

True or False? Verification focuses on if the requirements are meeting customer needs and are what the customer wants.

False

A team of testers are testing software against a given set of requirements. The requirements have already been approved by the customer. Is the testing team performing verification or validation of the software, or neither?

Verification

How often does testing happen in agile development?

At least daily

What is the correct phase order in test driven development?

Red, Green, Refactor

What is the objective of system testing?

To test both functional and nonfunctional requirements

What is the objective of unit level testing?

To verify that an individual developer's unit is tested properly

Which group of people should perform system testing?

An independent test team

What is(are) the primary objective(s) of system testing?

To find important problems and predict reliability

When is a reasonable time to stop testing?

Once we have met our test objectives.

Why do defects cluster?

Because a developer intentionally includes them to be found by testers

What kind of activity is requirement-based testing?

Requirements based testing is neither a verification or validation activity.

What kind of activity is scenario-based testing?

Primarily both a verification and validation activity

What is not a step in use case construction?

Identify how each use case can be tested

True or False?

Equivalence partitioning is a good technique to utilize when there are multiple independent inputs.

True

What is NOT an equivalence partitioning step

Write test cases covering as many of the uncovered invalid equivalence partitions as possible.

What are a good set of equivalence partitions for a password testing program where a password must be between 6-8 characters?

1. 6-8; 2. < 6 characters; 3. > 8 characters

A valid student ID can only contain digits between and including 2 and 7. What are the correct boundary values that need to be tested?

1,2,7,8

Boundary value analysis requires selecting test cases that are only on or above the edges of the input and output equivalence partitions.

False

Given 2 input variables, age and height, an output of vitamins, and a function that computes the number of vitamins a person should take based on age and height, which method(s) can be used to test this example?

Cause Effect Analysis

What is one way to reduce the number of test cases in a cause and effect decision table?

Make assumptions about how the partitions are related

Does creating a timeline to test synchronous events help with verification or validation?

Validation

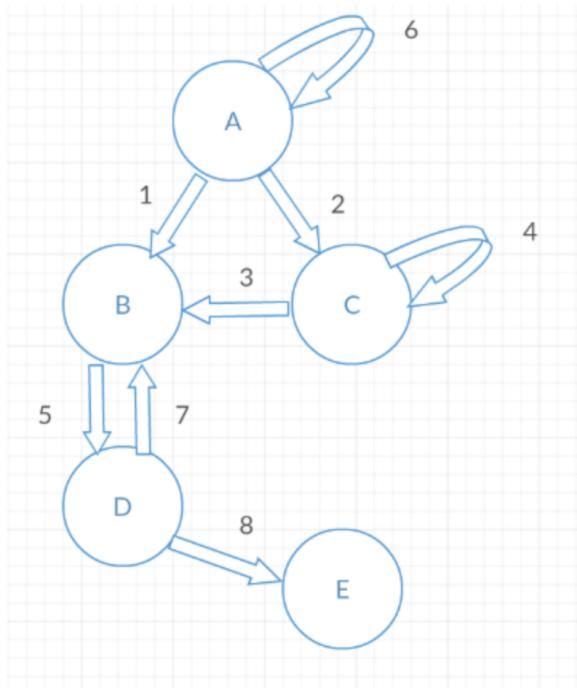
A timeline corresponds to a set of use cases mapped against time.

False

True or False? The basic strategy of testing a state machine is to visit each state and test each transition.

True

Given the state diagram below, what is a correct test sequence?



1 5 8

What is NOT considered to be an advantage of model-based testing?

Modeling requires manual test case generation.

What is the correct order of steps for model-based testing?

Create a system model, select test generation criteria, generate tests, execute tests

(True or False) Combinatorial coverage looks at parameter values being individually tested.

True

Assume we are testing a function with 3 variables:

Variable A: has values 0 and 1

Variable B: has values 0 and 1

Variable C: has values 0 and 1

What is the total 2-way variable value configuration coverage achieved by the following tests:

A=0; B=0; C=0

A=0; B=1; C=1

A=1, B=1, C=0

9/12

What is the goal of the design of experiments?

Minimize the number of tests we need to run

(True or False) Design of Experiments pairwise combination involves systematically testing all combinations of inputs.

False

Given 3 inputs: P1 with values V1 and V2; P2 with values V3, V4, and V5 and P3 with values V6 and V7, what are the correct tests for a pairwise combination design of experiments?

V3	V1	V6
V3	V2	V7
V4	V1	V7
V4	V2	V6
V5	V1	V6
V5	V2	V7

Mutation testing is designed to introduce defects into a program undergoing testing to see if the test cases can detect the mutant.

True

What is NOT an example of a mutation?

Renaming a class and anywhere that the class is called or found

Fuzz testing consists of random, invalid or unexpected inputs that are created automatically.

True

(True or False) Fuzz testing looks only for undesirable behavior or crashes.

True

(True or False) Metamorphic testing makes the assumption that if there is a program with input x that results in output y, and there is a change to input x, that same change is not reflected in output y.

False

Without using a calculator, what would be the expected output of this example using metamorphic testing for the third test case?

Initial Test: 5 10 15 20 25 Stan. Dev Result: 7.2

Second Test: 5 15 25 35 45 Stan Dev Result: 14.4

Third test: 15 20 25 30 35 Stan Dev Result: _____

7.2

(True or False) Defect-based testing can only be applied at the unit level.

