**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 |

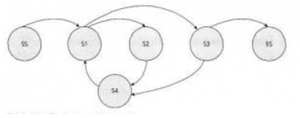
A. 11

**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?**



1. **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

**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**