Chapter: 17 (Software Testing Strategies)

MCQ

1. In software quality assurance work there is no difference between software verification and software validation.
   A) True
   B) False
2. The best reason for using Independent software test teams is that
   A) software developers do not need to do any testing
   B) strangers will test the software mercilessly
   C) testers do not get involved with the project until testing begins
   D) the conflicts of interest between developers and testers is reduced
3. What is the normal order of activities in which traditional software testing is organized?
   A) integration testing
   B) system testing
   C) unit testing
   D) validation testing
   E) c, a, d, and b
4. By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.
   A) True
   B) False
5. Which of the following strategic issues needs to be addressed in a successful software testing process?
   A) conduct formal technical reviews prior to testing
   B) specify requirements in a quantifiable manner
   C) use independent test teams
   D) wait till code is written prior to writing the test plan
   E) both a and b
6. Which of the following need to be assessed during unit testing?
   A) algorithmic performance
   B) code stability
   C) error handling
   D) execution paths
   E) both c and d
7. Units and stubs are not needed for unit testing because the modules are tested independently of one another.
   A) True
   B) False
8. Top-down integration testing has as it's major advantage(s) that
   A) low level modules never need testing
   B) major decision points are tested early
   C) no drivers need to be written
   D) no stubs need to be written
   E) both b and c
9. Bottom-up integration testing has as it's major advantage(s) that
   A) major decision points are tested early
   B) no drivers need to be written
   C) no stubs need to be written
   D) regression testing is not required
10. Regression testing should be a normal part of integration testing because as a new module is added to the system new
    A) control logic is invoked
    B) data flow paths are established
    C) drivers require testing
    D) all of the above
    E) both a and b
11. Smoke testing might best be described as
    A) bulletproofing shrink-wrapped software
    B) rolling integration testing
    C) testing that hides implementation errors
    D) unit testing for small programs
12. When testing object-oriented software it is important to test each class operation separately as part of the unit testing process.
    A) True
    B) False
13. The OO testing integration strategy involves testing
    A) groups of classes that collaborate or communicate in some way
    B) single operations as they are added to the evolving class implementation
    C) operator programs derived from use-case scenarios
    D) none of the above
14. Since many WebApps evolve continuously, the testing process must be ongoing as well.
    A) True

B) False

15. The focus of validation testing is to uncover places that s user will be able to observe failure of the software to conform to its requirements.
    A) True
    B) False
16. Software validation is achieved through a series of tests performed by the user once the software is deployed in his or her work environment.
    A) True
    B) False
17. Configuration reviews are not needed if regression testing has been rigorously applied during software integration.
    A) True
    B) False
18. Acceptance tests are normally conducted by the
    A) developer
    B) end users
    C) test team
    D) systems engineers
19. Recovery testing is a system test that forces the software to fail in a variety of ways and verifies that software is able to continue execution without interruption.
    A) True
    B) False
20. Security testing attempts to verify that protection mechanisms built into a system protect it from improper penetration.
    A) True
    B) False
21. Stress testing examines the pressures placed on the user during system use in extreme environments.
    A) True
    B) False
22. Performance testing is only important for real-time or embedded systems.
    A) True
    B) False
23. Debugging is not testing, but always occurs as a consequence of testing.
    A) True
    B) False
24. Which of the following is an approach to debugging?
    A) backtracking
    B) brute force
    C) cause elimination
    D) code restructuring
    E) a, b, and c

Chapter: 18 (Testing Conventional Applications)

MCQ

1. With thorough testing it is possible to remove all defects from a program prior to delivery to the customer.
    A) True
    B) False
2. Which of the following are characteristics of testable software?
    A) observability
    B) simplicity
    C) stability
    D) all of the above
3. The testing technique that requires devising test cases to demonstrate that each program function is operational is called
    A) black-box testing
    B) glass-box testing
    C) grey-box testing
    D) white-box testing
4. The testing technique that requires devising test cases to exercise the internal logic of a software module is called
    A) behavioral testing
    B) black-box testing
    C) grey-box testing
    D) white-box testing
5. What types of errors are missed by black-box testing and can be uncovered by white-box testing?
    A) behavioral errors
    B) logic errors
    C) performance errors
    D) typographical errors
    E) both b and d
6. Program flow graphs are identical to program flowcharts.
    A) True
    B) False
7. The cyclomatic complexity metric provides the designer with information regarding the number of
    A) cycles in the program
    B) errors in the program
    C) independent logic paths in the program
    D) statements in the program

8. The cyclomatic complexity of a program can be computed directly from a PDL representation of an algorithm without drawing a program flow graph.
   A) True
   B) False
9. Condition testing is a control structure testing technique where the criteria used to design test cases is that they
   A) rely on basis path testing
   B) exercise the logical conditions in a program module
   C) select test paths based on the locations and uses of variables
   D) focus on testing the validity of loop constructs
10. Data flow testing is a control structure testing technique where the criteria used to design test cases is that they
    A) rely on basis path testing
    B) exercise the logical conditions in a program module
    C) select test paths based on the locations and uses of variables
    D) focus on testing the validity of loop constructs
11. Loop testing is a control structure testing technique where the criteria used to design test cases is that they
    A) rely basis path testing
    B) exercise the logical conditions in a program module
    C) select test paths based on the locations and uses of variables
    D) focus on testing the validity of loop constructs
12. Black-box testing attempts to find errors in which of the following categories
    A) incorrect or missing functions
    B) interface errors
    C) performance errors
    D) none of the above
    E) a, b, and c
13. Graph-based testing methods can only be used for object-oriented systems
    A) True
    B) False
14. Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.
    A) True
    B) False
15. Boundary value analysis can only be used to do white-box testing.
    A) True
    B) False
16. Orthogonal array testing enables the test designer to maximize the coverage of the test cases devised for relatively small input domains.
    A) True
    B) False
17. Test derived from behavioral class models should be based on the
    A) data flow diagram
    B) object-relation diagram
    C) state transition diagram
    D) use-case diagram
18. Client/server architectures cannot be properly tested because network load is highly variable.
    A) True
    B) False
19. Real-time applications add a new and potentially difficult element to the testing mix
    A) performance
    B) reliability
    C) security
    D) time