False

(True or False) Defect based testing looks to create test cases that target specific defect categories.

True

In exploratory testing, all test scripts are not developed in advance.

True

Exploratory testing focuses on a tour that helps detect a specific error.

True

True or False?

Thoroughly executing all requirements guarantees full code coverage.

False

Given the code below, which set of test cases will achieve 100% statement coverage?

If a < 12 and b = 5 or c > 15

X= 50;

Else

X= 25;

If X= 25

7=12;

Else

Z=15;

Test Case 1: A = 6, B=5, C= 17, X=50

Test Case 2: A=15, B=3, C=8, X=25

Given the code below, which set of test cases will achieve 100% decision coverage?

If a < 12 and b = 5 or c > 15

X= 50;

Else

X= 25;

If X = 25

Z= 12;

Else

Z = 15;

Test Case 1: A = 6, B=5, C=17, X=50

Test Case 2: A= 15, B=3, C=8, X=25

Given the code below, how many test cases are needed to achieve 100% decision condition coverage?

If a < 12 and b = 5 or c > 15

X= 50;

Else

X= 25;

2

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If a < 12 and b = 5 or c > 15

X = 50:

Else

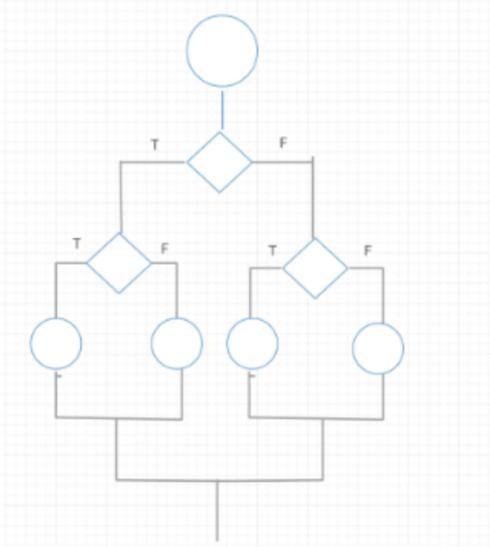
X= 25:

8

Please choose the correct order in terms of the power of the different levels of control flow coverage.

Statement coverage < decision coverage < decision/condition coverage < multiple condition coverage

What is the cyclomatic complexity of the given control flow diagram?



4

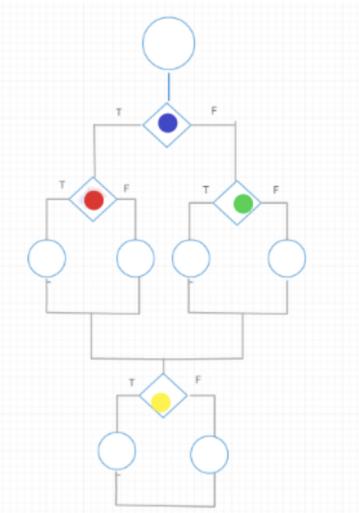
The below paths are possible basis paths for the given control flow diagram.

Blue T F T F T

Red T F T

Green T F

Yellow T T T T F



True

True or False?

The number of basis paths is the minimum number of paths needed to build test cases and linear combinations for every other possible path.

True

What is not a variable set used in definition use coverage?

S-Use(i)

A definition use path is not always along a definition clear path.

False

Given the code below, what is the correct set of DU Paths?

```
Get a, b
X = 0 } Node 1

If a < 5 (Predicate I)
  Then c = x + 3 (Node 2)
  Else c = a + 2 (Node 3)

If b > 4 (Predicate II)
  Then y = c + 4 (Node 4)
  Else x = c + 2 (Node 5)|
```

Def1(a) = USE(a) || USE3(a)

Def1(b) = USEII(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(c)

Def3(c) = USE4(c) || USE5(c)

Based on the code and the DU paths determined in Q3, what coverage do the test cases below provide?

A = 3; B=2

A=6, B=5

6/8

Static analysis models the flow of the data in a program by looking at where variables are defined and used.

True

What is not an example of a data flow anomaly?

Variable is defined then referenced

⚠ This quiz has been regraded; your new score reflects 3 questions that were affected.

Midterm Exam

Due Oct 21, 2020 at 10:25am **Points** 100

Questions 24 **Available** until Oct 21, 2020 at 10:25am

Time Limit 85 Minutes

Instructions

Please read the instructions carefully and complete all steps just as you did when taking the practice quiz.

Please note that you may have **three blank sheets of scratch paper** for your work. **You must show both sides of each paper to prove they are blank at the start of the exam.** This is a **closed notes, closed book, and no calculator** exam. Failure to follow these rules may lead to point deductions or being flagged for cheating on the system.

Technical Support: For assistance with RPNow, please contact the ASU Help Desk 24/7 support by phone at 1.855.278.5080 or by starting a Live Chat via your Service Center tab in MyASU.

This quiz was locked Oct 21, 2020 at 10:25am.

Attempt History

	Attempt	Time	Score	Regraded
LATEST	Attempt 1	44 minutes	87 out of 100	100 out of 100

⚠ Correct answers are no longer available.

