and B are true; C is false
c) A, B and C are all true
d) A and C are true; B is false

21. As tester, You are working on a project to build an online banking application. Consider the following excerpt of the requirements specification:

> The system shall allow the customer three attempts to enter a valid user ID and password at the welcome screen. If three invalid use ID/password combinations have been entered, the system shall temporarily lock the user's account.
> You have written a test design specification that includes, among others, the following two test conditions:
> 1) Test successful user ID/password login with: zero failed attempts before success; one failed attempt before success; and, two failed attempt before success.
> 2) Test unsuccessful user ID/password login.

Which of the following is a set of test cases that has clear traceability to, and complete coverage of, exactly one of the test conditions listed? Assume the inputs are the first two items in each triple, and the expected result the third. [K3]

a) (Test0, valid0, success)
b) (Test1, invalid1, fail), (Test1, invalid1, fail)
c) (Test0, valid0, success) (Test1, invalid1, fail), (Test1, valid1, success), (Test2, invalid2, fail), (Test2, invalid2, fail), (Test2, valid2, success)
d) (Test1, invalid1, fail), (Test1, valid1, success)

22. Which of following is a common characteristic of specification – based test design techniques? [K1]

a) Information about how the software is constructed is used to derive the test cases
b) Models, either formal or informal, are used for the specification of the problem to be solved, the software or its component.
c) The extent of coverage of software can be measured for existing test case
d) The knowledge and experience of people are used to derive the test case

23. Inspect the following piece of code: How many test cases are needed at least to cover decision coverage testing? [K3]

```
Procedure XXXX

READ (Age)      "This statement gets the actual age from the input device
READ (Gender) "This statement gets the gender age from the input device
READ (CustomerCountry) "This statement gets the country, alias

IF (Age >18) THEN
CustomerType = "Main Target Customer"
CustomerPotential = 1.000
IF Gender = "Male" THEN
CustomerProductSet = "Technique"
ELSE
```

```
CustomerProductSet = “Clothes”
END IF
END IF
CustomerIsTarget = “Yes”
IF CustomerCountry<> “Vietnam” THEN
CustomerIsTarget = “No”
CustomerIsInternational = “Yes”
CustomerPotential = CustomerPtential *1.1
ELSE
CustomerIsInternational = “No”
END IF
END Procedure
```

a) 2 test cases
b) 3 test cases
c) 4 test cases
d) 5 test cases

24. In below specification, how many different valid combinations of inputs exist for computing the price?

[Specification]
Vietnam Railway company runs a train from Ho Chi Minh City to Hanoi. This train has four different kinds of accommodation with different ticket prices: Hard seat, soft seat, hard sleeper, and soft sleeper. For soft sleeper, there is a different price for lower and upper berth. For sleeping accommodation, different prices apply for non-air-condition and air-condition. For harder sleeper, a higher price applies for compartments with own bathroom. High-speed trains exist, but have only hard and soft seat, and they have another price than “normal” trains.

a) 12
b) 18
c) 24
d) 36

25. Which of following describes the testing techniques that is concurrent test design, test execution, test logging and learning, based on a test charter containing test objectives, and carried out within time-boxes? [K2]

a) Exploratory testing
b) Error Guessing
c) Decision Table Testing
d) State Transition Testing

26. Which of following is a typical test leader’s tasks? [K1]

a) Set up the test environment often coordinating with system administration and network management.
b) Prepare and acquire test data
c) Adapt planning based test results and progress
d) Use test administration or management tools and test monitoring tools as required.

27. Which of following is a typical tester's tasks? [K1]
a) Write test summary reports based on the information gathered during testing
b) Select tools to support testing and organize any training in tool use for testers
c) Analyze, review and assess user requirements, specifications and models for testability
d) Contribute the testing perspective to other project activities, such as integration planning.

28. Which of following is NOT a Test Planning Activity in Test Planning? [K1]
a) Determining the scope and risks and identifying the objectives of testing
b) Integrating and coordination the testing activities into the software life cycle activities
c) Assigning resources for the different activities defined
d) Estimating the tasks based on estimates made by the owner of the tasks or by experts

29. Which of following Test Approach includes Exploratory testing where testing is more reactive to events than pre-planned, and where execution and evaluation are concurrent tasks? [K2]
a) Dynamic and heuristic approach
b) Analytical Approach
c) Model-based Approach
d) Regression-averse approaches

30. Which of following is NOT a typical Entry Criteria? [K1]
a) Estimates of defect density or reliability measures
b) Test Tool readiness in test environment
c) Test environment availability and readiness
d) Testable code availability

31. Which of following is NOT correct about Metrics which should be collected during and at the end of a test level in order to assess? [K2]
a) The adequacy of the test objectives for that test level
b) The adequacy of the test approaches taken
c) The effectiveness of the testing with respect to the objectives
d) The adequacy of tester anticipate defects base on experience

32. Which of following is NOT a Test control actions in Test Progress monitoring and control? [K1]
a) Making decisions based on information from test monitoring
b) Setting an exit criterion requiring fixes to have been re-tested.
c) Re-prioritizing test when an identified risk occurs.
d) Change the test schedule due to availability or unavailability of test environment.

33. Which of following is a Product Risk? [K1]
a) Failure-prone software delivered.
b) Problem in defining the right requirements
c) Test Environment not ready on time
d) Low quality of the design, code, … data, test data and tests

34. Which of following is a Project Risk? [K1]
a) Improper attitude toward or expectations of testing
b) The potential that the software/hardware could cause harm to an individual or company
c) Poor data integrity and quality
d) Software that does not perform its intended functions

35. Which of following is correct to be defined as the chance of an event, hazard, threat or situation occurring and resulting in undesirable consequences or a potential problem? [K1]
a) Defect
b) Incident
c) Risk
d) Failure

36. Which of following is NOT objectives of incident report? [K1]
a) Provide developers and other parties with feedback about the problem to enable identification, isolation and correction as necessary
b) Provide test leaders a means of tracking the quality of the system under test and progress of the testing
c) Provide ideas for test process improvement
d) Provide evidence of tester's worthiness

37. Which of following international standard show the report the Software Test Document.
a) IEEE 29119 (IEEE 829)
b) ISO 12207
c) ISO 15504
d) ISO 29119

38. Which of following is NOT risks of using testing tools? [K1]
a) Underestimating the time, cost and effort needed to achieve significant and continuing benefits from the tool.
b) Unrealistic expectations for the tool
c) Greater consistency and repeatability
d) Neglecting version control of test assets within the tool

39. Which of following tools are necessary for storage and version management of testware and related software especially when configuring more than on hardware/software environment in terms of operating system versions compilers, browsers? [K1]
a) Test Management Tools
b) Requirements Management Tools
c) Incident Management Tools
d) Configuration Management Tools

40. Which of following tools measure the percentage of specified types of code structure that have been exercised? [K1]
a) Test Harness/Unit Test Framework Tools
b) Test Comparators

c) Coverage Measurement Tools
d) Security Testing Tools

# Đề 5_đáp án

1. Place the stages of the Fundamental test process in the usual order ( by time)…. [K2]

i) Test closure activities
ii) Analysis and design
iii) Planning and control
iv) Implementation and execution

a) iii, iv, ii, i
b) iii, ii, i, iv
c) iii, ii, iv, i
d) ii, iii, iv, i

2. One approach to "this testing" is to prepare and automate test cases before coding. This is called a test-first approach or test-driven development. What is this testing? [K1]

a) Component testing
b) Integration testing
c) System testing
d) Acceptance testing

3. What should testing be focused on?...[K1]

a) The defined testing objectives
b) Finding as many defects as possible
c) Meeting the project deadlines
d) Giving confidence that the system will work for the users

4. The testing mind set is not one that…[K2]

a) Looks for problems in product under test and tries to find defects.
b) Is self critical and looks for errors and defects in one's own work.
c) Is sensitive to others and diplomatic when giving and receiving criticism
d) Looks only for tests that show the system works

5. Which one of the following describes best the difference between testing and debugging?...[K3]

a) Testing shows failures that are caused by defects. Debugging finds, analyzes, and removes that causes of failures in the software.
b) Testing find defects. Debugging analyzes the faults and proposes preventive activity..
c) Testing removes faults. Debugging identifies the causes of failures.
d) Dynamic testing prevents causes of failures. Debugging removes the failures.

Questions about "Testing in the Software Lifecycle"

6. Which of these statements about maintenance testing is untrue?... [K2]

a) Maintenance testing includes assessment of the risk of change
b) Maintenance testing can be difficult if specifications are poor, missing or out of date
c) Impact analysis can be difficult when assessing which regression tests to run
d) Maintenance is easier than development, so maintenance testing is easier than development testing.

7. Which of the following is a test level?...[K1]
a) Functional testing
b) System testing
c) Testing of software structure
d) Non-functional testing

8. Which of the following is a test type?...[K1]
a) Component testing
b) Regression testing
c) System testing
d) Acceptance testing

9. Which of the following is a not a quality characteristic?...[K2]
a) Feasibility
b) Usability
c) Portability
d) Resource utilization

10. Which is incorrect about success factors for reviews ?
a) Each review has clear predefined objectives
b) The right people for the review objectives are involved
c) Testers should not involve reviewing document.
d) Defects found are welcomed and expressed objectively

11. Match the following inspection roles and responsibilities….[K3]
Roles
1.Moderator ,
2. Recorder ,
3.Reviewer ,
4. Manager

Responsibilities

i) The person chosen to represent a certain viewpoint
ii) The person who decide on the execution of inspections
iii) The person who leads the process
iv) The person who documents all the issues

a) 1-ii, 2-iv, 3-i, 4-iii
b) 1-iii, 2-iv, 3-i, 4-ii
c) 1-ii, 2-i, 3-iv, 4-iii

d) 1-iii, 2-i, 3-iv, 4-ii

12. What statement about reviews is true? ….[K2]
a) Inspections are led by a trained moderator, where informal technical reviews not necessarily
b) In a walkthrough the author does not attend
c) A walkthrough will not have a separate scribe
d) Technical reviews are led by a trained leader, inspections are not

13. Which one of the following examples describes a typical benefit of static analysis supported by tools? ...[K3]
a) Static analysis supported by tools prevents business analysts and requirement engineers building software models (e.g. state transition diagrams), which do not match the requirements.
b) Static analysis supported by tools may find defects prior to manual test execution
c) By using static analysis tools user acceptance testing can be shortened because the users need to execute less tests.
d) By performing static analysis of the code supported by tools the need for the developers doing unit testing is decreased.

14. What state about static analysis is true…[K2]
a) Compiling is not a form of static analysis
b) When properly performed, it makes functional testing redundant.
c) With static analysis defects can be found, that are difficult to find with dynamic testing
d) Will find all defects

15. Which list typically describes the defects discovered by a static analysis tool?...[K2]
a) Programming standards violations, undefined variables, syntax violations
b) Interface omissions, spelling defects, design flaws
c) Non-user friendly error messaging, unreferenced variables
d) Unused variables, incorrect warning messages, performance

Questions about : Dynamic testing"

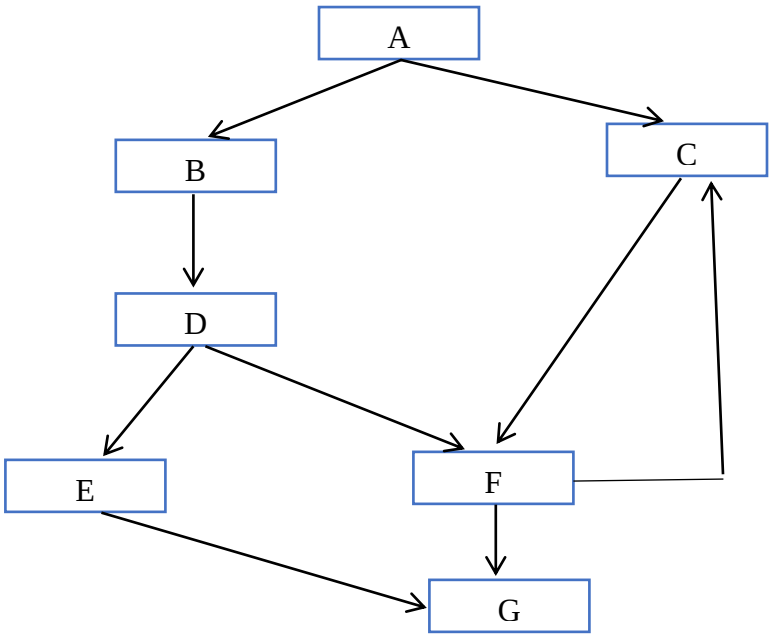
16. A specification says: "If the fossil is Jurassic in origin then it must be catalogued under Mesozoic post Triassic and cross referred to oolitic limestone. If it is a tooth, then it must be catalogued under Dental remains".

The tester analyses this for decision table testing and finds the following conditions and actions:
C1: Jurassic
C2: tooth
A1: Catalogue as Mesozoic post Triassic
A2: Cross refer to oolitic limestone
A3: Catalogue as Dental remains

The decision table will have many test cases?... [K3]
a) 2
b) 4

c) 8
d) 16

17. One of the exit criteria for the project is 100% decision coverage…[K3]
The following 3 tests have been executed for the control flow graph below.
Test A covers path: A, B, D, F, G
Test B covers path: A, C, F, G
Test C covers path: A, C, F, C, F, F, G




Which of the following statements related to the decision coverage goal is correct?
a) 100% decision coverage has been achieved
b) Decision D has not been tested completely
c) Decision E has not been tested completely
d) Decision F not been tested completely.

18. Which of the following is NOT a major factor for choosing test design technique?...[K2]
a) Type of system
b) Regulatory requirements
c) Risk level and type
d) Test environment

19. For a tax system the earnings up and until € 4000 are tax free, the following € 1500 are charged at 10% , the following € 28000 at 20% and the remainder above 40%
All value are rounded to € 1.
What test case could result from a boundary value analysis?...[K3]
a) 1500
b) 33501

c) 4500
d) 28000

20. For the same case, using equivalence partitioning which three values fall in the same partition?...[K3]
a) 5600, 28000, 7800
b) 2800, 4200, 4800
c) 3000, 4500
d) 28000, 50000, 60000

21. Regression test…[K2]
a) May usefully be automated if they are well designed
b) Are the same as re-tests
c) Are a way to reduce risk of change having an adverse affect elsewhere in the system
d) A and C above.

22. Expected result for a test should not be derived from…[K3]
a) The code, because that describes the system as it is
b) The specification, because that describes the system as it should be
c) A user with specialized knowledge about the use of the system, because that describes the system that is needed
d) A test oracle, because that describes the system that is needed

23. Priorities your tests to:…[K2]
a) Get the areas the programmer is most worried about finished first
b) Get finished within the time and budget available
c) Ensure that when you stop you have done the best tests in the time available
d) To ensure as many tests as possible are run

24. Which of following description on Testing is correct?...[K2]
a) Testing is started as early as possible in the life cycle.
b) Testing is started after the code is written so that we have a system with which to work
c) Testing is most economically done at the end of the lifecycle
d) Testing can an only be done by an independent test team

25. Which of following is correct about Test Plan? …[K2]
a) Written early in the project or software lifecycle, in order to define the risks, budget, team and strategy for testing
b) A list of test cases with their expected results
c) Never of interest to the programmers
d) A script of test cases which follows the business processes

26. Which of these is true?...[K3]
a) Beta tests are carried out by the developer
b) An integration test checks the interfaces and interactions between the building blocks of a system or group of systems

c) System tests can only be run by an independent test team
d) Alpha testing is carried out at the users' site

27. In a boiler maintenance logging and booking control system, the code to decide whether the boiler is due for a service and add it to the list is written as:

```
If today-date-last-service-date > 15 months
Then add boiler-number to service-listing-report
Endif
```

How many tests to give 100%statement coverage and tests to give 100% decision coverage?...[K3]
a) 1 statement test and 4 decision tests
b) 2 statement tests and 4 decision tests
c) 1 statement test and 3 decision tests
d) 1 statement test and 2 decision tests

28. A temperature unit keeps the temperature between 10 degrees Centigrade and -10 degrees Centigrade. If the temperature drops below -10 or rises above 10 then an alarm rings. Boundary Value Analysis tests are drawn up. The temperatures to be tested are:…[K3]
a) 11, 10, 9, -9, -10, -11
b) 10, -10
c) 11, -11
d) -1, 0, 1
e) 5, 10, 15

29. What is alpha testing?...[K1]
a) A pre-release test executed at customers' site
b) A pre-release test executed at the developers' site
c) A post-release test executed at customers' site
d) A post-release test executed at developers' site

30. Which of the following is a black-box testing technique?...[K1]
a) Condition Testing
b) Multiple Condition Testing
c) Statement Testing
d) State Transition Testing

Questions about " Test Management"

31. What is a typical task for a tester?...[K2]
a) Plan the tests
b) Write a test strategy
c) Write test summary reports
d) Review tests developed by others

32. Which of the following is a major task of test planning?...[K1]
a) Initiation of corrective action
b) Measuring and analyzing results
c) Determining the exit criteria
d) Monitoring and documenting progress

33. Of the following activities, which is the least important within test management?...[K1]
a) Test estimation
b) Test planning
c) Defect fixing
d) Test control

34. When deciding how much testing to do we must:…[K2]
a) Assess the risk and budget, then decide how much time and resources to spend
b) Always test everything exhaustively
c) Not test if we do not have time-it is just too time consuming
d) Run the easiest tests first.

