Quiz - 4
CH4 – Test Design Techniques

Number of Questions – 12 (K1-4, K2-2, K3-6)   **Duration – 285 minutes**

1] In which document described in IEEE829 would you find instructions for the steps to be taken for a test including set-up, logging, environment and measurement?

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

2] With a highly experienced tester with a good business background, which approach to defining test procedures would be effective and most efficient for a project under severe time pressure?

   a) A high-level outline of the test conditions and general steps to take.
   b) Every step in the test spelled out in detail.
   c) A high-level outline of the test conditions with the steps to take discussed in detail with another experienced tester
   d) Detailed documentation of all test cases and careful records of each step taken in the testing

3] Put the test cases that implement the following test conditions into the best order for the test execution schedule, for a test that is checking modifications of customers on a database.

   1. Print modified customer record.
   2. Change customer address: house number and street name.

3. Capture and print the on-screen error message.

4. Change customer address: postal code.

5. Confirm existing customer is on the database by opening that record.

6. Close the customer record and close the database.

7. Try to add a new customer with no details at all.

a) 5,4, 2,1, 3, 7, 6
b) 4,2,5,1,6,7,3
c) 5,4,2,1,7,3,6
d) 5,1, 2, 3,4, 7, 6

4] What is a key characteristic of structure-based testing techniques?

a) They are mainly used to assess the structure of a specification.
b) They are used both to measure coverage and to design tests to increase coverage
c) They are based on the skills and experience of the tester.
d) They use a formal or informal model of the software or component.

5] Which of the following could be a coverage measure for state transition testing?

V. All states have been reached.
W. The response time for each transaction is adequate.
X. Every transition has been exercised.
Y. All boundaries have been exercised.
Z. Specific sequences of transitions have been exercised

a) X, Y and Z
b) V, X, Y and Z
c) W, X and Y
d) V, X and Z

6] Which of the following could be used to assess the coverage achieved for specification based (black-box) test techniques?

        V. Decision outcomes exercised

       W. Partitions exercised

       X. Boundaries exercised

       Y. State transitions exercised

       Z. Statements exercised

a) V, W, Y or Z
b) W, X or Y
c) V, X or Z
d) W, X, Y or Z

7] Which of the following statements about the relationship between statement coverage and decision coverage is correct?

a) 100% decision coverage is achieved if statement coverage is greater than 90%.
b) 100% statement coverage is achieved if decision coverage is greater than 90%.
c) 100% decision coverage always means 100% statement coverage
d) 100% statement coverage always means 100% decision coverage

8] Why are error guessing and exploratory testing good to do?

a) They can find defects missed by specification based and structure-based techniques
b) They don't require any training to be as effective as formal techniques
c) They can be used most effectively when there are good specifications
d) They will ensure that all of the code or system is tested.

9] How do experience-based techniques differ from specification-based techniques?

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.

10] What test document contains all the information about a specific test case, including requirements and the modules to be tested?

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

11] Bank fee is 0% for balance less than 500 EGP, 2% for less than 1000 EGP, and 4% for 1000 EGP or more. Which test inputs in EGP would be selected using BVA?

a) 0.00, 0.01, 499.99, 500.00, 500.01, 999.99, 1000.00, 1000.01
b) -0.01, 0.00, 499.99, 500.00, 999.99, 1000.00
c) -0.01, 499.99, 500.00, 999.99, 1000.00
d) 0.00, 500.00, 500.01, 1000.00, 1000.01

12] Consider the following decision table for Car rental.

Conditions	Rule 1	Rule 2	Rule 3	Rule 4
Over 23?	F	T	T	T
Clean driving record?	Don't care	F	T	T
On business?	Don't care	Don't care	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 cases?
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: Don't supply car; TC2: Supply car with no premium charge.
c) TC1: Supply car with premium charge; TC2: Supply car with no premium charge.
d) TC1: Supply car with premium charge; TC2: Don't supply car.

13] Assume postal rates for 'light letters' are: $0.25 up to 10 grams; $0.35 up to 50 grams; $0.45 up to 75 grams; $0.55 up to 100 grams.

Which test inputs (in grams) would be selected using boundary value analysis?

a) 0, 9,19, 49, 50, 74, 75, 99,100
b) 10, 50, 75,100, 250, 1000
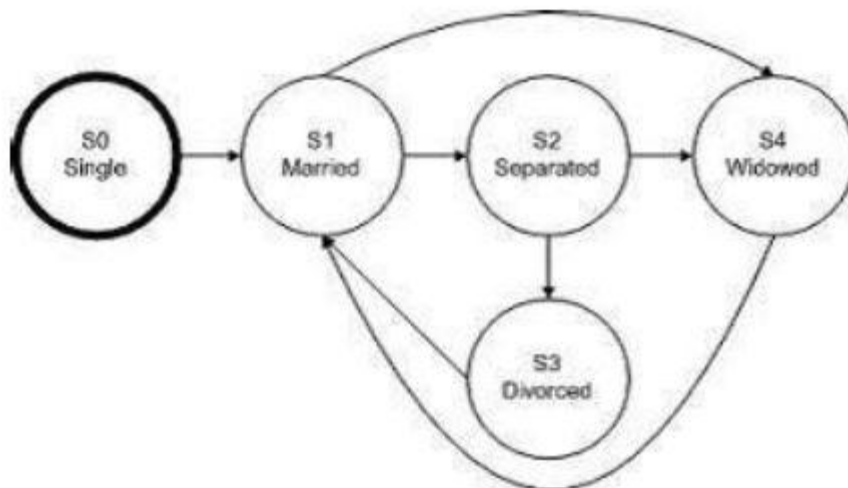c) 0, 1,10,11, 50, 51, 75, 76,100,101