Score for this quiz: **100** out of 100

Submitted Oct 21, 2020 at 9:46am

This attempt took 44 minutes.

Question 1

3 / 3 pts

Which of the following best describes the difference between verification and validation?



Validation primarily addresses code coverage while verification primarily addresses requirements coverage.



Verification is normally performed during system test while validation is normally performed during unit test.



Verification answers the question: are we building the product right.

Validation answers the question: are we building the right product?



Validation answers the question: are we building the product right.

Verification answers the question: are we building the right product?

Question 2

5 / 5 pts

Consider the following specification for a program:

An application is being developed to process admission of students to a new graduate program. The program has 3 inputs. The first input is the application tracking number which consists of 10 digits. The second input is the student's gpa on a 4 point scale. The third input is the type of delivery the student is choosing (either ONLINE or In-Person). To be admitted into the graduate program a student must have a gpa of at least 3.25. The program will send the student a letter indicating whether or not they have been admitted to the program along with the delivery mode. Students with a gpa of 3.75 or higher are sent a letter indicating that they have been admitted as "scholars" in the program.

Which of the following best describes the set of equivalence partitions for gpa.

-
- gpa < 0 (I)
 - gpa > 4 (I)
 - 0 <= gpa < 3.25 (V)
 - 3.25 <= gpa < 3.75 (V)
 - 3.75 <= gpa <= 4.0 (V)
-

- gpa < 0 (I)
 - gpa > 4 (I)
 - 0 <= gpa <= 4 (V)
 -
-

- gpa < 0 (I)
- gpa > 4 (I)
- 3.25 <= gpa <= 4.00 (V)
-

Question 3

3 / 3 pts

Which of the following is considered to be a data flow anomaly?

-
- - Referencing a defined variable
 -
 - Defining a variable, using it, and then redefining it
 - Defining a variable, but never using it
 -
 - Referencing a redefined variable
-

Question 4**5 / 5 pts**

Consider the following code segment:

if A < C

then

 exchange A and C

else

 exchange A and C;

endif;

if B < C then

 exchange A and C;

endif:

Which of the following is the final symbolic values for A, B, C on the TT path?

Final Value of A = C_0

Final Value of B = B_0

Final Value of C = A_0

Final Value of A = B_0

Final Value of B = C_0

Final Value of C = A_0

Final Value of A = A_0

Final Value of B = B_0

Final Value of C = C_0

Final Value of A = C_0

Final Value of B = A_0

Final Value of C = B_0

Question 5

5 / 5 pts

Given 3 inputs: P1 with values V1 and V2; P2 with values V3, V4, and V5 and P3 with values V6 and V7, what are the correct tests for a pairwise combination design of experiments?

V3	V1	V6
V4	V1	V6
V5	V1	V6

V3	V1	V6
V3	V2	V7
V4	V1	V7
V4	V2	V6
V5	V1	V6
V5	V2	V7

This table tests every combination of pairs of values.

V3	V1	V6
V3	V2	V7
V4	V1	V7
V4	V2	V6

V3	V1	V6
V3	V2	V7
V4	V1	V6
V4	V2	V7
V5	V1	V6
V5	V2	V7

Question 6**5 / 5 pts**

Which of the following is the cyclomatic complexity of the code given below?

if A < B then

exchange A and B;

endif

if B < C then

exchange B and C;

endif

if A > D then

exchange A and B;

endif

4 6 3 5**Question 7**

3 / 3 pts

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If $a > 15$ or $b < 2$ or $Z=0$

then $Y = 25$

else $Y = 30;$

If $w > 5$ or $z < 10$

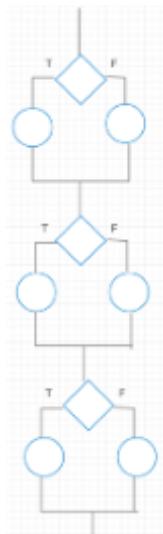
then $X = 14$

else $X = 0;$

 8 32 5 4**Question 8**

5 / 5 pts

Which of the following is a possible set of basis paths for the given control flow diagram.



- TTT / TTF / TFT / TFF / FTT / FTF / FFT / FFF
- TTT / FTT / FFT / FFF
- TTT / TFT / TTF
- TTT / FTT / TFT / TTF

Question 9

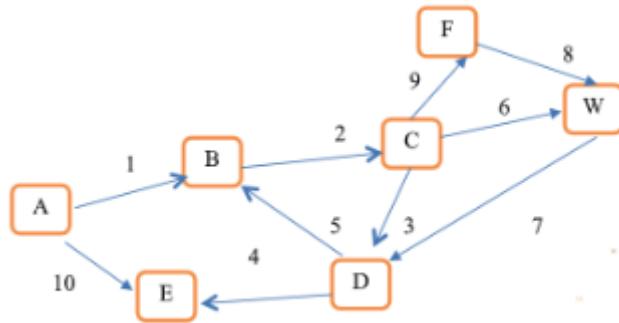
5 / 5 pts

A new program for developing parking rates has been developed. Rates are based upon the classification of the vehicle owner (faculty, staff, student), the location of the parking (garage or open lot) and the size of vehicle (large or small). The rate for faculty parking in a parking garage or open lot regardless of vehicle type is \$100.00. Students with a small vehicle pay \$250.00 in a lot and \$350.00 in a garage. Students with a large vehicle are not allowed to park in a garage but may park in a lot for \$400.00. Staff may park any vehicle anywhere for \$50.00. If one were to develop a decision table for testing this program, how many test cases / columns would be required.