35. According to IEEE829, which of the following should be included in a test plan?...[K2]
a) Test cases
b) Test approach
c) Test records
d) Test records

36. You need to know how your system might respond to large numbers of simulate users. Which of the following tool sets may be the most useful for this purpose?...[K2]
a) Test replay tool and bug tracking tool
b) Static analysis tool and capture/ playback tool
c) Test design tool and requirements capture tool
d) Load tool and monitoring tool

37. Below you find a list of improvement goals a software development and test organization would like to achieve. Which of these goals for improving the efficiency of test activities would best be supported by a test management tool?...[K3]
a) Improve the efficiency by building traceability between requirements, tests, and defects
b) Improve the efficiency by optimizing the ability of tests to identify failures
c) Improve the efficiency by faster resolving defects
d) Improve the efficiency by automating the selection of test cases for execution.

38. Which tool is NOT typically a tool that supports test management?...[K2]
a) Requirements management
b) Incident management
c) Review process tool
d) Configuration management

39. Which tool is NOT typically a tool only used by developer?...[K1]

a) Static analysis
b) Coverage tooling
c) Dynamic analysis
d) Incident management

40. What can be the risk(s) regarding the usage of tools?...[K2]
a) Repetitive work is reduced
b) Over-reliance on the tool and under estimation of costs
c) Objective measurements
d) Greater consistency and repeatability

# Đề 6_đáp án

1. Which of the following describes NOT related with Testing Principles on Syllabus?[K2]

a) Automated tests allow better statements of confidence about the quality of software products than manually executed tests.
b) Exhaustive testing of software is, with sufficient effort and tool support, feasible for all software.
c) For a software system, it is normally impossible to test all input / output combinations.
d) The purpose of testing is demonstrating the absence of defects.

2. Seven Testing Principles is a number of testing principles have been suggested over the past 40 years and offer general guidelines common for all testing. Which one of the following descriptions about seven testing principles is FALSE? [K2]

a) Testing everything is not feasible except for trivial cases. Instead of exhaustive testing, risk analysis and priorities should be used to focus testing efforts.
b) Testing effort shall be focused proportionally to the expected and later observed defect density of modules.
c) Finding and fixing defects does not help if the system built is unusable and does not fulfill the user's needs and expectations.
d) Testing can show that defects are present, and can prove that there are no defects.

3. A certain degree of independence (avoiding the author bias) often makes the tester more effective at finding defects and failures. Independence is not, however, a replacement for familiarity, and developers can efficiently find many defects in their own code. Which of the following is the lowest level of independence? [K1]

a) Tests designed by the person(s) who wrote the software under test with the low level of independence
b) Tests designed by a person(s) from an outsourcing or certification by an external body
c) Tests designed by a person(s) from an independent test team or performance test specialists.
d) Tests designed by another person(s) from development team

4. The followings describe about causes of software defects. Which of the following is a correct statement? [K1]

a) A developer makes a mistake which causes a bug that may be seen as a defect when the software is executed.
b) A developer makes an error which results in a failure that may be seen as a fault when the software is executed
c) A developer makes a mistake which causes a defect that may be seen as a failure during dynamic testing
d) A developer has a failure which results in a defect that may be seen as a mistake during dynamic testing.

5. Which of the following statements is NOT true? [K2]

a) Rigorous testing is sometimes used to prove that all failures have been found.

b) Rigorous testing and fixing of found defects could help reduce the risk of problems occurring in an operational environment.
c) Software testing is mainly needed to improve the quality of the product.
d) Software testing may be required to meet legal or contractual requirements.

6. Which of the following statements correctly describes the difference between testing and debugging? [K2]
a) Testing identifies the source of defects; debugging analyzes the faults and propose prevention activities.
b) Dynamic testing shows failures caused by defects; debugging finds, analyzes, and removes the causes of failures in the software.
c) Testing removes faults; debugging identifies the causes of failures.
d) Dynamic testing prevents the causes of failures, debugging removes the failures.

7. A common perception of testing is that it only consists of running tests, i.e.., executing the software. This is part of testing, but not all of the testing activities. Which of the following statements is NOT one of testing objectives? [K1]
a) Providing information for decision-making
b) Finding defects
c) Gaining confidence about eh level of quality
d) Preventing errors

Questions “Testing throughout the software life-cycle”

8. Which of following describes NOT Interactive-incremental development model? [K1]
a) V-Model
b) Rapid Application Development
c) Rational Unified Process
d) Agile Development Model

9. Non-functional testing includes, but is not limited to, performance testing, load testing, stress testing, usability testing, maintainability testing, reliability testing and portability testing. It is the testing of “how’ the system works. Where the Non-functional testing is performed? [K1]
a) At system and acceptance testing levels only
b) At the acceptance testing level only
c) At all level above integration testing
d) At all test levels

10. What is the purpose of performing regression testing when system maintenance activities have occurred? [K2]
a) To ensure no unauthorized changes have been applied to the system
b) Ensure the overall system has not regressed
c) To identify any maintainability issues with the code
d) To assess the scope of maintenance performed on the system

11. A group of test activities can be aimed at verifying the software system (or a part of a system) based on a specific reason or target for testing. Which following statement is NOT true about the objectives of test types? [K2]

a) A function to be performed by the software
b) The structure or architecture of the software or system
c) A non-functional quality characteristic, such as security and interoperability testing
d) Changed related, i.e.., confirming that defects have been fixed ( confirmation testing) and looking for unintended changes (regression testing)

12. Which following is NOT true about test levels? [K2]

a) Acceptance testing include testing of functionality and specific non-functional characteristics, such as resource-behavior (e.g.., searching for memory leaks) or robustness testing, as well as structural testing (e.g., decision coverage)
b) Integration testing tests interfaces between components, interactions with different parts of a system, such as the operating system, file system and hardware, and interfaces between systems.
c) System testing is concerned with the behavior of a whole system/product. The testing scope shall be clearly addressed in the Master and/ or Level Test Plan for that test level.
d) Component Testing searches for defects in, and verifies the functioning of, software modules, programs, objects, classes, etc,., that are separately testable.

13. There are several characteristics of good testing in any life cycle model. Which statement is NOT true about the characteristics of good testing? [K1]

a) Testers should be involved in reviewing documents as soon as drafts are available in the development life cycle
b) Each test level has test objectives specific to that level
c) The planning of tests for a given test level should begin during the corresponding
d) For every development activity there is a corresponding testing activity.

14. Maintenance testing is done on an existing operational system, and is triggered by modifications, migration, or retirement of the software or system. Which following statement describes about the indicators of maintenance testing? [K1]

a) Regression testing is the repeated testing of an already tested program, after modification, to discover any defects introduced or uncovered as a result of the change.
b) Conversion testing is needed when data from another application will be migrated into the system being maintained.
c) Modifications of a system may include the testing of data migration or archiving if long data-retention periods are required.
d) Maintenance testing for the retirement include planned enhancement changes (e.g., release-based), corrective and emergency changes, and changes of environment.

Questions " Static Techniques"

15. Unlike dynamic testing, which requires the execution of software, static testing techniques rely on the manual examination (reviews) and automated analysis (static analysis) of the code

or other project documentation without the execution of the code. Which of the following is a benefit of using static techniques? [K2]

a) Productivity improvements in the development process.
b) Fewer performance defects.
c) More efficient regression testing.
d) Quick return on investment in static analysis tools

16. The formality of a review process is related to factors such as the maturity of the development process, any legal or regulatory requirements or the need for an audit trail. The followings details about the main phases of a formal review. Which is NOT correct? [K2]

a) Planning: defining the review criteria and selecting the personnel
b) Kick-off: selecting which parts of documents to review
c) Rework: fixing defects found and recording updated status of defects
d) Follow-up: checking that defects have been addressed

17. In a formal review, which role is normally responsible for leading the review of the document or set of documents, including planning the review, running the meeting, and following-up after the meeting. If necessary, the moderator may mediate between the various points of view and is often the person upon whom the success of the review rests? [K1]

a) The manager
b) The author
c) The scribe
d) The moderator

Questions "Test Design Techniques"

18. Which test techniques might be most appropriate to be performed as the product is evolving or as a final check before the software is released? [K1]

a) Exploratory Testing
b) Boundary Value Analysis
c) Error Guessing
d) Decision Table Testing

19. What is non-functional testing?..[K1]

a) The process of testing an integrated system to verify that it meets specified requirements.
b) The process of testing to determine the compliance of a system.
c) Testing without reference to the internal structure of a system.
d) Testing the attributes of system like usability or stability.

20. Experience-based testing is where tests are derived from the tester's skill and intuition and their experience with similar applications and technologies. Which of the following is a reason to use experience-based testing?[K1]

a) To target the developer's efforts to the areas that users will be more likely to use
b) To find defects that might be missed by more formal techniques.
c) To test for defects that only experienced users would encounter
d) It is supported by tools and can be automated

21. Decision coverage is determined by the number of all decision outcomes covered by (designed or executed) test cases divided by the number of all possible decision outcomes in the code under test. If your goal is to achieve 100% decision coverage, what testing techniques is used for this?[K2]

a) Behavior-based techniques
b) Experience-based techniques
c) Defect-based techniques
d) Structure-based techniques

22. During test analysis, the test basis documentation is analyzed in order to determine what to test, i.e., to identify the test conditions. How does a test condition relate to a test case?[K1]

a) A test condition is the output from a test case
b) A test case creates test conditions
c) A test condition defines the test case
d) A test case tests a test condition

23. Which statement is included in the common characteristic of specified-based test design techniques?[K1]

a) The extent of coverage of the software can be measured for existing test cases, and further test cases can be derive systematically to increase coverage
b) Information about how the software is constructed is used to derive the test cases
c) Knowledge about likely defects and their distribution is another source of information
d) Models, either formal or informal, are used for the specification of the problem to be solved, the software or its components

24. What does it mean if a set of tests has achieved 90% statement overage? [K1]

a) 9 out of 10 decision outcomes have been exercised by this set of tests.
b) 9 out of 10 statements have been exercised by this set of tests.
c) 9 out of 10 tests have been run on this set of software.
d) 9 out of 10 requirements statements about the software are correct.

25. You are testing a machine that scores exam papers and assigns grades. Based on the score achieved the grades are as follows:

0-39=D-, 40-44=D, 45-49=D+, 50-54=C-, 55-59=C, 60-64=C+, 65-69=B-, 70-74=B, 75-79=B+, 80-84=A-, 85-89=A, 90-100=A+

If you apply equivalence partitioning, how many test cases will you need to achieve minimum test coverage? [K3]

a) 11
b) 12
c) 13
d) 14

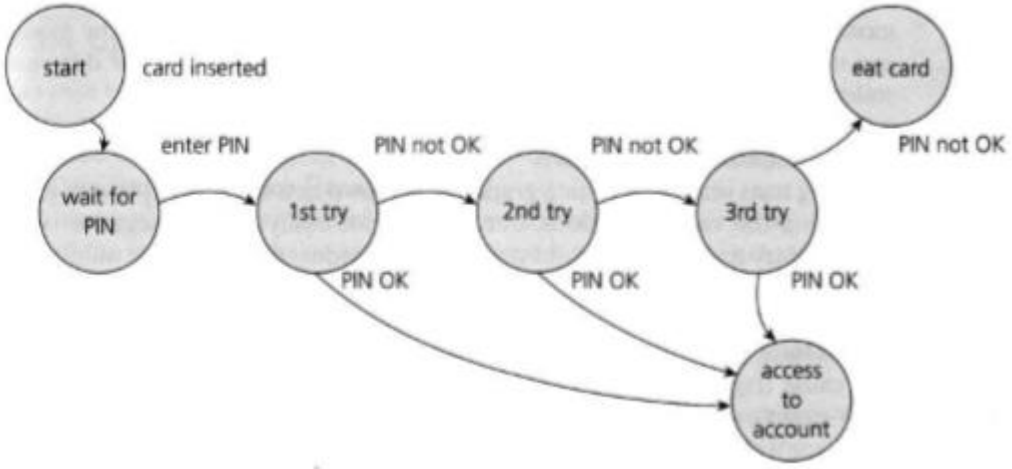
26. You are testing a machine that scores exam papers and assigns grades. Based on the score achieved the grades are as follows:

0-39=D-, 40-44=D, 45-49=D+, 50-54=C-, 55-59=C, 60-64=C+, 65-69=B-, 70-74=B, 75-79=B+, 80-84=A-, 85-89=A, 90-100=A+

If you apply boundary value analysis, how many test cases will you need to achieve minimum test coverage? [K3]

a) 24
b) 26
c) 48
d) 49

27. State transition testing is used to test the ability of the software are to enter into and exit from defined states via valid and invalid transitions. Given the following state transition diagram, how many test cases are required to cover 100% 1-switch coverage respectively from 1st try?[K4]




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

28. You have designed test cases to provide 100% statement and 100% decision coverage for the following fragment of code.

```
if width > length
then
  biggest_dimension = width
else
  biggest_dimension = length
end_if
```

The following has been added to the bottom of the code fragment above

```
print "Biggest dimension is "& biggest_dimension
print "Width: "& width
print "Length:"& length
```

How many more test cases are required? [K3]

a) One more test case will be required for 100% statement coverage.
b) Two more test cases will be required foe 100% statement coverage, one of which will be used to provide 100% decision coverage.
c) One more test case will be required for 100% decision coverage.
d) None, existing test case can be used.

29. Consider the following decision table

| Conditions | Rule 1 | Rule 2 | Rule 3 | Rule 4 |
|---|---|---|---|---|
| Over 23? | F | T | T | T |
| Clean driving record? | - | F | T | T |
| On Business? | - | - | F | T |
| Actions | | | | |
| Supply rental car? | F | F | T | T |
| Premium charge? | F | F | F | T |

Given this decision table, what is the expected result for the following test case?[K3]
TC1: A 26-year-old on business but with violations or accidents on his driving record
TC2: A 62-year-old tourist with a clean driving record

a) TC1: Don't supply car, TC2: Supply car with premium charge.
b) TC1: Supply car with premium charge, TC2: Supply car with no premium charge
c) TC1: Don't supply car, TC2: Supply car with no premium charge.
d) TC1: Supply car with premium charge, TC2: Don’t supply car.

Questions "Test Management"

30. Planning is influenced by the test policy of the organization, the scope of testing, objectives, risks, constraints, criticality, testability and availability of resources. As the project and test planning progress, more information becomes available and more detail can be included in the plan. What is the purpose of test exit criteria in a test plan: [K1]

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

31. Development staff may participate in testing, especially at the lower levels, but their lack of objectivity often limits their effectiveness. The independent testers may have the authority to require and define test processes and rules, but testers should take on such process-related roles only in the presence of a clear management mandate to do so. Which following is NOT the benefits of independent tester? [K2]

a) Independent testers may not verify assumptions people made during specification and implementation of the system
b) Isolation from the development team
c) Independent testers may be seen as a bottleneck for blamed for delay in release
d) Developers may lose a sense of responsibility for quality.

32. The test approach is the implementation of the test strategy for a specific project and defined and refined in the test plans and test designs. There are several approaches and which following statement is TRUE about Methodical approaches? [K2]

a) Stochastic testing using statistical information about failure rates (such as reliability growth models) or usage (such as operational profiles)
b) Exploratory testing where testing is more reactive to events than pre-planned, and where execution and evaluation are concurrent tasks
c) Failure-based (including error guessing and fault attacks), experience-based, checklist-based, and quality characteristic-based.
d) Risk-based testing where testing is directed to areas of greatest risk.

33. Once the test effort is estimated at the test estimation activity, resources can be identified and a schedule can be drawn up. Which following factor is NOT about factors that the testing effort may depend on?[K1]

a) Coverage of functionality
b) Outcome of testing
c) Characteristics of the product
d) Characteristics of the development process.