Chapter: 19 (Testing Object-Oriented Applications)

MCQ

1. It is not possible to test object-oriented software without including error discovery techniques applied to the system OOA and OOD models..
   A) True
   B) False
2. The correctness of the OOA and OOD model is accomplished using formal technical reviews by the software quality assurance team.
   A) True
   B) False
3. The consistency of object-oriented models may be judged by reviewing the CRC card model.
   A) True

B) False

4. Test case design for OO software is driven by the algorithmic detail of the individual operations.
   A) True
   B) False
5. Integration testing of object-oriented software can be accomplished by which of the following testing strategies?
   A) Cluster testing
   B) Glass-box testing
   C) Thread-based testing
   D) Use-based testing
   E) a, c, and d
6. Validation of object-oriented software focuses on user visible actions and outputs from the system.
   A) True
   B) False
7. Encapsulation of attributes and operations inside objects makes it easy to obtain object state information during testing.
   A) True
   B) False
8. Use-cases can provide useful input into the design of black-box and state-based tests of OO software.
   A) True
   B) False
9. Fault-based testing is best reserved for
   A) conventional software testing
   B) operations and classes that are critical or suspect
   C) use-case validation
   D) white-box testing of operator algorithms
10. Testing OO class operations is made more difficult by
    A) encapsulation
    B) inheritance
    C) polymorphism
    D) both b and c
11. Scenario-based testing
    A) concentrates on actor and software interaction
    B) misses errors in specifications
    C) misses errors in subsystem interactions
    D) both a and b
12. Deep structure testing is not design to
    A) object behaviors
    B) communication mechanisms
    C) exercise object dependencies
    D) exercise structure observable by the user
13. Random order tests are conducted to exercise different class instance life histories.
    A) True
    B) False
14. Which of these techniques is not useful for partition testing at the class level
    A) attribute-based partitioning
    B) category-based partitioning
    C) equivalence class partitioning
    D) state-based partitioning
15. Multiple class testing is too complex to be tested using random test cases.
    A) True
    B) False

Chapter: 20 (Testing Web Applications)

MCQ

1. Which of the following is not one of the dimensions of quality used to assess a WebApp?
   A) Content
   B) Maintainability
   C) Navigability
   D) Usability
2. WebApps require special testing methodologies because WebApp errors have several unique characteristics.
   A) True
   B) False
3. Since WebnApps evolve continuously, the testing process is an on-going activity, conducted by the Web support staff using regression tests.
   A) True
   B) False
4. Test planning is not used in WebApp testing.
   A) True
   B) False
5. As the WebApp architecture is constructed which types of testing are used as integration tests?
   A) Component testing
   B) Content testing
   C) Navigation testing
   D) Usability testing

E) both a and c

6. Which of the following is not one of the objectives of WebApp content testing?
   A) Find organizational or structure errors
   B) Identify linking errors
   C) Uncover semantic errors
   D) Uncover syntactic errors
7. Database testing is very rarely a part of WebApp content testing.
   A) True
   B) False
8. The overall strategy for interface testing is to uncover errors
   A) in navigation semantics
   B) in overall usability
   C) related to specific interface mechanisms
   D) both a and c
9. Which of the following is not a WebApp interface mechanism?
   A) Browser
   B) Cookies
   C) Forms
   D) Links
10. When testing WebApp interface semantics, each use-case is used as input for the design of a testing sequence.
    A) True
    B) False
11. Usability tests should be designed and executed by intended users for a given WebApp.
    A) True
    B) False
12. WebApp compatibility testing is conducted to be sure that the user model for usage scenario matched the user category assigned to a given user.
    A) True
    B) False
13. Which test case design technique(s) are appropriate for WebApp component-level testing?
    A) Boundary value analysis
    B) Equivalence partitioning
    C) Path testing
    D) All of the above
14. The purpose of WebApp navigation syntactic testing is to ensure the correct appearance of each navigation mechanism.
    A) True
    B) False
15. Both Web engineers and non-technical users conduct navigation semantics testing for WebApps.
    A) True
    B) False
16. Which of following is not one of the elements that need to be considered when constructing WebApp server-side configuration tests?
    A) Browser compatibility
    B) Database software integration
    C) Operating system compatibility
    D) System security measures
17. To design client-side configuration tests each user category is assessed to reduce the number of configuration variables to a manageable number.
    A) True
    B) False
18. Which of the following is not a testable WebApp security element?
    A) Authentication
    B) Encryption
    C) Firewalls
    D) Penetration
19. WebApp performance tests are designed to
    A) asses WebApp usability
    B) evaluate page loading times
    C) simulate real-world loading situations
    D) test network connectivity
20. Load testing involves determining the input of which 3 variables?
    A) N, T, D
    B) N, T, P
    C) T, D, P
    D) N, D, P
21. WebApp stress testing is a continuation load testing.
    A) True
    B) False