12 7 5 11**Question 10****5 / 5 pts**

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "E" is the terminal state.

 3 8 5 6**Question 11****3 / 3 pts**

Which of the following is not considered a classic testing mistake?

- Believing the primary objective of system testing is to find bugs
- Focusing on usability issues
- Lack of communication with developers
- Incorrectly documenting and reviewing test designs

Question 12

5 / 5 pts

Given the code and test cases below, what is the highest level of test coverage achieved by executing all of the tests?

```
read (w, x, y, z)  
if x > 20 and y > 4  
    then s1  
    else s2  
endif;  
if z < 50 and w > 10  
    then s3  
    else s4  
endif;
```

Test #1	Test#2	Test#3	Test#4
x=25	x=15	x=30	x=5
y=3	y=2	y=6	y=10
z=55	z=75	z=25	z=3
w=15	w=5	w=25	w=2

- decision / condition coverage
- statement coverage
- decision coverage
- multiple condition coverage
- No level of control flow coverage achieved

Question 13**3 / 3 pts**

When are test cases created in test driven development?

- After the code is developed
- While code is developed
- Before code is developed

Question 14**3 / 3 pts**

What is an advantage of model based test development?

- If there is a change in the model, tests will remain the same
- If there is a change in the model, new tests can automatically be generated
- There are a set number of test generation criteria we can use

- Model based test development executes the system

Question 15**6 / 6 pts**

Assume we are testing a function with 3 variables:

Variable A: has values 0 and 1

Variable B: has values 0 and 1

Variable C: has values 0 and 1

What is the total 2-way variable value configuration coverage achieved by the following tests:

A=0; B=0; C=0

A=0; B=1; C=1

A=1, B=1, C=0

3/8

8/12

6/8

9/12

Question 16**3 / 3 pts**

What is the difference between mutation based fuzz testing and generation based fuzz testing?



There is no difference between mutation and generation based fuzz testing.



Mutation based fuzz testing needs to know specifications of the test input to create random test data. Generation based fuzz does not require knowledge of inputs to create test data.



Mutation based fuzz testing does not require knowledge of inputs to create test data. Generation based fuzz testing needs to know specifications of the test input to create random test data.

Question 17

3 / 3 pts

In defect based testing, a defect taxonomy is used...?

- To categorize test cases once test cases are developed
- To derive test cases
- When performing only system level testing
- When test cases fail

Question 18

3 / 3 pts

What kind of technique is metamorphic testing?

- Primarily a verification technique

- Both verification and validation
- Neither a verification or validation technique
- Primarily a validation technique

Question 19**3 / 3 pts**

Exploratory testing is the same as ad hoc testing.

- True
- False

Question 20 Original Score: 0 / 3 pts Regraged Score: 3 / 3 pts

! This question has been regraded.

Which of the following is not a possible tour in exploratory testing?

- Performance tour
- Scenario tour
- Variability tour
- Complexity tour

Question 21**5 / 5 pts**

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

11.. 50 (V)

<1 (I)

> 50 (I)

Input 2: Y

50..75 (V)

76.. 80 (V)

<50 (I)

> 80 (I)

2 valid tests and 2 invalid tests

4 valid tests and 4 invalid tests

2 valid tests and 4 invalid tests

1 valid and 2 invalid tests

Question 22 Original Score: 0 / 5 pts Regraged Score: 5 / 5 pts

! This question has been regraded.

Given the following code and test cases, is the following true or false:

"all uses" data flow coverage is achieved for variable "x"?

$x := 0;$ (notation means assign 0 to X)

$y := 0;$

read (a,b,c);

if $a > 10$

 then $x := 5$

 else $y := 5;$

if $b > 10$

 then $x := x + y$

 else $y := x + y$

if $c > 10$

 then $z := x + y;$

Test 1. $a = 19, b = 15 c = 5$

Test 2. $a = 5, b = 16 c = 15$

Test 3 $a = 20 b = 5 c = 18$

Test 4 $a = 6 b = 4 c = 2$

True

False

Question 23 Original Score: 0 / 5 pts Regraded Score: 5 / 5 pts

! This question has been regraded.

Given the following code and test cases, is the following true or false:

"all uses" data flow coverage is achieved for variable "y"?

$x := 0;$ (notation means assign 0 to X)

$y := 0;$

read (a,b,c);

if $a > 10$

 then $x := 5$

 else $y := 5;$

if $b > 10$

 then $x := x + y$

 else $y := x + y$

if $c > 10$

 then $z := x + y;$

Test 1. $a = 19, b = 15, c = 5$

Test 2. $a = 5, b = 16, c = 15$

Test 3. $a = 20, b = 5, c = 18$

Test 4. $a = 6, b = 4, c = 2$

True

False

Question 24

6 / 6 pts

Consider the following code segment:

```
if A < C  
then  
    exchange A and C  
else  
    exchange A and B;  
endif;  
if B < C then  
    exchange B and C;  
endif;
```

What is the path expression for the TF path?