34. Test reporting is concerned with summarizing information about the testing endeavor and the outline of a test summary report is given in IEEE Std 829-1998. What is covered in the variances section of the test summary report? [K2]

a) The variances between the weekly status reports and the final summary report
b) The variances between what was planned for testing and what was actually tested
c) The variances between the test cases executed and the total number of test cases
d) The variances between the defects found and the defects fixed

35. Which following description is NOT correct about risk and testing? [K1]

a) Risks are used to decide where to start testing and where to test more; testing is used to reduce the risk of an adverse effect occurring, or to reduce the impact of an adverse effect
b) The level of risk will be determined by the likelihood of an adverse event happening and the impact
c) Risk can be defined as the chance of an event, hazard, threat or situation occurring and resulting in undesirable consequences or a potential problem
d) The purpose of risk is to establish and maintain the integrity of the products of the software or system

36. You have been given the following set of test cases to run. You have been instructed to run them in order by risk and to accomplish the testing as quickly as possible to provide feedback to the developers as soon as possible. Given this information, what it the best order in which to run these tests?[K3]

| Test Case ID | Duration | Risk Priority | Dependency |
|---|---|---|---|
| 1 | 30 mins | Low | 6 |
| 2 | 10 mins | Medium | None |

| | | | |
|---|---|---|---|
| 3 | 45 mins | High | 1 |
| 4 | 30 mins | High | 2 |
| 5 | 10 mins | Medium | 4 |
| 6 | 15 mins | Low | 2 |

a) 6,1,3,2,4,5
b) 4,3,2,5,6,1
c) 2,5,6,4,1,3
d) 2,4,5,6,1,3

37. If your test strategy is relying on making systematic use of some predefined set of tests or test conditions, what types of test strategy is used? [K2]
a) Reactive
b) Analytical
c) Regulatory
d) Methodical

38. Contextual factors for test process influence the test process for an organization and the followings are the example of the contextual factors. Which is NOT the one of operational constraints?
a) Contractual and regulatory requirements
b) Test Environments
c) Budgets and resources
d) Complexity

39. Some tools are geared more for developer use. Which tool is NOT used for developers?
a) Static analysis tools
b) Continuous integration tools
c) Dynamic and analysis tools
d) Model-Based testing tools

40. Which of the following describes the purpose of dynamic analysis tool?
a) To enable tests to be executed automatically or semi-automatically, using stored inputs and expected outcomes.
b) To help with review processes, and may store / communicate checklists and guidelines, comments, and track defects and effort
c) To determine the differences between expected and actual test results
d) To find defects only evident when the software is executing, such as time dependencies or memory leaks.

# Đề 7_đáp án

1. Which of following is NOT a "Test Analysis and Design" activity in "Fundamental Test Process"? [K2]

a) Creating test suites from the test procedures for efficient test execution
b) Identifying necessary test data to support the test conditions and test cases
c) Identifying and prioritizing test conditions based on analyses of test item, the specification, behavior and structure of the software
d) Creating bi-directional traceability between test basis and test cases

2. As a tester, you are collecting measures about defects. You recognize that after the first test cycle-covering all requirements-subsystem C has a defect density that is 150% higher than the average. Subsystem A on the other hand has a defect density that is 60% lower than the average. What conclusions for the next test cycle could you draw from this fact?..[K3]

a) Because we have already found many defects in subsystem C we do not need to test it much more.
b) According to the testing principle "defect clustering" it is probable that subsystem C has still more hidden defects. Therefore we need to test subsystem C in more detail
c) Observed defect density does not allow any conclusion about the amount of additional testing.
d) We focus testing on subsystem A, because we have found fewest defects in that module so far

3. You are running a written test which other testers have run previously. In addition this test has found bugs previously, and these bugs have been confirmed to be fixed. The test manager has encouraged you to vary the specific way in which you run the test, in the order of certain actions, the use of mouse versus hot-keys, and the particular.....values, based on the way users will use to the system. Which of the following is testing principle that could explain the test manager's directive?

a) Early testing
b) Absence of errors fallacy
c) Random testing
d) Pesticide paradox.

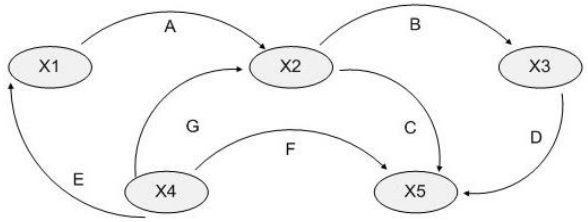
4. Which of the following are conclusion you could draw from the test principles?[K3]

A. Safety critical systems are tested exhaustively.
B. The testing coverage required in one organization may not be appropriate in another organization.
C. Risk assessment is required to understand how much testing is enough for each system
D. Safety critical systems are likely to need more coverage than non-safety critical system
E. Web sites cannot be tested because of the vast number of combinations of platform, browser, internet route and navigation options.

a) A, D and E are reasonable conclusions, the others are not
b) B , C and D are reasonable conclusions, the others are not

c) B , C and E are reasonable conclusions, the others are not
d) B, D, and E are reasonable conclusions, the others are not

5. How many test cases are required to cover 100% 0 – switch coverage respectively from X2?




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

6. Which is a correct explanation about non functional testing?..[K2]
a) Non functional testing shall not be executed in component testing, because non functional testing is required to integrate whole functions.
b) Non functional testing is a testing which measure and judge various quality attributes.
c) Non functional testing shall be executed based on ISO/IEC 9126 ( Software Product Quality)
d) Non functional testing is a testing which requires inspirations and experiences, and has difficulty with numeric evaluation.

7. Which of following is NOT correct regarding of Iterative-incremental Development Models? [K1]
a) This is the process of establishing requirements, designing, building and testing a system in a series of short development cycles.
b) This model demonstrates the relationships between each phase of the life cycle and its associated phase of testing
c) A system that is produced using this model is tested at several test levels during each iteration
d) Regression testing is increasing important on all iterations after the first one.

8. The following descriptions are related to acceptance testing. Which of the following alternative describes NOT true?
a) Site acceptance testing is to determine whether or not a component or system satisfies the user/customer needs and fits within the business process, normally including hardware as well as software
b) Acceptance testing is formal testing with respect to user needs, requirements, and business the acceptance criteria and to enable the user, customers or other authorized entity to determine whether or not to accept the system.
c) User acceptance testing verifies the fitness for use of the system and usability of business perspective.

d) Regulation acceptance testing is performed against any regulations that must be adhered to, such as governmental, legal or safety regulations.

9. Which of the following alternative describes the main difference between "system testing" and "Acceptance testing"?

a) System testing is done on the development platform, while acceptance testing is done on the customer platform.
b) System testing is done against the developers' interpretation of the requirements, acceptance testing against customer understanding.
c) System testing concentrates on functional testing, while acceptance testing concentrates on nonfunctional testing.
d) Acceptance testing is a regression test for the changes implemented during system testing.

10. Which of following is NOT about functional testing? [K2]

a) This testing is considers that external behavior or the software (black- box testing)
b) Security testing investigates the functions relating to detection of threats
c) This testing describes the tests required to measure characteristics of systems and software that can be quantified on a varying scale.
d) Interoperability testing evaluates the capability of the software product to interact with one or more specified components of systems

11. What is the Cyclomatic Complexity of the code below? [K3]

```
Public void ProcessPages() {
  While (nextPage!=true)    {
    If ((lineCount<=linePerPage) && (status != Status Cancelled) && (morePages==
true)) {
   //…
}}}
```

a) 4
b) 5
c) 6
d) 8

12. What is the fundamental difference between "static analysis" and test? [K2]

a) Static analysis can be applied at any time during the software life cycle. Test can only be applied after implementation.
b) Static analysis is done without executing the test object. A test is an examination during " run time"
c) Static analysis checks only documents without a formal structure. Test checks software system
d) Static analysis is applied only in the early phrases, test only in the phases of the software life cycle.

13. Which of following is related a typical "Rework" activity or formal review? [K1]

a) Recording update status of defect in formal review

b) Checking that defects have been addressed
c) Gathering metrics
d) Checking on exit criteria for more formal review type.

14. Which of the following statement is true about Static Analysis? [K1]
a) Static analysis is an analysis without execution of the test object (under analysis)
b) Static analysis serves for creating test cases
c) Static analysis is the precondition for executing the dynamic analysis
d) Static analysis is the check of the program code for compliance with the documentation rules.

15. Which of the statements about reviews are correct? [K3]
A. It is not useful to involve testers in review of specifications because it can bias them.
B. Reviews are useful because they help management to assign responsibility of failure on individual developers
C. Reviews can help find bugs early resulting in savings of cost.
D. Requirement of additional time for reviews is likely to result in longer development cycle.
a) A & C are true; B & D are false
b) C & D are true; A & B are false
c) D is true; A, B, C are false
d) C is true; A, B, D are false

16. Which of the following is NOT a typical "Planning" activity of formal review? [K1]
a) Defining the review criteria
b) Defining the entry and exit criteria for more formal review types.
c) Selecting which parts of documents to review.
d) Preparing for the review meeting by reviewing the documents

17. As a Tester, you are testing for below program. How many test cases do you need for 100% decision coverage?

```
……..
If (condition A)
    Then
    Else
END IF
If (condition B)
    Then
END IF
```

a) 1
b) 2
c) 4
d) 5

18. Which alternative contains ONLY defects with can be discovered by static analysis? [K3]

a) Referencing a variable with a undefined value, unreachable (dead) code, security vulnerabilities, race conditions.
b) Violations of coding standards, Referencing a variable with an undefined value, unreachable (dead) code, security vulnerabilities.
c) Referencing a variable with an undefined value, deadlocks, unreachable (dead) code, security vulnerabilities.
d) Referencing a variable with an undefined value, unreachable (dead) code, inconsistent interface between modules and components, race conditions.

19. In the technical review process, which is true? [K2]
A. There is less focus on higher level and related documents.
B. The moderator does not perform a formal entry check, because the document is not ready yet
C. The steps are the same as in the inspection process, but the objective is different.
a) A is true; B, C are false
b) A and B are true, C is false
c) A,B, C are true
d) A, C are true, B is false

20. You are testing a credit card only, run attended gasoline pump. Once the credit card is validated, the customer has selected the desired grade, and the pump is ready to pump, the customer may cancel the transaction and owe nothing ;however, once the pumping starts, gasoline will be sold in hundredths (0.01) of a gallon. The pump continues to pump until the user stops or a maximum of 50.00gallons has been dispensed. Which of the following is a minimum set of gasoline purchase transactions (in gallons of gasoline dispensed) that covers the boundary values for this variable?
a) 0.00,0.01,50.00,50.01
b) -0.01,0.00,25.00,49.99,50.00,50.01,75.00
c) 0.00,0.01,50.00,70.00
d) 0.00,20.00

21. A field on the screen shall be filled in with a text with a length of up to 10 characters.
Which result is a correct equivalence partition?
a) Invalid classes =no value given, longer than 11 characters.
Valid classes = value given, length between 1 and 10 characters.
b) Invalid classes =no value given, longer than 10 characters.
Valid classes = value given, length between 1 and 10 characters.
c) Invalid classes =no value given, longer than 10 characters, other characters than a to z.
Valid classes = value given, length between 1 and 10 characters, only characters from a to z.
d) Invalid classes =no value given, longer than 10 characters.
Valid classes = value given, length between 1 and 10 characters, characters covering a to z and A to Z.

22. Which is a correct cornbination to achieve 100% branch coverage for following code?.. [K3]

```
Public void foo(int x, int y) {
    If (x!=0) {
```

```
                Y =y/x;
                If (y>0) {
                    Y =y -1;
            }
        }
    }
```

a) (x=1, y=1), (x=0, y=0), (x=1, y=0)
b) (x=1, y=1), (x=1, y=-1), (x=1, y=0)
c) (x=1, y=1), (x=0, y=0)
d) (x=1, y=1)

23. Given the following fragment of code, how many tests are required for 100% decision coverage?

```
if width > length
then
biggest_dimension = width
if height > width
then
biggest_dimension = height
end_if
else
biggest_dimension = length
if height > length
then
biggest_dimension = height
end_if
end_if
```

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

24. As a Tester, You are testing an automobile with a software-controlled on/off switch for the motor

The motor has two states, not running and running. There are two events that can occur, an on signal and an off signal

If the motor is not running, pressing the on/off switch sends the software an on signal that tells the software to try (for up to five seconds) to start the motor. If the motor fails to start, the on/off switch can be pressed again to retry the operation as many times as the drives would like. In other words, there are two conditions, success and fail, that influence the resulting state of the motor and the action taken by the software based on the on signal.

If the motor is running, the on/off switch tells the software to stop the motor immediately if it would be safe to do so. If the motor cannot be safely stopped, the software will the driver a verbal warning: “motor cannot be safely stopped”. In other words, there are two conditions, safe

and unsafe, that influence the resulting state of the motor and the action taken by the software based on the off signal.

Assume you want to describe this behavior in a state transition table to design s set of tests for both vail and invalid situations. Assume each row in the tables gives the initial state, the event/ condition combination, the resulting state, and the action taken.

How many rows will this table have?..[K3]

a) 2
b) 4
c) 6
d) 8

25. Which of the following is NOT true about Condition Determination Testing and Coverage?[K3]

e) 100% decision condition coverage implies 100% condition determination coverage
f) A white box test design technique in which test cases are independently affect a decision outcome that have been exercised by a test case suite.
g) The percentage of all single condition outcomes that independently affect a decision outcome that have been exercised by a test case suite.
h) The possible combination of true/false conditions that can affect decisions are identified.

26. Which of the following statements show test design specification is correct? [K2]

A. Specification identifier
B. Features to be tested
C. Approach refinements
D. Test identification
E. Test items

a) A,B,C,E are true; D is false
b) D and E are true; A, B and C are false
c) A, D and E are true; B and C are false
d) A, B, C, D and E are true

27. Which of following is a typical tester's tasks? [K1]

e) Write test summary reports based on the information gathered during testing
f) Select tools to support testing and organize any training in tool use for testers
g) Analyze, review and assess user requirements, specifications and models for testability
h) Contribute the testing perspective to other project activities, such as integration planning.

28. Which of following is NOT a Test Planning Activity in Test Planning? [K1]

e) Determining the scope and risks and identifying the objectives of testing
f) Integrating and coordination the testing activities into the software life cycle activities
g) Assigning resources for the different activities defined
h) Estimating the tasks based on estimates made by the owner of the tasks or by experts

29. Which of following Test Approach includes Exploratory testing where testing is more reactive to events than pre-planned, and where execution and evaluation are concurrent tasks? [K2]

e) Dynamic and heuristic approach
f) Analytical Approach
g) Model-based Approach
h) Regression-averse approaches

30. Dynamic and----------approaches, such as exploratory testing were testing is more reactive to events than pre-planned, and where execution and evaluation are concurrent tasks…[K2]

e) Heuristic
f) Exploratory
g) Regression-averse
h) Analytical

31. Which of following is NOT correct about Metrics which should be collected during and at the end of a test level in order to assess? [K2]

a) The adequacy of the test objectives for that test level
b) The adequacy of the test approaches taken
c) The effectiveness of the testing with respect to the objectives
d) The adequacy of testers anticipate defects based on experience

32. Which of following is NOT a Test control actions in Test Progress monitoring and control? [K1]

e) Making decisions based on information from test monitoring
f) Setting an exit criterion requiring fixes to have been re-tested.
g) Re-prioritizing test when an identified risk occurs.
h) Change the test schedule due to availability or unavailability of test environment.

33. Which is a correct explanation about product risk?..[K1]

e) Due to shortage of budgets, testing members can't be assigned to a testing team as planned.
f) Delivery of software which may include some easy bugs.
g) Due to delay of development phase, period of test phase get to be shortened
h) Due to a wrong order of testing tools, the progress of testing phases gets to delay.

34. Which of following is a Project Risk? [K1]

e) Improper attitude toward or expectations of testing
f) The potential that the software/hardware could cause harm to an individual or company
g) Poor data integrity and quality
h) Software that does not perform its intended functions

35. When conducting reviews, psychological sensitivity is required. Which mistake often occurs when conducting reviews and may lead to interpersonal problems within teams?...[K2]

e) Testers and reviewers expect that defects in the software product are already found and fixed by the developers.
f) Testers and reviewers communicate defects as criticism against humans instead of against the software product.

g) Due to time constraints, tester and reviewers do not believe they can afford enough time to find failures.
h) Testers and reviewers are not sufficiently trained to accurately identify failures and faults in the item under review.

36. An estimate of resources should be made so that an organization can create a schedule for testing. Which of the following approaches can be used for creating an estimate?

I. A skills-based approach, in which the estimate is based on all the tester's skills.
II. An expert-based approach, in which the owner or other expert creates the estimate.
III. A metrics-based approach, in which the estimate is based on previous testing efforts
IV. A bottom-up approach, in which each tester estimates their work and all estimates are integrated

a) II,III,IV
b) I,III,IV
c) I,IV
d) II,III

37. Which of following is correct to be defined as the chance of an event, hazard, threat or situation occurring and resulting in undesirable consequences or a potential problem? [K1]

e) Defect
f) Incident
g) Risk
h) Failure

38. Which tools are used to generate test inputs or executable tests? [K1]

a) Test data preparation tools
b) Test execution tools
c) Test design tool
d) Test comparators

39. Which of the following is characteristics of test management tools?.. [K1]

E. Logging of test results and generation of progress reports.
F. Improve the efficiency of testing activities by automating repetitive tasks.
G. Independent version control or interface with an external configuration management tool.
H. Assignment of actions to people (e.g. fix or confirmation test)

e) B & D
f) A, B & D
g) A & C
h) B, C & D

40. Which is a wrong explanation about static analysis tools?...[K2]

e) Static analysis tools measure a complexity of source codes.
f) Static analysis tools measure a codes coverage and an effectiveness of static testing.
g) Static analysis tools find defects of certain patterns of source codes.
h) Static analysis tools measure level of accordance with coding rules.