d) 25, 26, 35, 36, 45, 46, 55, 56

14] Which of the following could be used to assess the coverage achieved for specification based (black-box) test techniques?

      V. Decision outcomes exercised
     W. Partitions exercised
     X. Boundaries exercised
     Y. State transitions exercised
     Z. Statements exercised

a) Y, W, Y, or Z
b) W, X or Y
c) V, X or Z
d) W, X, Y or Z

15] 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

16] Which of the following is MOST characteristic of specification based (black-box) techniques?

a) Test cases can be easily automated
b) Test cases are independent of each other
c) Test cases are derived systematically from models of the system.
d) Test cases are derived systematically from the delivered code

17] Which of the following types of defects is use case testing MOST LIKELY to discover?

   i.   Defects in the process flows during real-world use of the system.
   ii.   Defects in the interface parameters in integration testing.
   iii.   Integration defects caused by the interaction and interference of different components.
   iv.   Defects in the system as it transitions between one state and another.

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

18] What is the expected result for each of the following test cases?

	Rule1	Rule2	Rule3	Rule4
Conditions				
Citibank Card Member	Yes	Yes	No	No
Type of Room	Silver	Platinum	Silver	Platinum
Actions				
Offer upgrade To Gold Luxury	Yes	No	No	No
Offer upgrade to Silver	N/A	Yes	N/A	No

A. Citibank card member, holding a Silver room

B. Non Citibank-member, holding a Platinum room

    a) A – Don't offer any upgrade, B – Don't offer any upgrade.
    b) A – Don't offer any upgrade, B – Offer upgrade to Gold.
    c) A – Offer upgrade to Silver, B – Offer upgrade to Silver.
    d) A – Offer upgrade to Gold, B – Don't offer any upgrade.

19] Considering the following pseudo-code, calculate the MINIMUM number of test cases for statement coverage, and the MINIMUM number of test cases for decision coverage respectively

        1. READ A
        2. READ B
        3. READ C
        4. IF C>A THEN
        5. IF C>B THEN

6. PRINT "C must be smaller than at least one number"
7. ELSE
8. PRINT "Proceed to next stage"
9. ENDIF
10. ELSE
11. PRINT "B can be smaller than C"
12. ENDIF

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

20] In a system designed to work out the tax to be paid: An employee has $4000 of salary tax free. The next $1500 is taxed at 10%. The next $28000 is taxed at 22% Any further amount is taxed at 40%.

Which of these is a valid Boundary Value Analysis test case?

a) $32001
b) $1500
c) $33501
d) $28000

21] For the below code, what is the maximum decision coverage that can be obtained using one test case with a particular set of inputs?

1. READ P, O, N
2. D = 10
3. IF P < 1000 THEN
4. D = 0
5. ELSE

6. IF P > 5000 THEN

7. IF N > 4 THEN

8. D = 20

9. ELSE

10. D = 15

11. ENDIF

12. ENDIF

13. IF O = 1 THEN

14. D = 25

15. ENDIF

16. ENDIF

17. PRINT D

a) 50%
b) 75%
c) 25%
d) 62.5%

22] A washing machine has three temperature bands for different kinds of fabrics: fragile fabrics are washed at temperatures between 15 and 30 degrees Celsius; normal fabrics are washed at temperatures between 31 and 60 degrees Celsius; heavily soiled and tough fabrics are washed at temperatures between 61 and 100 degrees Celsius.

Which of the following contains only values that are in different equivalence partitions?

a) 15, 30, 60
b) 20, 35, 60
c) 25, 45, 75
d) 12, 35, 55

23] What is the main purpose of use case testing?

   a) To identify defects in process flows related to typical use of the system
   b) To identify defects in the connections between components
   c) To identify defects in the system related to extreme scenarios.
   d) To identify defects in the system related to the use of unapproved
      programming practices.

24] Which of the following are the most important factors to be taken into account
when selecting test techniques?

   i.   Tools available.
   ii. Regulatory standards.
   iii. Experience of the development team.
   iv. Knowledge of the test team.
   v.   The need to maintain levels of capability in each technique.

   a) i and ii.
   b) ii and iv.
   c) iii and iv.
   d) i and v.

Answers for Quiz 4:

1. D

2. A

3. C

4. B

5. D

6. B

7. C

8. A

9. D

10. B

11. B

12. B

13. C

14. B

15. C

16. C

17. B

18. D

19. A

20. C

21. A

22. C

23. A

24. B