(A₀ < C₀) and (B₀ < A₀)

(A₀ < C₀) and (C₀ < A₀)

(A₀ < C₀) or (B₀ >= A₀)

(A₀ < C₀) and (B₀ < C₀)

Quiz Score: **100** out of 100

Midterm Exam

TOTAL POINTS 100

Instructions

1.

Question 1

_____ answers the question: "Are we building the right product?"

3 points

validation

2.

Question 2

What kind of activity is system testing?

3 points



Neither a verification or validation activity



Both a verification and validation activity



Primarily a verification activity

3.

Question 3

True or False? System testing activities should overlap with development.

3 points



True



False

4.

Question 4

Who performs beta testing?

3 points



Develop



Engineering managers



Customers



Testers

5.

Question 5

Which of the following is not a best testing practice?

3 points



Begin developing system tests only after integration tests have passed



Accommodating for changes late in development and testing



Utilizing model based testing techniques



Assessing software reliability through statistical testing

6.

Question 6

If a stakeholder is requiring code to be tested in three days, but four days are needed to fully test the code, how many days should the testing team take to test the code?

3 points



At least four days



Three days



Two days

7.

Question 7

What happens in the green phase of test driven development?

3 points



Write enough code to pass all the test cases



Write a minimal test case on the behavior needed



Improve code while letting test cases pass



Write enough code to make the failing test case pass

8.

Question 8

Which of the following is a good set of equivalence partitions for a username where the username must be between 3-10 characters?

3 points



< 3



> 10



1. 3-10; 2. < 3 characters; 3. > 10 characters



3-10;

9.

Question 9

Use cases can be used for...?

3 points



Both verification and validation testing



Neither verification or validation testing



Only validation testing



Only verification testing

10.

Question 10

A valid student ID can only contain letters between and including c and i. What boundary values should be tested?

3 points



c,d,j,j



c,d,h,i



b,c,d,h,i,j



a,c,d,h,j,k

11.

Question 11

Parking rates for a permit calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at \$200. Students pay \$100 for a garage spot and \$50 for a street spot. Any other combination is not allowed. Which decision table best captures these requirements.

5 points



	1	2	3	4	5	6
Faculty	X	X	X			

	1	2	3	4	5	6
Student				X	X	X
Street	X			X		
Garage		X			X	
Lot			X			X
\$200		X	X			
\$100				X		
\$50					X	
Not Allowed	X					X

○

	1	2	3	4	5	6
Faculty	X	X	X			
Student				X	X	X
Street	X			X		
Garage		X			X	
Lot			X			X

	1	2	3	4	5	6
\$200		X	X			
\$100					X	
\$50				X		X
Not Allowed	X					

O

	1	2	3	4	5	6
Faculty	X	X	X			
Student				X	X	X
Street	X			X		
Garage		X			X	
Lot			X			X
\$200		X	X			
\$100					X	
\$50				X		
Not	X					X

	1	2	3	4	5	6
Allowed						

	1	2	3	4	5	6
Faculty	X	X	X			
Student				X	X	X
Street	X			X		
Garage		X			X	
Lot			X			X
\$200		X	X			
\$100						X
\$50	X			X		
Not Allowed						X

12.

Question 12

Timelines are an approach used to assess the impact of asynchronous events.

3 points

True

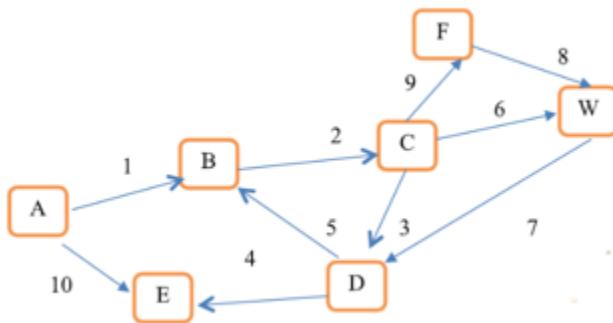
False

13.

Question 13

Given the state diagram below, which of the following is a test sequence in the state testing tree?

You may assume "A" is the start state and "E" is the terminal state.



3 points

1 2 3 4

1 2 9 8 3 4

1 2 3 5

1 2 6 7

14.

Question 14

Assume we are testing a function with 3 variables:

Variable A: has values 0 and 1

Variable B: has values 0 and 1

Variable C: has values 0 and 1

What is the total 3-way variable value configuration coverage achieved by the following:

A=0; B=0; C=0

A=0; B=1; C=1

A=1, B=1, C=0

5 points

9/12

3/8

6/12

4/8

15.

Question 15

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, what are the correct tests for a pairwise combination design of experiments?

3 points

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C
W	A	X	C
W	B	F	C

○

G	A	F	C
G	B	X	C
H	A	X	C
W	B	F	C

○

G	A	F
G	B	X
H	A	X
H	B	F
W	A	X
W	B	F

○

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C

W	B	X	C
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16.

Question 16

All tests are currently passing. A mutant is introduced and the tests still continue to pass. Should the test cases be improved?

3 points

It depends on the situation

No

Yes

17.

Question 17

What is fuzz testing most often used for?