Đề 8_đáp án

C1: Fundamentals of Testing

1. Under limited project time and budget, testing effort shall be focused proportionally to the expected and later observed defect density of modules so that project constraints are properly managed. Which testing principle is explained? [K2]
A. Pesticide paradox
B. Absence-of-errors fallacy
C. Early testing
D. Defect clustering

2. Debugging and testing are different. Dynamic testing can show failures that are caused by defects. Debugging is the development activity that find, analyzes and removes the cause of the failure. Which of the following is an example of debugging?
A. A tester retests a fix from the developer and finds a regression
B. A developer performs unit testing
C. A tester finds a defect and reports it
D. A developer finds and fixes a defect

3. The most visible part of testing is test execution. But to be effective and efficient, test plans should also include time to be spent on planning the tests, designing test cases, preparing for execution and evaluating result. Which of the following is a major task of test planning?
A. Determining the test approach
B. Preparing test specifications
C. Evaluating exit criteria and reporting
D. Measuring and analyzing results

4. Which of following statement defines the levels of independence from low to high?
i. Tests designed by a person from an independent test team or performance test specialists
ii. Tests designed by a person from an outsourcing or certification by an external body
iii. Tests designed by the person who wrote the software under test with the low level of independence
iv. Tests designed by another person from development team
A. i, ii, iii, iv
B. iv, ii, i, iii
C. iii, iv, i, ii
D. iv, iii, ii, i

5. Which describes about the Pesticide Paradox which is one of the Seven Testing Principles?
A. Testing is done differently in different contexts. For example, safety-critical software is tested differently from an e-commerce site
B. If the same tests are repeated over again, eventually the same set of test cases will no longer find any new defects. To overcome this, test cases need to be regularly reviewed and revised and new and different tests need to be written to exercise different parts of the software or system to find potentially more defects

C. Testing everything (all combinations of inputs and preconditions) is not feasible except for trivial cases. Instead of exhaustive testing, risk analysis and priorities should be used to focus testing efforts
D. To find defects early, testing activities shall be started as early as possible in the software or system development life cycle and shall be focused on defined objectives.

6. Which is NOT part of the test execution phase
A. Performing the test basis
B. Logging test results
C. Reviewing the test basis
D. Verify test environment

7. Which of following is NOT about functional testing?[K2]
A. This testing is considers the external behavior of the software ( black-box testing)
B. Security testing investigates the functions relating to detection of threats.
C. This testing describes the test required to measure characteristics of systems and software that can be quantified on a varying scale.
D. Interoperability testing evaluates the capability of the software product to interact with one or more specified components or systems.

C2: Questions “testing throughout the software life-cycle”

8. Which of the following statement does NOT correctly describe a valid approach to Component Testing?
A. Functional testing of the interfaces between modules
B. Functional testing of the component in isolation
C. Structure-based testing of the code without recording incidents
D. Automated tests that are run until the component passes

9. What is important to do when working with software development models?
A. To adapt the models to the context of project and product characteristics
B. To choose the waterfall model because it is the first and best proven model
C. To start with the V-model and then move to either iterative or incremental models
D. To only change the organization to fit the model and not vice versa

10. What are good practices for testing within the development life cycle?
A. Testers are involved in document reviews
B. Different test levels are defined with specific objectives
C. Early test analysis and design
D. All of above

11. Which following is NOT the indicators of maintenance testing?
A. Retirement
B. Creation
C. Modification
D. Migration

12. Which testing is the repeated testing of an already tested program, after modification, to discover any defects introduced or uncovered as a result of the changes?
A. Functional testing
B. Non-functional testing
C. Structural Testing
D. Regression testing

13. Which of the following is NOT about System Testing?[K1]
A. May include tests based on risks and/or on requirements specification, business process, use cases.
B. The test environment should correspond to the final target or production environment.
C. Should investigate function and non- function requirements of the system and data quality characteristics.
D. Tests the interactions between different systems or between hardware and software.

C3: Static Techniques

14. For which of the following would a static analysis tool be useful?
A. Enforcement of coding standard
B. Validating models of the software
C. Testing code executed in a special test harness
D. Supporting reviews

15. Which testing technique would be most effective is determining and improving for maintainability of the code?
A. Dynamic testing
B. Unit testing
C. Peer review
D. Static analysis

16. The followings details about main phases of a formal review, which is NOT correct?
A. Planning: defining the review criterial and selecting the personnel
B. Kick-off: distributing documents and explaining the objectives, process and documents
C. Rework: examining and evaluating issues during any physical meetings
D. Follow-up: checking that defects have been addressed

C4: Test design techniques

17. Which of the following is NOT the one of Experience-based techniques?
A. Error guessing
B. Exploratory Testing
C. Checklist-based testing
D. Cause-Effect Graphing

18. Which of the following statements for the boundary value test technique is TRUE?

A. Is the same as equivalence partitioning test
B. Is used in white box testing strategy
C. Test combinations of input circumstances
D. Test boundary conditions on, below and above the edges of input and output equivalence classes

19. If you are testing a module of code, how do you determine the level of decision coverage you have achieved?
A. By taking the number of decisions you have tested and dividing that by the total number of executable statements in the module
B. By taking the number of decisions outcomes you have tested and dividing that by the total number of decisions outcomes in the module
C. By taking the number of decisions you have tested and dividing that by the total number of decisions in the module
D. By taking the number of decisions you have tested and dividing that by the total lines of code in the module

20. Which statement is included in the common characteristics of experience-based test design techniques?
A. Test cases can be derived systematically from these models
B. Information about how the software is constructed is used to derive the test cases
C. Knowledge about likely defects and their distribution is another source of information
D. Models, either formal or informal, are used for the specification of the problem to be solved, the software or its components

21. A defect was found during testing that the system crashed when the network got disconnected while receiving data from the server. The defect was fixed by correcting codes which check the network availability during data transferring. The corresponding module did cover 100% of statement with existing test cases. To verify the fix and ensure more extensive coverage, some tests were designed and added to the test suite. What types of testing is NOT mentioned above?
A. Functional testing
B. Structural testing
C. Confirmation testing
D. Performance testing

22. Which of the following options lists techniques categorized as White box design techniques?
A. Boundary Value analysis and Use Case Based testing
B. Equivalence Partitioning and Decision Table testing
C. Statement Coverage and Use Case Based testing
D. Decision Coverage and Statement Coverage

23. Which statement is included in the common characteristics of structure-based test design techniques?
A. Test cases can be derived systematically from these models
B. Information about how the software is constructed is used to derive the test cases

C. Knowledge about likely defects and their distribution is another source of information
D. Models, either formal or informal, are used for the specification of the problem to be solved, the software or its components

24. You are testing a scale system that determines shipping rates for a regional web-based auto parts distributor. Identify how many equivalence classes are necessary for the following range?

| Weight | 1 to 10kg | 11 to 25kg | 26 to 40 kg | 41 to 50 kg | 51 to 100 kg |
|---|---|---|---|---|---|
| Shipping Cost | $5 | $ 7.5 | $12 | $17 | $25 |

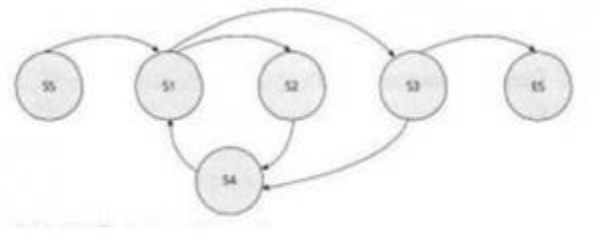
A. 4
B. 5
C. 6
D. 7

25. You are testing a scale system determines shipping rate for the regional web based auto parts distributor. Due to regulations, shipments cannot exceed 100 kg. You want to included boundary value analysis as part of your black-box test design. How many tests will you need to execute to achieve 100% boundary values analysis? [K3]

| Weight | 1 to 10 kg | 11 to 25 kg | 26 to 40 kg | 41 to 50 kg | 51 to 100 kg |
|---|---|---|---|---|---|
| Shipping Cost | $5 | $ 7.5 | $12 | $17 | $25 |

A. 11
B. 12
C. 21
D. 22

26. Given the state diagram in following Figure, which test case is the minimum series of valid transitions to cover every state?



**A.** SS – S1 – S2 – S4 – S1 – S3 – ES
B. SS – S1 – S2 – S3 – S4 – S3 – S4 – ES

C. SS – S1 – S2 – S4 – S1 – S3 – S4 – S1 – S3 – ES
D. SS – S1 – S4 – S2 – S1 – S3 – ES

**B.**

27. How many test cases are needed to achieve 100% statement coverage? [K3]

```
If ((temp<0) or (temp>100)){
        Alert (“DANGER”);
        If (speed>100) and (local <=50)){
                Speed =50;
        }
} Else {
        Check = false;
}
```

A. 5
B. 4
C. 2
D. 3

28. Consider the following high level program design and assume you can provide the values for today, A, B and C:

```
Start;
Do until B= C
        If today = Monday
                set A = 1
        elseif today = Wednesday
                Set A = 2
                Set B = C
        Endif;
        If B < C
                B = B + 1
        Endif;
Endloop;
End;
```

Which of the following of values will achieve 100% decisions coverage with the least number of the test cases (the order of the values is today, A, B, C)? [K3]
A. Monday, 1, 3, 3; Monday, 3, 2, 4; Wednesday, 1, 2, 3; Tuesday, 5, 4, 3
B. Monday, 1, 2, 4; Wednesday, 1, 2, 4.
C. Monday, 5, 1, 1; Tuesday, 5, 1, 2; Wednesday, 5, 1, 2.
D. Monday, 5, 3, 2; Monday, 5, 1, 1; Monday 5, 2, 3; Tuesday, 4, 4, 3; Wednesday, 1, 2, 3.

C5: Test management

29. The activities and tasks performed by test leader depend on the project and product context, the people in the roles, and the organization. Which of the following is NOT a task of the test leader? [K1]
A. Initiate the specification, preparation, implementation and execution of tests.
B. Monitor the test results and check the exit criteria.

C. Contribute the testing perspective to other project activities.
D. Set up the test environment.

30. Which of the following terms is used to establish and maintain the integrity of the products (components, data and documentation) of the software or system through the project and product life cycle? [K2]
A. Incident management.
B. Configuration management
C. Test monitoring.
D. Risk management.

31. Development staff may participate in testing especially at the lower levels, but their lack of objectivity often limits their effectiveness. The independent testers may have the authority to require and define test processes and rules, but testers should take on such process-related roles only in the presence of a clear management mandate to do so.
Which following is NOT the drawbacks of independent tester? [K2]
A. Isolation from the development team.
B. Development team may be hard to find defects
C. Independent testers may be seen as a bottleneck or blamed for delays in release
D. Developers may lose a sense of responsibility for quality.

32. Which following test activity may covers the estimates of defect density or reliability measures? [K1]
A. Test Planning
B. Entry Criteria
C. Exit Criteria
D. Test Estimation

33. Which statement correctly describes about the metrics and examples of test reporting and control? [K2]
A. Test reporting changing the test schedule due to availability or unavailability of a test environment.
B. Test reporting re-prioritizing tests when an identified risk occurs.
C. Test control: setting and entry criterion requiring fixed to have been re-tested by a developer before accepting them into a build.
D. Test control: assessing the effectiveness of the testing with respect to the objectives.

34. Which of the following is a project risk?
A. A problem with the development manager which is resulting in his rejecting all defect reports
B. An issue with the interface between the system under test and a peripheral device
C. A failed performance tests.
D. A module that performs incorrect calculations due to a defect in a formula.

35. You have been given the following set of test cases to run. You have been instructed to run them in order by risk and to accomplish the testing as quickly as possible to provide feedback to

the developers as soon as possible. Given this information, what it the best order in which to run these tests? [K3]

| Test Case ID | Name | Risk Priority | Dependency |
|---|---|---|---|
| 1 | Purchase Item | 2 | None |
| 2 | Receive Invoice | 3 | Test 1 |
| 3 | Receive Goods | 2 | Test 1 |
| 4 | Send Payment | 3 | Test 3 |
| 5 | Report Payments | 1 | Test 1 |

A. 5, 1, 3, 2, 4
B. 1, 2, 4, 3, 5
C. 1, 3, 2, 4, 5
D. 3, 4, 5, 1, 2

36. You have received the following description section in an incident report.
The report executed per the attached steps, but the data was incorrect. For example, the information in column 1 was wrong. See the attached screenshot.
This report is critical to the users and they will be unable to do their jobs without this information.
What is the biggest problem with this incident report?
A. The developer does not know what the tester expected to see
B. The developer will not know how to repeat the test
C. The developer will not know how important the problem is
D. The developer will not be able to see what the tester is saying is wrong

37. Which of the following is the purpose of a proof-of-concept for a new tool?
A. To verify that the licensing cost is affordable
B. To verify that the tool will work effectively within the current infrastructure
C. To verify that the vendor will provide adequate support
D. To verify that the return on investment will be sufficient

38. Some tools are geared more for developer use. Which of the following is used for developers [K2]
A. Performance testing tools.
B. Test comparators.
C. Test management tools
D. Modeling tools

39. What is the correct special considerations for the static analysis tools? [K1]
A. Static analysis tools need to interface with other tools or spreadsheets in order to produce useful information in a format that fits the needs of the organization.

B. Static analysis tools applied to source code can enforce coding standards, but if applied to existing code may generate a large quality of messages
C. Static analysis tools often require significant effort in order to achieve significant benefits
D. In a keyword-driven testing approach, the spreadsheet contains keywords describing the actions to be taken (also called action words), and test data

40. In the introducing a tool into an organization, which following factor is NOT true about the success factors for the deployment of the tool within an organization? [K1]
A. Gathering lessons learned from all teams
B. Monitoring tool use and benefits
C. Adapting and improving processes to fit with the use of the tool
D. Identification of internal requirements for coaching and mentoring in the use of the tool

Đề 9_ Đáp án

1. Which of the problems below BEST characterize a result of software failure?
A. Damaged reputation
B. Lack of methodology
C. Inadequate training
D. Regulatory compliance

2. What should be taken into account to determine when to stop testing?
I. Technical risk
II. Business risk
III. Project constraints
IV. Product documentation

A. I and II are true; III and IV are false
B. III is true, I,II and IV are false
C. I,II and IV are true, III is false
D. I,II and III are true; IV is false

3. What is the process of analyzing and removing cause of failures in software?
A. Validation
B. Testing
C. Debugging
D. Verification

4. Which general testing principles are characterized by the descriptions below?
W. Early testing
X. Defect clustering
Y. Pesticide paradox
Z. Absence-of-errors fallacy
1. Testing should start at the beginning of the project
2. Conformance to requirements and fitness for use
3. Small number of modules contain the most defects
4. Test cases must be regularly reviewed and revised

A. W1,X2,Y3 and Z4
B. W1, X3, Y4 and Z2
C. W2, X3, Y1 and Z4
D. W1, X4, Y2 and Z3

5. Which of the following MAIN activity is part of the fundamental test process?
A. Initiating and planning
B. Documenting root-causes
C. Capturing lesson learned
D. Planning and control

6. Which of the following are MAJOR test implementation and execution tasks?
I. Repeating test activities
II. Creating test suites
III. Reporting discrepancies
IV. Logging the outcome
V. Analyzing lessons learned

A. II, III and IV
B. I, III, IV and V
C. I, II, III and IV
D. III, IV and V

7. What principle is BEST described when test designs are written by a third-party?
A. Exploratory testing
B. Independent testing
C. Integration testing
D. Interoperability testing

8. Which test levels are USUALLY included in the common type of V-model?
A. Integration testing, system testing, acceptance testing and regression testing
B. Component testing, integration testing, system testing, and acceptance testing
C. Incremental testing, exhaustive testing, exploratory testing and data driven testing
D. Alpha testing, beta testing, black-box testing and white-box testing

9. What test can be conducted for off-the-shelf software to get market feedback?
A. Beta testing
B. Usability testing
C. Alpha testing
D. COTS testing

10. Who OFTEN performs system testing and acceptance testing respectively?
A. Senior programmers and professional testers
B. Technical system testers and potential customers
C. Independent test team and users of the system
D. Development team and customers of the system

11. What is the key difference between (a) contract and regulation acceptance testing, and (b) alpha and beta testing?
A. (a) are performed outside the company and (b) are conducted by the test team
B. (a) are conducted by regulators and (b) are performed by system administrators
C. (a) are mandatory test for government applications and (b) are usually optional
D. (a) are for custom-developed software and (b) are for off-the-shelf software

12. Which test measures the system at or beyond the limits of its specified requirements?
A. Structural testing
B. Stress testing

C. Error guessing
D. Black-box testing

13. Which test ensures that modifications did not introduce new problems?
A. Stress testing
B. Black-box testing
C. Structural testing
D. Regression testing

14. Which typical defects are easier to find using static instead of dynamic testing?
L. Deviation from standards
M. Requirements defects
N. Insufficient maintainability
O. Incorrect interface specifications

A. L, M, N and O
B. L and N
C. L, N and O
D. L, M and N

15. In a formal review, who is primarily responsible for the documents to be reviewed?
A. Author
B. Manager
C. Moderator
D. Reviewers

16. Who typically use static analysis tools?
A. Customers and users
B. Developers and designers
C. Business and systems analysts
D. System and acceptance testers

17. Which aspects of testing will establishing traceability helps?
A. Configuration management and test data generation
B. Test case specification and change control
C. Test condition and test procedure specification
D. Impact analysis and requirements coverage

18. Features to be tested, approach, item pass/fail criteria and test deliverables should be specified in which document?
A. Test case specification
B. Test procedure specification
C. Test plan
D. Test design specification

19. Which test technique is based on requirements specifications?

A. White-box technique
B. Component testing
C. Black-box technique
D. Data driven testing

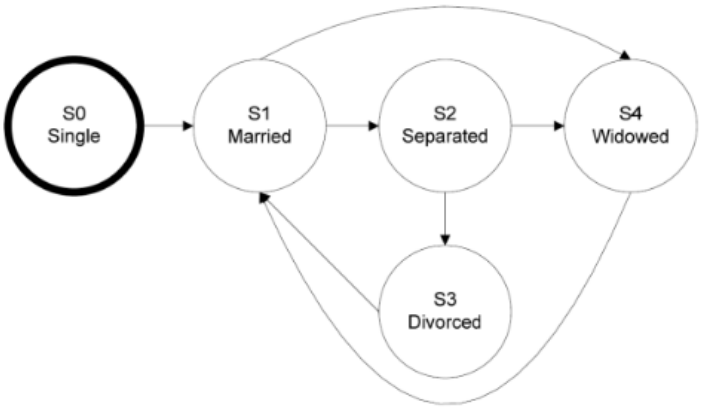
20. Which test design techniques should a tester use to respectively achieve the following:
(a) Check the document features of the system
(b) Ensure 100% decision coverage
(c) Defect likely defects and distribution?

A. Specification-based, data driven testing, and defect density techniques
B. Specification-based, branch coverage, and exploratory techniques
C. Structure-based, equivalence partitioning, and exploratory techniques
D. Specification-based, structure-based, and experience-based techniques

21. What technique captures system requirements that contain logical conditions?
A. Boundary value
B. Equivalence partition
C. Decision table
D. State transition

22. Input and output combinations that will be treated the same way by the system can be tested using which technique?
A. Boundary value
B. Equivalence partition
C. Decision table
D. State transition

23. Which test suite will check for an invalid transition using the diagram below?




A. S0-S1-S2-S3-S1-S4
B. S0-S1-S4-S1-S2-S3
C. S0-S1-S3-S1-S2-S1
D. S0-S1-S2-S3-S1-S2

24. How are integration testing and use case testing similar and dissimilar?
A. Both checks for interactions: Integration for components, use case for actors
B. Both are black-box techniques: Integration is low-level, use case is high-level
C. Both static testing: developers perform integration, users execute use case tests
D. Both are V&V techniques: integration is for validation, use case is for verification

25. How many test cases are need to achieve 100% decision coverage?

```
If (p=q) {
        s=s+1
        If (s<5) {
                t=10;
        }
} else if (p>q) {
t=5;
}
```

A. 3
B. 6
C. 5
D. 4

26. What analysis determines which parts of the software have been executed?
A. Impact analysis
B. Code coverage
C. Gap analysis
D. Cyclomatic complexity

27. Based on the error guessing test design technique, which of the following will an experienced tester MOST LIKELY test in calendar software?

i. First two letters of the month, e.g. MA can represent March or May
ii. First letter of the day, e.g., T can mean Tuesday or Thursday
iii. Leap year
iv. Number of days in a month
v. Three-digit days and months

A. i, ii, iv and v
B. iii and iv
C. i, ii, iii, and iv
D. i, ii and v

28. Which input combinations will a knowledgeable tester MOST LIKELY use to uncover potential errors when testing a surname field?
A. Johnson, de la Cruz and Morgan
B. Go, Stephanopoulous and Venkatsewaran
C. Smit, Smyth and Smithsonian
D. O'Brien, Zeta-Jones and Young Pów

29. Which of the following demonstrates independence in testing?
J. Independent testers are external to the organization
K. Independent testers are part of the development team
L. Independent testers are from the user community
M. Programmers who wrote the code serve as independent testers
N. Customers who wrote the requirements serve as independent testers

A. J, L and N
B. J, K, L and N
C. K, M and N
D. J, L, M and N

30. Which of the following is a KEY task of a tester?
A. Reviewing tests developed by others
B. Writing a test strategy for the project
C. Deciding what should be automated
D. Writing test summary reports

31. In software testing, what is the MAIN purpose of exit criteria?
A. To enhance the security of the system
B. To prevent endless loops in codes
C. To serve as and alternative or "Plan B"
D. To define when to stop testing

32. Which test approaches or strategies are characterized by the descriptions below?
S. Analytical approaches
T. Model-based approaches
U. Methodical approaches
V. Consultative approaches
1. Relies on guidelines from domain experts
2. Includes error guessing and fault-attacks
3. Uses statistical information about failure rates
4. Focuses on areas of greatest risk

A. S4, T3, U2, V1
B. S1, T2, U3, V4
C. S2, T3, U1, V4
D. S3, T4, U2, V1

33. Which of the following can be used to measure progress against the exit criteria?
W. Number of test cases that passed or failed
X. Number of defects found in a unit of code
Y. Dates for milestones and deliverables
Z. Subjective confidence of testers in the product

A. W, X, Y and Z
B. W, X and Y
C. W and X
D. W, X and Z

34. What type of risk includes potential failure areas in the software?
A. Project risks
B. Product risks
C. Economic risks
D. Requirements risks

35. Based on the IEEE Standard for software test documentation (IEEE Std 829-1998), which sections of the test incident report should the following details be recorded?

Sections:

a) Test incident report identifier
b) Summary
c) Incident description
d) Impact

Details

1. Unique identifier
2. Version level of the test items
3. Inputs
4. Expected results
5. Actual results
6. Anomalies
7. Date and time

A. a:1; b:2 and 7; c:3,4 and 5; d:6
B. a:1; b:6 and 7; c:3,4 and 5; d:7
C. a:1; b:2; c:3,4,5,6 and 7
D. a:1; b:6 and 7; c:3,4 and 5

36. Based on the IEEE Standard for software test documentation (IEEE Std 829-1998), which of sections are the part of the test summary report?

a) Test summary and report identifier
b) Summary
c) Variances
d) Anomalies
e) Comprehensive assessment
f) Approvals

A. a,b,e and f
B. a,b,c,d and f
C. a,b,c,e and f
D. a,b,c and f

37. What is the name of a skeletal implementation of a software component that is used for testing?
A. Use case
B. Domain
C. Driver
D. Stub

38. Which of the following are potential benefits of using test support tools?
A. Ensuring greater consistency and minimizing software project risks
B. Reducing repetitive work and gaining easy access to test information
C. Performing objective assessment and reducing the need for training
D. Allowing for greater reliance on the tool to automate the test process

39. Which test support tool can be used to enforce coding standards?
A. Static analysis tool
B. Performance testing tool
C. Test comparator
D. Test management tool

40. What should be considered when introducing a tool into an organization?
A. Assessing the organizational maturity
B. Counting the number of systems to be tested
C. Calculating the ratio between programmers and testers
D. Reviewing the exit criteria of previous projects

Đề 10

Question #1 (1 Point) Which one of the following answers describes a test condition?

a) A distinguishing characteristic of a component or system
b) A testable aspect of a component or system identified as a basis for testing
c) The degree to which a software product provides functions which meet stated and implied needs when the software is used under specified conditions
d) Test cases designed to execute combinations of conditions and actions resulting from them

Select ONE option.

Question #2 (1 Point) Which of the following statements is a valid objective for testing?

a) The test should start as late as possible so that development had enough time to create a good product.
b) To validate whether the test object works as expected by the users and other stakeholders.
c) To prove that all possible defects are identified.
d) To prove that any remaining defects will not cause any failures.

Select ONE option.

Question #3 (1 Point) Which of the following statements correctly describes the difference between testing and debugging?

a) Testing identifies the source of defects; debugging analyzes the defects and proposes prevention activities
b) Dynamic testing shows failures caused by defects; debugging eliminates the defects, which are the source of failures
c) Testing does not remove faults; but debugging removes defects that cause the faults
d) Dynamic testing prevents the causes of failures; debugging removes the failures.

Select ONE option.

Question #4 (1 Point) Which one of the statements below describes the most common situation for a failure discovered during testing or in production?
a) The product crashed when the user selected an option in a dialog box.
b) The wrong version of a compiled source code file was included in the build.
c) The computation algorithm used the wrong input variables.
d) The developer misinterpreted the requirement for the algorithm.

Select ONE option

Question #5 (1 Point)

Mr. Test has been testing software applications on mobile devices for a period of 5 years. He has a wealth of experience in testing mobile applications and achieves better results in a shorter time than others. Over several months Mr. Test did not modify the existing automated test cases and did not create any new test cases. This leads to fewer and fewer defects being found by executing the tests. What principle of testing did Mr. Test not observe?

a) Testing depends on the environment.
b) Exhaustive testing is not possible.
c) Repeating of same tests will not find new defects.
d) Defects cluster together.

Select ONE option.

Question #6 (1 Point) In what way can testing be part of Quality Assurance?

a) It ensures that requirements are detailed enough.
b) Testing reduces the risk of poor software quality.
c) It ensures that standards in the organization are followed.
d) It measures the quality of software in terms of number of executed test cases.

Select ONE option.

Question #7 (1 Point) Which of the following activities is part of the main activity "test analysis" in the test process?

a) Identifying any required infrastructure and tools.
b) Creating test suites from test scripts.
c) Analyzing lessons learned for process improvement.
d) Evaluating the test basis for testability.
Select ONE option

Question #8 (1 Point) Match the following test work products (1-4) with the right description (A-D).

1. Test suite
2. Test case
3. Test script
4. Test charter

A. A set of test scripts to be executed in a specific test run
B. A set of instructions for the execution of a test
C. Contains expected results
D. Documentation of test activities in session-based exploratory testing

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

d. 1D, 2C, 3B, 4A

Select ONE option.

Question #9 (1 Point) How can white-box testing be applied during acceptance testing?

a) To check if large volumes of data can be transferred between integrated systems.
b) To check if all code statements and code decision paths have been executed.
c) To check if all work process flows have been covered.
d) To cover all web page navigations.

Select ONE option.

Question #10 (1 Point) Which of the following statements comparing component testing and system testing is TRUE?

a) Component testing verifies the functionality of software modules, program objects, and classes that are separately testable, whereas system testing verifies interfaces between components and interactions between different parts of the system.
b) Test cases for component testing are usually derived from component specifications, design specifications, or data models, whereas test cases for system testing are usually derived from requirement specifications or use cases.
c) Component testing only focuses on functional characteristics, whereas system testing focuses on functional and non-functional characteristics.
d) Component testing is the responsibility of the testers, whereas system testing typically is the responsibility of the users of the system.

Select ONE option.

Question #11 (1 Point) Which one of the following is TRUE?

a) The purpose of regression testing is to check if the correction has been successfully implemented, while the purpose of confirmation testing is to confirm that the correction has no side effects.
b) The purpose of regression testing is to detect unintended side effects, while the purpose of confirmation testing is to check if the system is still working in a new environment.
c) The purpose of regression testing is to detect unintended side effects, while the purpose of confirmation testing is to check if the original defect has been fixed.
d) The purpose of regression testing is to check if the new functionality is working, while the purpose of confirmation testing is to check if the originally defect has been fixed.

Select ONE option.

Question #12 (1 Point) Which one of the following is the BEST definition of an incremental development model?

a) Defining requirements, designing software and testing are done in phases where in each phase a piece of the system is added.
b) A phase in the development process should begin when the previous phase is complete.
c) Testing is viewed as a separate phase which takes place after development has been completed.
d) Testing is added to development as an increment.

Select ONE option.

Question #13 (1 Point) Which of the following should NOT be a trigger for maintenance testing?
a) Decision to test the maintainability of the software.
b) Decision to test the system after migration to a new operating platform.
c) Decision to test if archived data is possible to be retrieved.
d) Decision to test after “hot fixes”.

Select ONE option.

Question #14 (1 Point) Which of the following options are roles in a formal review?
a) Developer, Moderator, Review leader, Reviewer, Tester.
b) Author, Moderator, Manager, Reviewer, Developer.
c) Author, Manager, Review leader, Reviewer, Designer.
d) Author, Moderator, Review leader, Reviewer, Scribe.

Select ONE option.

Question #15 (1 Point) Which activities are carried out within the planning of a formal review?

a) Collection of metrics for the evaluation of the effectiveness of the review.
b) Answer any questions the participants may have.
c) Defintion and Verification of fulfillment of entry criteria for the review..
d) Evaluation of the review findings against the exit criteria.

Select ONE option.

Question #16 (1 Point) Which of the review types below is the BEST option to choose when the review must follow a formal process based on rules and checklists?

a) Informal Review.
b) Technical Review.
c) Inspection.
d) Walkthrough.

Select ONE option.

Question #17 (1 Point) Which of the following statements about static testing are MOST true?
a) Static testing is a cheap way to detect and remove defects

b) Static testing makes dynamic testing less challenging
c) Static testing makes it possible to find run-time problems early in the lifecycle
d) When testing safety-critical system, static testing has less value because dynamic testing finds the defects better

Select ONE options

Question #18 (1 Point) You will be invited to a review. The work product to be reviewed is a description of the in-house document creation process. The aim of the description is to present the work distribution between the different roles involved in the process in a way that can be clearly understood by everyone. You will be invited to a checklist-based review. The checklist will also be sent to you. It includes the following points:
i. Is the person who performs the activity clearly identified for each activity?
ii. Is the entry criteria clearly defined for each activity?
iii. Is the exit criteria clearly defined for each activity?
iv. Are the supporting roles and their scope of work clearly defined for each activity?
In the following we show an excerpt of the work result to be reviewed, for which you should use the checklist above:
"After checking the customer documentation for completeness and correctness, the software architect creates the system specification. Once the software architect has completed the system specification, he invites testers and verifiers to the review. A checklist describes the scope of the review. Each invited reviewer creates review comments - if necessary - and concludes the review with an official review done-comment."
Which of the following statements about your review is correct?

a) Point ii) of the checklist has been violated because it is not clear which condition must be fulfilled in order to invite to the review.
b) You notice that in addition to the tester and the verifier, the validator must also be invited. Since this item is not part of your checklist, you do not create a corresponding comment.
c) Point iii) of the checklist has been violated as it is not clear what marks the review as completed.
d) Point i) of the checklist has been violated because it is not clear who is providing the checklist for the invitation to the review.

Select ONE option.

Question #19 (1 Point) What is checklist-based testing?

a) A test technique in which tests are derived based on the tester's knowledge of past faults, or general knowledge of failures.
b) A test technique based on an analysis of the specification of a component or system.
c) An experience-based test technique whereby the experienced tester uses a list of items to be noted, checked, or remembered, or a set of rules or criteria against which a product has to be verified.
d) An approach to testing where the testers dynamically design and execute tests based on their knowledge, exploration of the test item and the results of previous tests.

Select ONE option.

Question #20 (1 Point) Which one of the following options is categorized as a black-box test technique?

a) A technique based on analysis of the architecture.
b) A technique checking that the test object is working according to the technical design.
c) A technique based on the knowledge of past faults, or general knowledge of failures.
d) A technique based on formal requirements.

Select ONE option

Question #21 (1 Point) The following statement refers to decision coverage:
"When the code contains only a single 'if' statement and no loops or CASE statements, and its execution is not nested within the test, any single test case we run will result in 50% decision coverage."
Which of the following statement is correct?

a) The statement is true. Any single test case provides 100% statement coverage and therefore 50% decision coverage.
b) The statement is true. Any single test case would cause the outcome of the "if" statement to be either true or false.
c) The statement is false. A single test case can only guarantee 25% decision coverage in this case.
d) The statement is false. The statement is too broad. It may be correct or not, depending on the tested software.

Select ONE option.