3 points

To detect vulnerabilities in a system

To determine how output changes based on inputs

To create test cases based on defect taxonomies

To explore software for errors using a pair of testers

18.

Question 18

What is the difference between mutation based fuzz testing and generation based fuzz testing?

3 points

Mutation based fuzz testing does not require knowledge of inputs to create test data. Generation based fuzz testing needs to know specifications of the test input to create random test data.



Mutation based fuzz testing needs to know specifications of the test input to create random test data. Generation based fuzz does not require knowledge of inputs to create test data.



There is no difference between mutation and generation based fuzz testing.

19.

Question 19

In defect based testing, a defect taxonomy is used...?

3 points



When performing only system level testing



To categorize test cases once test cases are developed



When test cases fail



To derive test cases

20.

Question 20

Which of the following is not a possible tour in exploratory testing?

3 points



Scenario tour



Performance tour



Variability tour



Complexity tour

21.

Question 21

Given the code below, which set of test cases will achieve 100% decision coverage?

read (x, y, z)

if x > 20 and y > 4

then s1

else s2

endif;

if z < 50 and x > 10

then s3

else s4

endif;

5 points



Test Case 1: X = 25, Y=5, Z=23

Test Case 2: X=40; Y=7, Z= 25



Test Case 1: X = 15, Y=2, Z=60

Test Case 2: X=4; Y=2, Z= 55



Test Case 1: X = 25, Y=5, Z=67

Test Case 2: X=40; Y=8, Z= 56



Test Case 1: X = 25, Y=5, Z=23

Test Case 2: X=4; Y=2, Z= 55

22.

Question 22

Which of the following is the cyclomatic complexity of the code given below?

if A < B then

exchange A and B:

endif

if B < C then

exchange B and C:

endif

if A > D then

exchange A and B;

endif

3 points

4

23.

Question 23

Given the code below, pick the correct flow graph.

if A < B then

exchange A and B:

endif

if B < C then

exchange B and C:

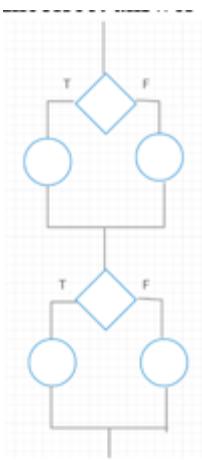
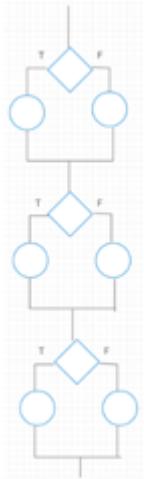
endif

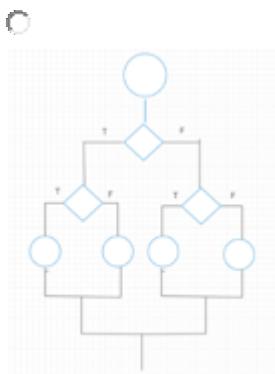
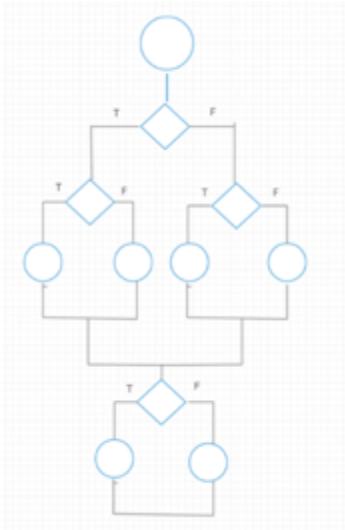
if A > D then

exchange A and B;

endif

5 points





24.

Question 24

Given the code below, what is the final symbolic value of C after executing the TT path?

if A < C then

exchange A and C:

endif

if B < C then

exchange A and C:

endif

C = C + B

5 points

$$\{A_0\}A_0 + \{B_0\}B_0$$

$$\{C_0\}C_0$$

$$\{C_0\}C_0 + \{B_0\}B_0$$

$$\{B_0\}B_0$$

25.

Question 25

Given the code below, what is the correct set of DU paths?

Get a, b
 $x = 0$



Node 1

If $a \geq 5$ (Predicate I)
 Then $c = x + 3$ (Node 2)
 Else $c = b + 2$ (Node 3)

If $b < 4$ (Predicate II)
 Then $b = c + 4$ (Node 4)
 Else $x = b + 2$ (Node 5)

3 points

Def1(a) = USE1(a)

Def1(b) = USE3(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(c)

Def3(c) = USE4(c)

Def1(a) = USE1(a)

Def1(b) = USE3(b) || USE1(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(b)

Def3(c) = USE4(c)



Def1(a) = USEI(a)

Def1(b) = USE3(b) || USEII(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c)

Def3(c) = USE4(c)



Def1(a) = USEI(a)

Def1(b) = USE3(b) || USEII(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c)

26.

Question 26

Data flow testing tests the same aspects as control flow testing.

3 points



True



False

27.

Question 27

A valid student ID can only contain letters between and including p through x. Which of the following is the correct set of boundary values that need to be tested.

3 points

p,q,x,y

o,p,w,x

o,q,w,y

o,p,x,y

28.

Question 28

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If a > 15 or b < 2 and c < -5

Y = 25;

Else

Y = 30;

3 points

8

3

6

4

29.