Question #22 (1 Point) Which one of the following is the description of statement coverage?

a) It is a metric, which is the percentage of test cases that have been executed.
b) It is a metric, which is the percentage of statements in the source code that have been executed.
c) It is a metric, which is the number of statements in the source code that have been executed by test cases that are passed.
d) It is a metric, that gives a true/false confirmation if all statements are covered or not.

Select ONE option.

Question #23 (1 Point) Which statement about the relationship between statement coverage and decision coverage is true?

a) 100% decision coverage also guarantees 100% statement coverage.
b) 100% statement coverage also guarantees 100% decision coverage.

c) 50% decision coverage also guarantees 50% statement coverage.
d) Decision coverage can never reach 100%.

Select ONE option.

Question #24 (1 Point) For which of the following situations is explorative testing suitable?

a) When time pressure requires speeding up the execution of tests already specified.
b) When the system is developed incrementally and no test charter is available.
c) When testers are available who have sufficient knowledge of similar applications and technologies.
d) When an advanced knowledge of the system already exists and evidence is to be provided that it should be tested intensively.
Select ONE option

Question #25 (1 Point) An employee's bonus is to be calculated. It cannot be negative, but it can be calculated down to zero. The bonus is based on the length of employment:

- less than or equal to 2 years,
- more than 2 years but less than 5 years,
- 5 to 10 years inclusively
- longer than 10 years.

What is the minimum number of test cases required to cover all valid equivalence partitions for calculating the bonus?

a) 3.
b) 5.
c) 2.
d) 4.

Select ONE option.

Question #26 (1 Point) A speed control and reporting system has the following characteristics:
If you drive 50 km/h or less, nothing will happen.
If you drive faster than 50 km/h, but no more than 55 km/h, you will be warned.
If you drive faster than 55 km/h but not more than 60 km/h, you will be fined.
If you drive faster than 60 km/h, your driving license will be suspended.
The speed in km/h is available to the system as an integer value.
Which would be the most likely set of values (km/h) identified by applying the boundary value analysis, where only the boundary values on the boundaries of the equivalence classes are selected?

a) 0, 49, 50, 54, 59, 60.
b) 50, 55, 60.
c) 49, 50, 54, 55, 60, 62.
d) 50, 51, 55, 56, 60, 61.

Select ONE option.

Question #27 (1 Point) A company's employees are paid bonuses if they work more than a year in the company and achieve a target which is individually agreed before.
These facts can be shown in a decision table:

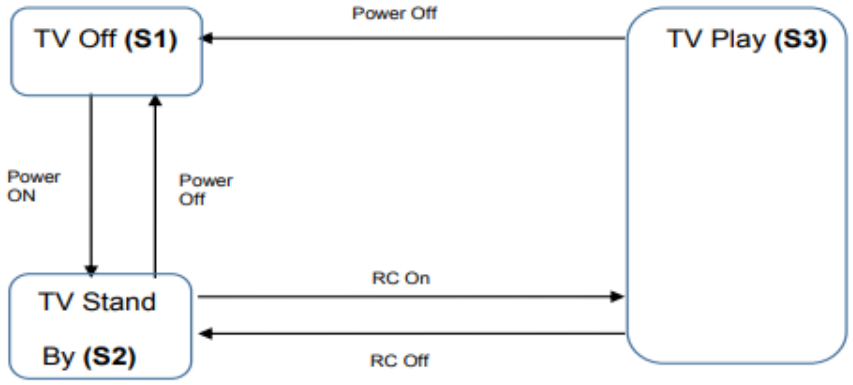
| Test-ID | | T1 | T2 | T3 | T4 |
|---|---|---|---|---|---|
| Condition1 | Employment for more than 1 year? | YES | NO | NO | YES |
| Condition2 | Agreed target? | NO | NO | YES | YES |
| Condition3 | Achieved target? | NO | NO | YES | YES |
| Action | Bonus payment | NO | NO | NO | YES |

Which of the following test cases represents a situation that can happen in real life, and is missing in the above decision table?

a) Condition1 = YES, Condition2 = NO, Condition3 = YES, Action= NO
b) Condition1 = YES, Condition2 = YES, Condition3 = NO, Action= YES
c) Condition1 = NO, Condition2 = NO, Condition3 = YES, Action= NO
d) Condition1 = NO, Condition2 = YES, Condition3 = NO, Action= NO

Select ONE option.

Question #28 (1 Point) Which of the following statements about the given state transition diagram and table of test cases is TRUE?




| Test Case | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Start State | S1 | S2 | S2 | S3 | S3 |
| Input | Power On | Power Off | RC On | RC Off | Power Off |
| Expected Final State | S2 | S1 | S3 | S2 | S1 |

a) The given test cases cover both valid and invalid transitions in the state transition diagram.
b) The given test cases represent all possible valid transitions in the state transition diagram.
c) The given test cases represent some of the valid transitions in the state transition diagram.
d) The given test cases represent pairs of transitions in the state transition diagram.

Select ONE option.

Question #29 (1 Point) A video application has the following requirement:
The application shall allow playing a video on the following display resolution:
1. 640x480.
2. 1280x720.
3. 1600x1200.
4. 1920x1080.
Which of the following list of test cases is a result of applying the equivalence partitioning test technique to test this requirement?

a) Verify that the application can play a video on a display of size 1920x1080 (1 test case).
b) Verify that the application can play a video on a display of size 640x480 and 1920x1080 (2 test cases).
c) Verify that the application can play a video on each of the display sizes in the requirement (4 test cases).

d) Verify that the application can play a video on any one of the display sizes in the requirement (1 test case).

Select ONE option.

Question #30 (1 Point) Which of the following statements BEST describes how tasks are divided between the test manager and the tester?

a) The test manager plans testing activities and chooses the standards to be followed, while the tester chooses the tools and set the tools usage guidelines
b) The test manager plans, coordinates and controls the testing activities, while the tester automates the tests
c) The test manager plans, monitors, and controls the testing activities, while the tester designs tests and decides on the release of the test object
d) The test manager plans and organizes the testing and specifies the test cases, while the tester executes the tests

Select ONE option.

Question #31 (1 Point) Which of the following metrics would be MOST useful to monitor during test execution?

a) Percentage of executed test cases.
b) Average number of testers involved in the test execution.
c) Coverage of requirements by source code.
d) Percentage of test cases already created and reviewed

Select ONE option.

Question #32 (1 Point) Which of the following can affect and be part of the (initial) test planning?

a) Budget limitations
b) Test log
c) Failure rate
d) Use cases

a)
Select ONE options.

Question #33 (1 Point) Which of the following lists contains only typical exit criteria from testing?

a) Reliability measures, test coverage, test cost, schedule and status about fixing errors and remaining risks.

b) Reliability measures, test coverage, degree of tester's independence and product completeness.
c) Reliability measures, test coverage, test cost, availability of test environment, time to market and product completeness.
d) Time to market, remaining defects, tester qualification, availability of testable use cases, test coverage and test cost.

Select ONE option.

Question #34 (1 Point) Which one of the following is NOT included in a test summary report?

a) Defining pass/fail criteria and objectives of testing.
b) Deviations from the test approach.
c) Measurements of actual progress against exit criteria.
d) Evaluation of the quality of the test item.

Select ONE option.

Question #35 (1 Point) The project develops a "smart" heating thermostat. The control algorithms of the thermostat were modeled as Matlab/Simulink models and run on the internet connected server. The thermostat uses the specifications of the server to trigger the heating valves.
The test manager has defined the following test strategy/approach in the test plan:

1. The acceptance test for the whole system is executed as an experience-based test.
2. The control algorithms on the server are checked against standard of the energy saving regulation.
3. The functional test of the thermostat is performed as risk-based testing.
4. The security tests of data / communication via the internet are executed together with external security experts.

What four common types of test strategies/approaches did the test manager implement in the test plan?

a) methodical, analytical, reactive and regression-averse
b) analytical, standard-compliant, consultative and reactive
c) model-based, methodical, analytical and consultative
d) regression-averse, consultative, reactive and methodical

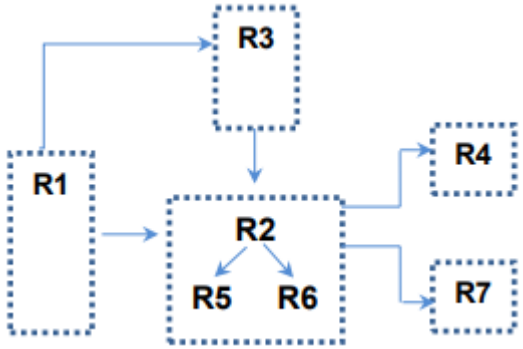
Select ONE option.

Question #36 (1 Point) Which one of the following is the characteristic of a metrics-based approach for test estimation?

a) Budget which was used by a previous similar test project.
b) Overall experience collected in interviews with test managers.
c) Estimation of effort for test automation agreed in the test team.
d) Average of calculations collected from business experts.

Select ONE option.

Question #37 (1 Point) As a test manager you are responsible for testing the following requirements:
R1 - Process anomalies
R2 - Synchronization
R3 - Approval
R4 - Problem solving
R5 - Financial data
R6 - Diagram data
R7 - Changes to the user profile
Notation: Logical requirement dependencies (A -> B means, that B depends on A):




Which one of the following options structures the test execution schedule according to the requirement dependencies?

a) R1 -> R3 -> R4 -> R7 -> R2 -> R5 -> R6 .
b) R1 -> R3 -> R2 -> R4 -> R7 -> R5 -> R6.
c) R1 -> R3 -> R2 -> R5 -> R6 -> R4 -> R7.
d) R1 -> R2 -> R5 -> R6 -> R3 -> R4 -> R7.

Select ONE option.

Question #38 (1 Point) You are testing a new version of software for a coffee machine. The machine can prepare different types of coffee based on four categories. i.e., coffee size, sugar, milk, and syrup. The criteria are as follows:
• Coffee size (small, medium, large),
• Sugar (none, 1 unit, 2 units, 3 units, 4 units),
• Milk (yes or no),
• Coffee flavor syrup (no syrup, caramel, hazelnut, vanilla).
Now you are writing a defect report with the following information:
Title: Low coffee temperature.
Short summary: When you select coffee with milk, the time for preparing coffee is too long and the temperature of the beverage is too low (less than 40 °C )
Expected result: The temperature of coffee should be standard (about 75 °C).

Degree of risk: Medium
Priority: Normal

What valuable information was omitted in the above defect report?

a) The actual test result.
b) Identification of the tested software version.
c) Status of the defect.
d) Ideas for improving the test case.

Select ONE option.

Question #39 (1 Point) Which one of the following is MOST likely to be a benefit of test execution tools?

a) It is easy to create regression tests.
b) It is easy to maintain version control of test assets.
c) It is easy to design tests for security testing.
d) It is easy to run regression tests.

Select ONE option

Question #40 (1 Point) Which one of the following test tools is mostly suitable for developers rather than testers?

a) Requirement management tools
b) Configuration management tools
c) Defect management tools
d) Performance testing tools

Select ONE option

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Question #1 (1 Point) Which of the following provides the definition of the term test case?

a) Subset of the value domain of a variable within a component or system in which all values are expected to be treated the same based on the specification
b) A set of preconditions, inputs, actions, expected results and postconditions, developed based on test conditions
c) Work products produced during the test process for use in planning, designing, executing, evaluating and reporting on testing
d) A source to determine an expected result to compare with the actual result of the system under test

Select ONE option.

Question #2 (1 Point) Which of the following is a typical objective of testing?

a) To find defects and failures
b) To validate the project plan works as required
c) Ensuring of complete testing
d) Comparing actual results with expected results

Select ONE option

Question #3 (1 Point) Which of the following is an example of a failure in a car cruise control system?

a) The developer of the system forgot to rename variables after a cut-and-paste operation.
b) Unnecessary code that sounds an alarm when reversing was included in the system.
c) The system stops maintaining a set speed when the radio volume is increased or decreased.
d) The design specification for the system wrongly states speeds

Select ONE option

Question #4 (1 Point) Which of the following is a defect rather than a root cause in a fitness tracker?

a) Because the author of the requirements was unfamiliar with the domain of fitness training, he therefore wrongly assumed that users wanted heartbeat in beats per hour
b) The tester of the smartphone interface had not been trained in state transition testing, so missed a major defect
c) An incorrect configuration variable implemented for the GPS function could cause location problems during daylight saving times
d) Because the designer had never worked on wearable devices before, she as designer of the user interface therefore misunderstood the effects of reflected sunlight

Select ONE option.

Question #5 (1 Point) As a result of risk analysis, more testing is being directed to those areas of the system under test where initial testing found more defects than average. Which of the following testing principles is being applied?

a) Beware of the pesticide paradox.
b) Testing is context dependent.
c) Absence-of-errors is a fallacy.
d) Defects cluster together.

Select ONE option.

Question #6 (1 Point) Given the following test activities and tasks:

A. Test design
B. Test implementation
C. Test execution
D. Test completion
1. Entering change requests for open defect reports
2. Identifying test data to support the test cases
3. Prioritizing test procedures and creating test data
4. Analyzing discrepancies to determine their cause

Which of the following BEST matches the activities with the tasks?

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

Select ONE option.

Question #7 (1 Point) Which of the following BEST describes how value is added by maintaining traceability between the test basis and test artifacts?

a) Maintenance testing can be fully automated based on changes to the initial requirements.
b) It is possible to determine if a new test case has increased coverage of the requirements.
c) Test managers can identify which testers found the highest severity defects.
d) Areas that may be impacted by side-effects of a change can be targeted by confirmation testing.

Select ONE option.

Question #8 (1 Point) Which of the following qualities is MORE likely to be found in a tester's mindset rather than in a developer's?

a) A tester´s mindset tends to grow and mature as the tester gains experience
b) Ability to see what might go wrong.
c) Good communication with team members.
d) Attention to detail.

Select ONE option.

Question #9 (1 Point) Given the following statements about the relationships between software development activities and test activities in the software development lifecycle:
1. Each development activity should have a corresponding testing activity.
2. Reviewing should start as soon as final versions of documents become available.
3. The design and implementation of tests should start during the corresponding development activity
4. Testing activities should start in the early stages of the software development lifecycle.

Which of the following CORRECTLY shows which are true and false?

a) True – 1, 2; False – 3, 4
b) True – 2, 3; False – 1, 4
c) True – 1, 2, 4; False – 3
d) True – 1, 4; False – 2, 3

Select ONE option.

Question #10 (1 Point) Given that the testing being performed has the following attributes:

- based on interface specifications;
- focused on finding failures in communication;
- the test approach uses both functional and structural test types.

Which of the following test levels is MOST likely being performed?

a) Integration testing
b) Acceptance testing.
c) System testing.
d) Component testing.

Select ONE option.

Question #11 (1 Point) Which of the following statements about test types and test levels is CORRECT?

a) Functional and non-functional testing can be performed at system and acceptance test levels, while white-box testing is restricted to component and integration testing.
b) Functional testing can be performed at any test level, while white-box testing is restricted to component testing.
c) It is possible to perform functional, non-functional and white-box testing at any test level.

d) Functional and non-functional testing can be performed at any test level, while Whitebox testing is restricted to component and integration testing.

Select ONE option.

Question #12 (1 Point) Which of the following statements BEST compares the purposes of confirmation testing and regression testing?

a) The purpose of regression testing is to ensure that all previously run tests still work correctly, while the purpose of confirmation testing is to ensure that any fixes made to one part of the system have not adversely affected other parts.
b) The purpose of confirmation testing is to check that a previously found defect has been fixed, while the purpose of regression testing is to ensure that no other parts of the system have been adversely affected by the fix.
c) The purpose of regression testing is to ensure that any changes to one part of the system have not caused another part to fail, while the purpose of confirmation testing is to check that all previously run tests still provide the same results as before.
d) The purpose of confirmation testing is to confirm that changes to the system were made successfully, while the purpose of regression testing is to run tests that previously failed to ensure that they now work correctly.

Select ONE option.

Question #13 (1 Point) Which of the following statements CORRECTLY describes a role of impact analysis in Maintenance Testing?

a) Impact analysis is used when deciding if a fix to a maintained system is worthwhile.
b) Impact analysis is used to identify how data should be migrated into the maintained system.
c) Impact analysis is used to decide which hot fixes are of most value to the user.
d) Impact analysis is used to determine the effectiveness of new maintenance test cases.

Select ONE option.

Question #14 (1 Point) Which of the following statements CORRECTLY reflects the value of static testing?

a) By introducing reviews, we have found that both the quality of specifications and the time required for development and testing have increased.
b) Using static testing means we have better control and cheaper defect management due to the ease of detecting defects later in the lifecycle.
c) Now that we require the use of static analysis, missed requirements have decreased and communication between testers and developers has improved.
d) Since we started using static analysis, we find coding defects that might have not been found by performing only dynamic testing.

Select ONE option.