Question 29

What can definition use coverage be applied towards?

3 points



Control flow testing



Neither data flow or control flow testing



Data flow testing



Both data flow and control flow testing

30.

Question 30

Which software methodology(s) follow continuous integration and testing?

3 points



Waterfall Development and Test Driven Development



Waterfall Development



Agile Development and Waterfall Development



Agile Development

Question 5

1 / 1 pts

Given 2 input variables, age and height, an output of vitamins, and a function that computes the number of vitamins a person should take based on age and height, which method(s) can be used to test this example?

Correct!

- Cause Effect Analysis

Both cause effect analysis and equivalence partitioning

Mutation testing

Equivalence partitioning

Cause Effect Analysis. You selected this answer. This was the correct answer.

Question 6

0 / 5 pts

Question 6

0 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 5 and 10

Variable Y: has values 5 and 10

Variable Z: has values 5 and 10

What is the total 2-way variable value configuration coverage achieved by the following tests:

X=5; Y=5; Z=5

X=5; Y=10; Z=10

X=10, Y=10, Z=5

Correct Answer

9/12

You Answered

8/12

Possible combinations:

- X=5 Y=5;
- X=5 Z=5;
- Y=5 Z=5;
- X=5 Y=10;
- X=5 Z=10;
- Y=10 Z=10;
- X=10 Y=10;
- X=10 Z=5;
- Y=10 Z=5

Question 7

5 / 5 pts

Given 3 inputs: P1 with values V1, V2 and V3; P2 with values V4 and V5; P3 with values V6, V7 and V8, what are the correct tests for a pairwise combination design of experiments?

Correct!

V1	V4	V6
V2	V5	V7
V1	V4	V7
V2	V5	V6
V3	V4	V8
V3	V5	V8
V3	V4	V6
V1	V5	V8
V2	V4	V8
V3	V4	V7

Question 8

0 / 5 pts

What is one way to reduce the number of test cases in a cause and effect decision table?

Write as many test cases as there are partitions

Correct Answer

Make assumptions about how the partitions are related

Write as many test cases as there are partitions.

You Answered

- Write only valid test cases

Testing invalid cases is necessary to see how it affects the results

Question 9

5 / 5 pts

Equivalence partitioning is a good technique to utilize when there are multiple independent inputs.

Question 9

5 / 5 pts

Equivalence partitioning is a good technique to utilize when there are multiple independent inputs.

Correct!

- True

Equivalence partitioning must be applied with independent inputs. In the lecture example of $\text{abs}(x)$, it is necessary to test a negative value, 0, and a positive value which are all independent inputs.

False

Question 10

5 / 5 pts

False

Question 10

5 / 5 pts

(True or False) Fuzz testing consists of random, invalid or unexpected inputs that are created automatically.

Correct!

True

Fuzz testing is an approach to testing where invalid, random or unexpected inputs are automatically generated.

False

Question 11

0 / 5 pts

Why do defects cluster?

Because a developer intentionally includes them to be found by testers

You Answered

- Defects are actually distributed evenly across every thousand lines of code.

Because a developer intentionally includes them to be found by testers.

Defects are not evenly distributed due to them usually appearing because of the complexity of the code in certain areas, the ability of a developer who coded a certain portion, etc.

Because there are no changes happening to the codebase

Correct Answer

- Because of the complexity of code, programmer skill, etc.

Question 12

5 / 5 pts

Without using a calculator, what would be the expected output of this example using metamorphic testing for the third test case?

Initial Test: 5 10 15 20 25 Stan. Dev Result: 7.2

Second Test: 5 15 25 35 45 Stan Dev Result: 14.4

Third test: 15 20 25 30 35 Stan Dev Result: _____

14.4

28.8

3.6

7.2

The values are incremented by 5 in the third test, and thus has a standard deviation of 7.2

Correct!

Question 13

5 / 5 pts

Consider, as an example, a program that compute the cosine function ($\cos(x)$). Suppose the program produces output -0.3999 when run with input $x=42$ radians. An important property of the cosine function is $\cos(x)=\cos(-x)$.

Using this property, we design a new test case with $x=-42$. Assume the output of the program for this input is 0.4235 . And we concluded that the program is not correct.

What kind of testing did we do?

Correct!

- Metamorphic Testing

Using the metamorphic property we conducted a metamorphic testing.

Fuzz Testing

Mutation Testing

Explonatory Testing

Question 14

0 / 10 pts

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If $a > 15$ or $b < 2$ or $c > 5$

then $Y = 25$

else $Y = 30;$

If $w > 5$ or $z < 10$

then $X = 14$

else $X = 0;$

16

You Answered

32

Correct Answer

8

4

Question 16

0 / 10 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: A

10..100 (V)

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

71.. 80 (V)

81.. 90 (V)

<40 (I)

>90 (I)

2 valid tests and 2 invalid tests

You Answered

3 valid tests and 4 invalid tests

3 valid tests and 4 invalid tests

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

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You Answered

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Correct Answer

4 valid tests and 4 invalid tests

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0 / 10 pts

Question 15

A new program for calculating auto insurance policy renewal premiums has been developed the the following rules. If one were to develop a decision table for testing this program, how many test cases / columns would be needed?