Question #15 (1 Point) Which of the following statements on the use of checklists in a formal review is CORRECT?

a) As part of the review planning, the reviewers create the checklists needed for the review
b) As part of the issue communication, the reviewers fill in the checklists provided for the review
c) As part of the review meeting, the reviewers create defect reports based on the checklists provided for the review
d) As part of the review initiation, the reviewers receive the checklists needed for the review

Select ONE option.

Question #16 (1 Point) Which of the following CORRECTLY matches the roles and responsibilities in a formal review?

a) Manager – Decides on the execution of reviews
b) Review Leader - Ensures effective running of review meetings
c) Scribe – Fixes defects in the work product under review
d) Moderator – Monitors ongoing cost-effectiveness

Select ONE option.

Question #17 (1 Point) The reviews being used in your organization have the following attributes:

- There is a role of a scribe
- The purpose is to detect potential defects
- The review meeting is led by the author
- Reviewers find potential defects by individual review
- A review report is produced

Which of the following review types is MOST likely being used?

a) Informal Review
b) Walkthrough
c) Technical Review
d) Inspection

Select ONE option.

Question #18 (1 Point) You have been asked to take part in a checklist-based review of the following excerpt from the requirements specification for a library system:

Librarians can:
1. Register new borrowers.
2. Return books from borrowers.
3. Accept fines from borrowers.

4. Add new books to the system with their ISBN, author and title.
5. Remove books from the system.
6. Get system responses within 5 seconds.

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

All users (librarians and borrowers):
13. Can search for books by ISBN, author, or title.
14. Can browse the system catalogue.
15. The system shall respond to user requests within 3 seconds.
16. The user interface shall be easy-to-use.
You have been assigned the checklist entry that requires you to review the specification for inconsistencies between individual requirements (i.e. conflicts between requirements).

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

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

Select ONE option.

Question #19 (1 Point) Which of the following provides the BEST description of exploratory testing?

a) A testing practice in which an in-depth investigation of the background of the test object is used to identify potential weaknesses that are examined by test cases.
b) An approach to testing whereby the testers dynamically design and execute tests based on their knowledge, exploration of the test item and the results of previous tests.
c) An approach to test design in which test activities are planned as uninterrupted sessions of test analysis and design, often used in conjunction with checklist-based testing.
d) Testing based on the tester's experience, knowledge and intuition.

Select ONE option.

Question #20 (1 Point) Which of the following BEST matches the descriptions with the different categories of test techniques?
1. Coverage is measured based on a selected structure of the test object.
2. The processing within the test object is checked.

3. Tests are based on defects' likelihood and their distribution.
4. Deviations from the requirements are checked.
5. User stories are used as the test basis.
Using notation for the following 4 options:
Black - Black-box test techniques
White - White-box test techniques
Experience - Experience-based test techniques

a) Black – 4, 5 White – 1, 2 Experience – 3
b) Black – 3 White – 1, 2 Experience – 4, 5
c) Black – 4 White – 1, 2 Experience – 3, 5
d) Black – 1, 3, 5 White – 2 Experience – 4

Select ONE option

Question #21 (1 Point) A fitness app measures the number of steps that are walked each day and provides feedback to encourage the user to keep fit.
The feedback for different numbers of steps should be:
Up to 1000 - Couch Potato!
Above 1000, up to 2000 - Lazy Bones!
Above 2000, up to 4000 - Getting There!
Above 4000, up to 6000 - Not Bad!
Above 6000 - Way to Go!

Which of the following sets of test inputs would achieve the BEST equivalence partition coverage?

a) 0, 1000, 2000, 3000, 4000
b) 1000, 2001, 4000, 4001, 6000
c) 123, 2345, 3456, 4567, 5678
d) 666, 999, 2222, 5555, 6666

Select ONE option.

Question #22 (1 Point) A daily radiation recorder for plants produces a sunshine score based on a combination of the number of hours a plant is exposed to the sun (below 3 hours, 3 to 6 hours or above 6 hours) and the average intensity of the sunshine (very low, low, medium, high).
Given the following test cases:

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

What is the minimum number of additional test cases that are needed to ensure full coverage of all valid INPUT equivalence partitions?
a) 1
b) 2

c) 3
d) 4

Select ONE option.

Question #23 (1 Point) A smart home app measures the average temperature in the house over the previous week and provides feedback to the occupants on their environmental-friendliness based on this temperature.
The feedback for different average temperature ranges (to the nearest °C) should be:
Up to 10°C - Icy Cool!
11°C to 15°C - Chilled Out!
16°C to 19°C - Cool Man!
20°C to 22°C - Too Warm!
Above 22°C - Hot & Sweaty!
Using BVA (only Min- and Max values), which of the following sets of test inputs provides the highest level of boundary coverage?

a) 0°C, 11°C, 20°C, 22°C, 23°C
b) 9°C, 15°C, 19°C, 23°C, 100°C
c) 10°C, 16°C, 19°C, 22°C, 23°C
d) 14°C, 15°C, 18°C, 19°C, 21°C, 22°C

Select ONE option.

Question #24 (1 Point) Decision table testing is being performed on a speeding fine system. Two test cases have already been generated for rules R1 and R4, which are shown below:

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

Given the following additional test cases:

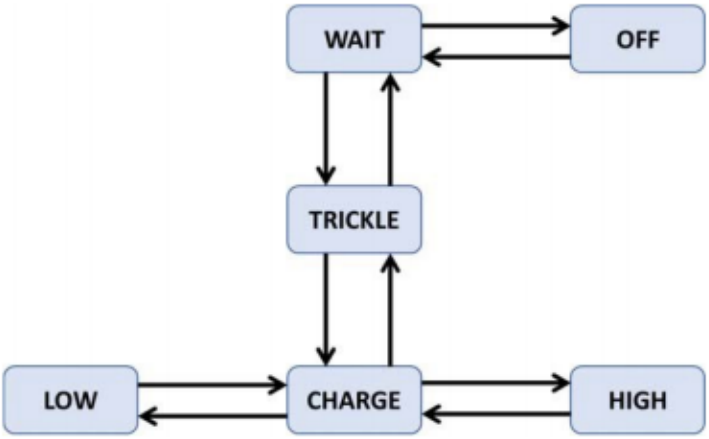
| Rules | | DT1 | DT2 | DT3 | DT4 |
|---|---|---|---|---|---|
| Input | Speed | 55 | 44 | 66 | 77 |
| | School Zone | T | T | T | F |
| Expected Result | $250 Fine | F | F | F | T |
| | Jail | T | F | T | F |

Which two of the additional test cases would achieve full coverage of the complete decision table (when combined with the test cases that have already been generated for rules R1 and R4)?

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

Select ONE option.

Question #25 (1 Point) Given the following state model of a battery charger software:




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

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

Select ONE option.

Question #26 (1 Point) Which of the following statements BEST describes how test cases are derived from a use case?

a) Test cases are created to exercise defined basic, exceptional and error behaviors performed by the system under test in collaboration with actors.
b) Test cases are derived by identifying the components included in the use case and creating integration tests that exercise the interactions of these components.
c) Test cases are generated by analyzing the interactions of the actors with the system to ensure the user interfaces are easy to use.
d) Test cases are derived to exercise each of the decision points in the business process flows of the use case, to achieve 100% decision coverage of these flows.

Select ONE option.

Question #27 (1 Point) Which of the following descriptions of statement coverage is CORRECT?

a) Statement coverage is a measure of the number of lines of source exercised by tests.
b) Statement coverage is a measure of the proportion of executable statements in the source code exercised by tests.
c) Statement coverage is a measure of the percentage of lines of source code (without comments) exercised by tests.
d) Statement coverage is a measure of the number of executable statements in the source code exercised by tests.

Select ONE option.

Question #28 (1 Point) Which of the following descriptions of decision coverage is CORRECT?

a) Decision coverage is a measure of the percentage of possible paths through the source code exercised by tests.
b) Decision coverage is a measure of the percentage of business flows through the component exercised by tests.
c) Decision coverage is a measure of the 'if' statements in the code that are exercised with both the true and false outcomes.
d) Decision coverage is a measure of the proportion of decision outcomes in the source code exercised by tests.

Select ONE option.

Question #29 (1 Point) Which of the following BEST describes the concept behind error guessing?

a) Error guessing requires you to imagine you are the user of the test object and guess mistakes the user could make interacting with it.
b) Error guessing involves using your personal experience of development and the mistakes you made as a developer.
c) Error guessing involves using your knowledge and experience of defects found in the past and typical mistakes made by developers.
d) Error guessing requires you to rapidly duplicate the development task to identify the sort of mistakes a developer might make.

Select ONE option.

Question #30 (1 Point) Which of the following BEST explains a benefit of independent testing?

a) The use of an independent test team allows project management to assign responsibility for the quality of the final deliverable to the test team, so ensuring everyone is aware that quality is the test team's overall responsibility.

b) If a test team external to the organization can be afforded, then there are distinct benefits in terms of this external team not being so easily swayed by the delivery concerns of project management and the need to meet strict delivery deadlines.
c) An independent test team can work totally separately from the developers, need not be distracted with changing project requirements, and can restrict communication with the developers to defect reporting through the defect management system.
d) When specifications contain ambiguities and inconsistencies, assumptions are made on their interpretation, and an independent tester can be useful in questioning those assumptions and the interpretation made by the developer.

Select ONE option.

Question #31 (1 Point) Which of the following tasks is MOST LIKELY to be performed by the test manager?

a) Write test summary reports based on the information gathered during testing.
b) Review tests developed by others.
c) Prepare and acquire test data
d) Analyze, review, and assess requirements, specifications and models for testability.

Select ONE option.

Question #32 (1 Point) Given the following examples of entry and exit criteria:
1. The original testing budget of $30,000 plus contingency of $7,000 has been spent.
2. 96% of planned tests for the drawing package have been executed and the remaining tests are now out of scope.
3. The trading performance test environment has been designed, set-up and verified.
4. Current status is no outstanding critical defects and two high-priority ones.
5. The autopilot design specifications have been reviewed and reworked.
6. The tax rate calculation component has passed unit testing.
Which of the following BEST categorizes them as entry and exit criteria:

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

Select ONE option.

Question #33 (1 Point) Given the following priorities and dependencies for these test cases:

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

Which of the following test execution schedules BEST considers the priorities and technical and logical dependencies?
a) TC1 – TC3 – TC4 – TC6 – TC2 – TC5
b) TC4 – TC3 – TC1 – TC2 – TC5 – TC6
c) TC4 – TC1 – TC3 – TC5 – TC6 – TC2
d) TC4 – TC2 – TC5 – TC1 – TC3 – TC6

Select ONE option

Question #34 (1 Point) Which of the following statements about test estimation approaches is CORRECT?

a) With the metrics-based approach, the estimate is based on test measures from the project and so this estimate is only available after the testing starts.
b) With the expert-based approach, a group of expert users identified by the client recommends the necessary testing budget.
c) With the expert-based approach, the test managers responsible for the different testing activities predict the expected testing effort.
d) With the metrics-based approach, an average of the testing costs recorded from several past projects is used as the testing budget.

Select ONE option.

Question #35 (1 Point) Which of the following BEST defines risk level?

a) Risk level is calculated by adding together the probabilities of all problem situations and the financial harm that results from them.
b) Risk level is estimated by multiplying the likelihood of a threat to the system by the chance that the threat will occur and will result in financial damage
c) Risk level is determined by a combination of the probability of an undesirable event and the expected impact of that event.
d) Risk level is the sum of all potential hazards to a system multiplied by the sum of all potential losses from that system.

Select ONE option.

Question #36 (1 Point) Which of the following is MOST likely to be an example of a PRODUCT risk?

a) The expected security features may not be supported by the system architecture.
b) The developers may not have time to fix all the defects found by the test team.
c) The test cases may not provide full coverage of the specified requirements.
d) The performance test environment may not be ready before the system is due for delivery.

Select ONE option.

Question #37 (1 Point) Which of the following is LEAST likely to be an example of product risk analysis CORRECTLY influencing the testing?

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

Select ONE option

Question #38 (1 Point) You are performing system testing of a train reservation system. Based on the test cases performed, you have noticed that the system occasionally reports that no trains are available, although this should actually be the case. You have provided the developers with a summary of the defect and the version of the tested system. They recognize the urgency of the defect and are now waiting for you to provide further details.
In addition to the information already provided, the following additional information is given:
1. Degree of impact (severity) of the defect
2. Identification of the test item
3. Details of the test environment
4. Urgency/priority to fix
5. Actual results
6. Reference to test case specification

Which of this information is most useful to include in the defect report?

a) 1, 2, 6
b) 1, 4, 5, 6
c) 2, 3, 4, 5
d) 3, 5, 6

Select ONE option.

Question #39 (1 Point) Given the following test activities and test tools:

1. Performance measurement and dynamic analysis.
2. Test execution and logging.
3. Management of testing and testware.
4. Test design.

A. Requirements coverage tools.
B. Dynamic analysis tools.
C. Test data preparation tools.
D. Defect management tools.

Which of the following BEST matches the activities and tools?

a) 1 – B, 2 – C, 3 – D, 4 – A
b) 1 – B, 2 – A, 3 – C, 4 – D
c) 1 – B, 2 – A, 3 – D, 4 – C
d) 1 – A, 2 – B, 3 – D, 4 – C

Select ONE option

Question #40 (1 Point) Which of the following is MOST likely to be used as a reason for using a pilot project to introduce a tool into an organization?

a) The need to evaluate how the tool fits with existing processes and practices and determining what would need to change.
b) The need to evaluate the test automation skills and training, mentoring and coaching needs of the testers who will use the tool.
c) The need to evaluate whether the tool provides the required functionality and does not duplicate existing test tools.
d) The need to evaluate the tool vendor in terms of the training and other support they provide.

Select ONE option.

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Question #1 (1 Point) What is quality?

a) Activities focused on providing confidence that quality requirements will be fulfilled.
b) The degree to which a component or system satisfies the stated and implied needs of its various stakeholders.
c) The degree to which a component or system protects information and data so that persons or other components or systems have the degree of access appropriate to their types and levels of authorization.
d) The total costs incurred on quality activities and issues and often split into prevention costs, appraisal costs, internal failure costs and external failure costs.

Question #2 (1 Point) Which of the following is a typical test objective?

a) Preventing defects
b) Repairing defects
c) Comparing actual results to expected results
d) Analyzing the cause of failure

Question #3 (1 Point) A phone ringing in an adjac ent cubicle momentarily distracts a programmer, causing the programmer to improperly program the logic that checks the upper boundary of an input variable. Later, during system testing, a tester notices that this input field accepts invalid input values. The improperly coded logic for the upper boundary check is:

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

Question #4 (1 Point) A product owner says that your role as a tester on an Agile team is to catch all the bugs before the end of each iteration. Which of the following is a testing principle that could be used to respond to this (false) statement?

a) Defect clustering
b) Testing shows the presence of defects
c) Absence of error fallacy
d) Root cause analysis

Question #5 (1 Point) Programmers often write and execute unit tests against code which they have written. During this self-testing activity, which of the following is a tester mindset that programmers should adopt to perform this unit testing effectively?

a) Good communication skills

b) Code coverage
c) Evaluating code defects
d) Attention to detail

Question #6 (1 Point) Consider the following testing activities:
1. Selecting regression tests
2. Evaluating completeness of test execution
3. Identifying which user stories have open defect reports
4. Evaluating whether the number of tests for each requirement is consistent with the level of product risk
Consider the following ways traceability can help testing:
A. Improve understandability of test status reports to include status of test basis items
B. Make testing auditable
C. Provide information to assess process quality
D. Analyze the impact of changes

Which of the following best matches the testing activity with how traceability can assist that activity?

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

Question #7 (1 Point) A tester participated in a discussion about proposed database structure. The tester identified a potential performance problem related to certain common user searches. This possible problem was explained to the development team. Which of the following is a testing contribution to success that BEST matches this situation?

a) Enabling required tests to be identified at an early stage
b) Ensuring processes are carried out properly
c) Reducing the risk of fundamental design defects
d) Reducing the risk of untestable functionality

Question #8 (1 Point) Which of the following is an example of a task that can be carried out as part of the test process?

a) Analyzing a defect
b) Designing test data
c) Assigning a version to a test item
d) Writing a user story

Question #9 (1 Point) You are running a performance test with the objective of finding possible network bottlenecks in interfaces between components of a system. Which of the following statements describes this test?

a) A functional test during the integration test level
b) A non-functional test during the integration test level
c) A functional test during the component test level
d) A non-functional test during the component test level

Question #10 (1 Point) Which of the following statements is true?

a) Impact analysis is useful for confirmation testing during maintenance testing
b) Confirmation testing is useful for regression testing during system design
c) Impact analysis is useful for regression testing during maintenance testing
d) Confirmation testing is useful for impact analysis during maintenance testing

Question #11 (1 Point) Consider the following types of defects that a test level might focus on:
1. Defects in separately testable modules or objects
2. Not focused on identifying defects
3. Defects in interfaces and interactions
4. Defects in the whole test object

Which of the following list correctly matches test levels from the Foundation syllabus with the defect focus options given above?

a) 1 = performance test; 2 = component test; 3 = system test; 4 = acceptance test
b) 1 = component test; 2 = acceptance test; 3 = system test; 4 = integration test
c) 1 = component test; 2 = acceptance test; 3 = integration test; 4 = system test
d) 1 = integration test; 2 = system test; 3 = component test; 4 = acceptance test

Question #12 (1 Point) A mass market operating system software product is designed to run on any PC hardware with an x86- family processor. You are running a set of tests to look for defects related to support of the various PCs that use such a processor and to build confidence that important PC brands will work. What type of test are you performing?

a) Performance test
b) Processor test
c) Functional test
d) Portability test

Question #13 (1 Point) During an Agile development effort, a product owner discovers a previously-unknown regulatory requirement that applies to most of the user stories within a particular epic. The user stories are updated to provide for the necessary changes in software

behavior. The programmers on the team are modifying the code appropriately. As a tester on the team, what types of tests will you run?

a) Confirmation tests
b) Regression tests
c) Functional tests
d) Change-related tests
Select ONE option

Question #14 (1 Point) In a formal review, what is the role name for the participant who runs an inspection meeting?

a) Facilitator
b) Programmer
c) Author
d) Project manager

Question #15 (1 Point) You are reading a user story in the product backlog to prepare for a meeting with the product owner and a developer, noting potential defects as you go. Which of the following statements is true about this activity?

a) It is not a static test, because static testing involves execution of the test object
b) It is not a static test, because static testing is always performed using a tool
c) It is a static test, because any defects you find could be found cheaper during dynamic testing
d) It is a static test, because static testing does not involve execution of the test object.

Question #16 (1 Point) During a period of intensive project overtime, a system architecture document is sent to various project participants, announcing a previously-unplanned technical review to occur in one week. No adjustments are made to the participants' list of assigned tasks. Based on this information alone, which of the following is a factor for review success that is MISSING?

a) Appropriate review type
b) Adequate time to prepare
c) Sufficient metrics to evaluate the author
d) Well-managed review meeting

Question #17 (1 Point) You are working as a tester on an Agile team, and have participated in over two dozen user story refinement sessions with the product owner and the developers on the team at the start of each iteration. As the reviews have gotten more effective at detecting defects in user stories and the product owner more adept at correcting those defects, you and the team notice that the team's velocity, as shown in your burndown charts, has started to increase. Which of the following is a benefit of static testing that MOST DIRECTLY applies to increased velocity?

a) Increasing total cost of quality
b) Reducing testing cost
c) Increasing development productivity
d) Reducing total cost of quality

Question #18 (1 Point) You are working on a video game development project, using Agile methods. It is based on Greek mythology and history, and players can play key roles in scenarios such as the battles between the Greeks and Trojans. Consider the following user story and its associated acceptance criteria:
As a player, I want to be able to acquire the Rod of Midas (a new magic object), so that I can turn objects and other players into gold
AC1: The Rod must work on any object or player, no matter what size, which can be touched anywhere by the player holding the Rod
AC2: Holding the Rod does not change the player holding it into gold
AC3: Any object or player touched by the Rod transforms completely into gold within one millisecond
AC4: The Rod appears as shown in Prototype O.W.RoM
AC5: The transformation starts at the point of contact with the Rod and moves at a rate of one meter per millisecond
You are participating in a checklist-based review session of this user story.

This user story and its associated acceptance criteria contain which of the following typical defects identified by static testing in this type of work product?

a) Deviation from standards
b) Contradiction
c) Security vulnerability
d) Coverage gaps

Question #19 (1 Point) What is decision coverage?

a) The coverage of condition outcomes
b) Decision coverage is a synonym for statement coverage
c) The coverage of executable statements
d) The coverage of decision outcomes

Question #20 (1 Point) Prior to an iteration planning session, you are studying a user story and its acceptance criteria, deriving test conditions and associated test cases from the user story as a way of applying the principle of early QA and test. What test technique are you applying?

a) White-box
b) Black-box
c) Experience-based

d) Error guessing

Question #21 (1 Point) Which of the following is a true statement about exploratory testing?

a) More experienced testers who have tested similar applications and technologies are likely to do better than less experienced testers at exploratory testing
b) Exploratory testing does not identify any additional tests beyond those that would result from formal test techniques
c) The time required to complete an exploratory testing session cannot be predicted in advance
d) Exploratory testing can involve the use of black-box techniques but not white-box techniques

Question #22 (1 Point) You are testing a mobile app that allows customers to access and manage their bank accounts. You are running a test suite that involves evaluating each screen and each field on each screen against a general list of user interface best practices, derived from a popular book on the topic, that maximize attractiveness, ease-of-use, and accessibility for such apps. Which of the following options BEST categorizes the test technique you are using?

a) Specification-based
b) Exploratory
c) Checklist-based
d) Error guessing
Select ONE option

Question #23 (1 Point) Consider a mobile app that allows customers to access and manage their bank accounts. A user story has just been added to the set of features that checks customers' social media accounts and bank records to give personalized greetings on birthdays and other personal milestones. Which of the following test techniques could a PROGRAMMER use during a unit test of the code to ensure that coverage of situations when the greetings ARE supposed to occur and when the greetings ARE NOT supposed to occur?

a) Statement testing
b) Exploratory testing
c) State transition testing
d) Decision testing

Question #24 (1 Point) A batch application has been in production unchanged for over two years. It runs overnight once a month to produce statements that will be e-mailed to customers. For each customer, the application goes through every account and lists every transaction on that account in the last month. It uses a nested-loop structure to process customers (outer loop), each customer's accounts (middle loop), and each account's transactions (inner loop).
One night, the batch application terminates prematurely, failing to e-mail statements to some customers, when it encounters a customer with one account for which no transactions occurred in the last month. This is a very unusual situation and has not occurred in the years since this application was placed in production. While fixing the defect, a programmer asks you to

recommend test techniques that are effective against this kind of defect. Which of the following test techniques would most likely have been able to detect the underlying defect?

a) Decision testing
b) Statement testing
c) Checklist-based testing
d) Error guessing
Select ONE option

Question #25 (1 Point) You are testing an unattended gasoline pump that only accepts credit cards. Once the credit card is validated, the pump nozzle placed into the tank, and the desired grade selected, the customer enters the desired amount of fuel in gallons using the keypad. The keypad only allows the entry of digits. Fuel is sold in tenths (0.1) of a gallon, up to 50.0 gallons. Which of the following is a minimum set of desired amounts that covers the equivalence partitions for this input?

a) 0.0, 20.0, 60.0
b) 0.0, 0.1, 50.0
c) 0.0, 0.1, 50.0, 70.0
d) -0.1, 0.0, 0.1, 49.9, 50.0, 50.1

Question #26 (1 Point) You are testing an e-commerce system that sells cooking supplies such as spices, flour, and other items in bulk. The units in which the items are sold are either grams (for spices and other expensive items) or kilograms (for flour and other inexpensive items). Regardless of the units, the smallest valid order amount is 0.5 units (e.g., half a gram of cardamom pods) and the largest valid order amount is 25.0 units (e.g., 25 kilograms of sugar). The precision of the units field is 0.1 units. Which of the following is a set of input values that cover the boundary values with two-point boundary values for this field?

a) 0.3, 10.0, 28.0
b) 0.4, 0.5, 0.6, 24,9,25,0, 25.1
c) 0.4, 0.5, 25.0 25.1
d) 0.5, 0.6, 24.9, 25.0

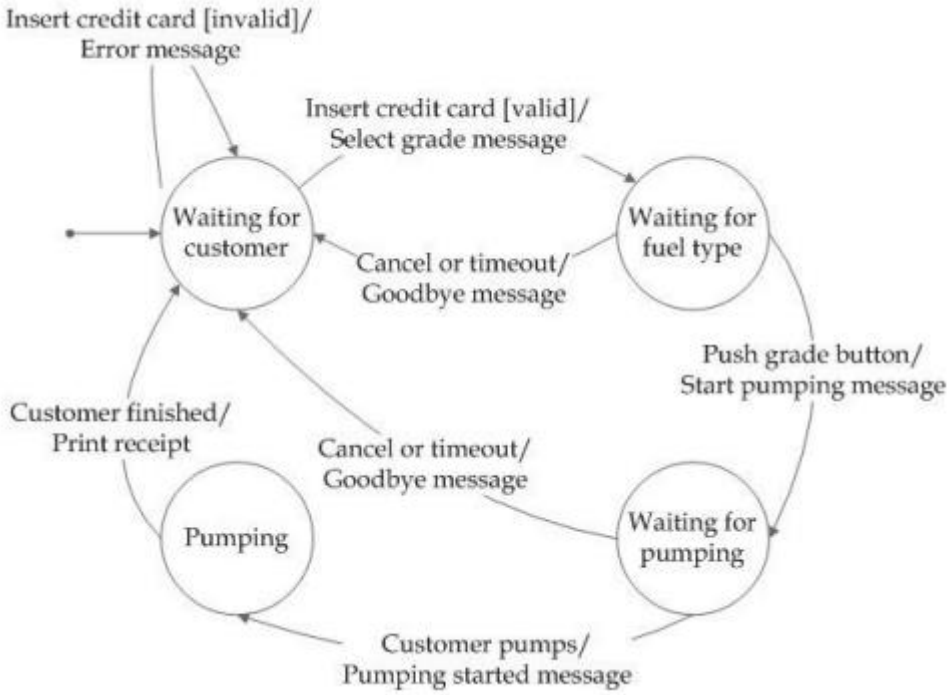
Question #27 (1 Point) Consider the following decision table for the portion of an online airline reservation system that allows frequent flyers to redeem points for reward travel:

| Condition | 1 | 2 | 3 |
|---|---|---|---|
| Account/password okay | N | Y | Y |
| Sufficient points | - | N | Y |
| Action | | | |
| Show flight history | N | Y | Y |
| Allow reward travel | N | N | Y |

Suppose that there are two equivalence partitions for the condition where account/password okay is not true, one where the account is invalid and another where the account is valid but the password is invalid. Suppose that there is only one equivalence partition corresponding to the condition where Account/password okay is true, where both the account and password are valid. If you want to design tests to cover the equivalence partitions for Account/password okay and also for this portion of the decision table, what is the minimum number of tests required?

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

Question #28 (1 Point) Consider the following state transition diagram for a credit-card only, unattended gasoline pump:




Assume that you want to develop the minimum number of tests to cover each transition in the state transition diagram. Assume further that each test must start at the beginning state, Waiting for customer, and each test ends when a transition arrives at the beginning state. How many tests do you need?
a) 4
b) 7
c) 1
d) Infinite

Question #29 (1 Point) You are testing an e-commerce system that sells cooking supplies such as spices, flour, and other items in bulk. The units in which the items are sold are either grams (for spices and other expensive items) or kilograms (for flour and other inexpensive items). Regardless of the units, the smallest valid order amount is 0.5 units (e.g., half a gram of cardamom pods) and the largest valid order amount is 25.0 units (e.g., 25 kilograms of sugar). The precision of the units field is 0.1 units. Which of the following is a MINIMAL set of input values that cover the equivalence partitions for this field?

a) 10.0, 28.0
b) 0.4, 0.5, 25.0, 25.1
c) 0.2, 0.9, 29.5
d) 12.3

Question #30 (1 Point) You are working as a tester on an online banking system. Availability is considered one of the top product (quality) risks for the system. You find a reproducible failure that results in customers losing their connections to the bank Web site when transferring funds between common types of accounts and being unable to reconnect for between three and five minutes. Which of the following would be a good summary for a defect report for this failure, one that captures both the essence of the failure and its impact on stakeholders?

a) Web server logs show error 0x44AB27 when running test 07.005, which is not an expected error message in /tmp filesystem
b) Developers have introduced major availability defect which will seriously upset our customers
c) Performance is slow and reliability flaky under load
d) Typical funds-transfer transaction results in termination of customer session, with a delay in availability when attempting to reconnect

Question #31 (1 Point) You are testing a mobile app that allows users to find a nearby restaurant, based on the type of food they want to eat. Consider the following list of test cases, priorities (smaller number is high priority), and dependencies, in the following format:

| Test case number | Test condition covered | Priority | Logical dependency |
|---|---|---|---|
| 01.001 | Select type of food | 3 | none |
| 01.002 | Select restaurant | 2 | 01.001 |
| 01.003 | Get directions | 1 | 01.002 |
| 01.004 | Call restaurant | 1 | 01.002 |
| 01.005 | Make reservation | 3 | 01.002 |

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

a) 01.001, 01.002, 01.003, 01.005, 01.004
b) 01.001, 01.002, 01.004, 01.003, 01.005
c) 01.003, 01.004, 01.002, 01.001, 01.002
d) 01.001, 01.002, 01.004, 01.005, 01.003

Question #32 (1 Point) Which of the following is a common test metric often used to monitor BOTH test preparation and test execution?

a) Test case status
b) Defect find/fix rates
c) Test environment preparation
d) Estimated cost to find the next defect

Question #33 (1 Point) Which of the following are two factors that can be used to determine the level of risk?

a) Testing and development
b) Dynamic and reactive
c) Statement and decision
d) Likelihood and impact

Question #34 (1 Point) You are working as a project manager on an in-house banking software project. To prevent rework and excessive find/fix/retest cycles, the following process has been put in place for resolving a defect once it is found in the test lab:
1. The assigned developer finds and fixes the defect, then creates an experimental build
2. A peer developer reviews, unit tests, and confirmation tests the defect fix on his/her desktop
3. A tester—usually the one who found the defect—confirmation tests the defect fix in the development environment
4. Once a day, a new release with all confirmed defect fixes included, is installed in the test environment
5. The same tester from step 3 confirmation tests the defect fix in the test environment
Nevertheless, a large number of defects which the testers confirmed as fixed in the development environment (in step 3) are somehow failing confirmation testing in the test environment, with the resulting rework and cycle time outcomes. You have the highest confidence in your testers, and have ruled out mistakes or omissions in step 3.

Which of the following is the MOST likely part of the process to check next?

a) The activity of developers, who may not be adequately testing in step 2
b) The activity of testers, who may be confused about what to test in step 5
c) Configuration management, which may not be maintaining the integrity of the product in step 4
d) The activity of developers, who may not be fixing defects properly in step 11

Question #35 (1 Point) You are engaged in planning a test effort for a new mobile banking application. As part of estimation, you first meet with the proposed testers and others on the project. The team is well-coordinated and has already worked on similar projects. To verify the resulting estimate, you then refer to some industry averages for testing effort and costs on

similar projects, published by a reputable consultant. Which statement accurately describes your estimation approach?

a) A simultaneous expert-based and metrics-based approach
b) Primarily an expert-based approach, augmented with a metrics-based approach
c) Primarily a metrics-based approach, augmented with an expert-based approach
d) Primarily planning poker, checked by velocity from burndown charts.

Question #36 (1 Point) During a project following Agile methods, you find a discrepancy between the developer's interpretation of an acceptance criteria and the product owner's interpretation, which you bring up during a user story refinement session. Which of the following is a benefit of test independence exemplified by this situation?

a) Recognizing different kinds of failures
b) Taking primary responsibility for quality
c) Removing a defect early
d) Challenging stakeholder assumptions

Question #37 (1 Point) You are defining the process for carrying out product risk analysis as part of each iteration on an Agile project. Which of the following is the proper place to document this process in a test plan?

a) Scope of testing
b) Approach of testing
c) Metrics of testing
d) Configuration management of the test object

Question #38 (1 Point) Consider the following list of undesirable outcomes that could occur on a mobile app development effort:
A. Incorrect totals on reports
B. Change to acceptance criteria during acceptance testing
C. Users find the soft keyboard too hard to use with your app
D. System responds too slowly to user input during search string entry
E. Testers not allowed to report test results in daily standup meetings

Which of the following properly classifies these outcomes as project and product risks?

a) Product risks: B, E; Project risks: A, C, D
b) Product risks: A, C, D; Project risks: B, E
c) Product risks: A, C, D, E Project risks: B
d) Product risks: A, C Project risks: B, D, E

Question #39 (1 Point) You have just completed a pilot project for a regression testing tool. You understand the tool much better, and have tailored your testing process to it. You have

standardized an approach to using the tool and its associated work products. Which of the following is a typical test automation pilot project goal that remains to be carried out?

a) Learn more details about the tool
b) See how the tool would fit with existing processes and practices
c) Decide on standard ways of using, managing, storing, and maintaining the tool and the test assets
d) Assess whether the benefits will be achieved at reasonable cost

Question #40 (1 Point) Which of the following tools is most useful for reporting test metrics?

a) Test management tool
b) Static analysis tool
c) Coverage tool
d) Model-Based testing tools