- 0 claims, age less than or equal to 22: raise by \$50;
- 0 claims, age greater than 22: raise by \$25
- 1 claims, age less than or equal to 22: raise by \$100;
- 1 claims, age greater than 22: raise by \$50
- 2 claims, age less than or equal to 22: raise by \$200;
- 3 or more claims regardless of age: cancel policy

12

4

You Answered

6

Correct Answer

8

Question 5

1 / 1 pts

Given 2 input variables, age and height, an output of vitamins, and a function that computes the number of vitamins a person should take based on age and height, which method(s) can be used to test this example?

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You Answered

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Possible combinations:

- X=5 Y=5;
- X=5 Z=5;
- Y=5 Z=5;
- X=5 Y=10;
- X=5 Z=10;
- Y=10 Z=10;
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- X=10 Z=5;
- Y=10 Z=5

Question 7

5 / 5 pts

Given 3 inputs: P1 with values V1, V2 and V3; P2 with values V4 and V5; P3 with values V6, V7 and V8, what are the correct tests for a pairwise combination design of experiments?

Correct!

V1	V4	V6
V2	V5	V7
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5 / 5 pts

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You Answered

32

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4

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0 / 10 pts

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71.. 80 (V)

81.. 90 (V)

<40 (I)

>90 (I)

2 valid tests and 2 invalid tests

You Answered

3 valid tests and 4 invalid tests

3 valid tests and 4 invalid tests

Correct Answer

4 valid tests and 4 invalid tests

2 valid tests and 4 invalid tests

0 / 10 pts

Question 15

A new program for calculating auto insurance policy renewal premiums has been developed the the following rules. If one were to develop a decision table for testing this program, how many test cases / columns would be needed?

- 0 claims, age less than or equal to 22: raise by \$50;
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- 1 claims, age less than or equal to 22: raise by \$100;
- 1 claims, age greater than 22: raise by \$50
- 2 claims, age less than or equal to 22: raise by \$200;
- 3 or more claims regardless of age: cancel policy

12

4

You Answered

6

Correct Answer

8

Question 1

4 / 4 pts

Which of the following best describes the difference between verification and validation?

- Validation answers the question: are we building the product right.
- Validation primarily targets requirements errors.
- Verification answers the question are we building the right product.
- Verification primarily targets requirements errors.

Correct!

Question 2

9 / 9 pts

Consider the following specification for a program:

A computerized letter is to be sent to high school seniors telling them their graduation status. There are three inputs.

The first input is a 10 digit identifying number (ID Number).

The second input is the student's grade point average (gpa) which is a real number.

The third input is a real number indicating the balance of the student's account.

Question 2

9 / 9 pts

Consider the following specification for a program:

A computerized letter is to be sent to high school seniors telling them their graduation status. There are three inputs.

The first input is a 10 digit identifying number (ID Number).

The second input is the student's grade point average (gpa) which is a real number.

The third input is a real number indicating the balance of the student's account.

For students with $0 \leq gpa < 1.0$ a letter is output informing the student that they will not graduate. For $1.0 \leq gpa < 3.0$ a letter is output informing the student that they have met the requirements for graduation.

For $3.0 \leq gpa < 3.7$ a letter is output informing the student that they will graduate with honors. For $3.7 \leq gpa < 4.0$ a letter is output informing the student they will graduate with highest honors. The letter also contains the balance of the student's account.

Which of the following best describes the set of equivalence partitions for gpa.

- gpa < 0 (I)
- gpa > 4 (I)
- $1.0 \leq gpa < 3.0$ (V)
- $3.0 \leq gpa < 3.7$ (V)
- $3.7 \leq gpa \leq 4.0$ (V)

Correct!

- gpa < 0 (I)
- gpa > 4 (I)
- $0 \leq gpa < 1.0$ (V)

gpa 0 (I) gpa 4 (I) 0 = gpa 1.0 (V) 1.0 = gpa 3.0 (V) 3.0 = gpa 3.7 (V) 3.7 = gpa = 4.0 (V). You selected this answer. This was the correct answer.

The first input is a 10 digit identifying number (ID Number).

The second input is the student's grade point average (gpa) which is a real number.

The third input is a real number indicating the balance of the student's account.

For students with $0 \leq gpa < 1.0$ a letter is output informing the student that they will not graduate. For $1.0 \leq gpa \leq 3.0$ a letter is output informing the student that they have met the requirements for graduation.

For $3.0 \leq gpa < 3.7$ a letter is output informing the student that they will graduate with honors. For $3.7 \leq gpa \leq 4.0$ a letter is output informing the student they will graduate with highest honors. The letter also contains the balance of the student's account.

Which of the following best describes the set of equivalence partitions for gpa.

gpa < 0 (I)

gpa > 4 (I)

$1.0 \leq gpa < 3.0$ (V)

$3.0 \leq gpa < 3.7$ (V)

$3.7 \leq gpa \leq 4.0$ (V)

Correct!

gpa < 0 (I)

gpa > 4 (I)

$0 \leq gpa < 1.0$ (V)

$1.0 \leq gpa < 3.0$ (V)

$3.0 \leq gpa < 3.7$ (V)

$3.7 \leq gpa \leq 4.0$ (V)

gpa 0 (I) gpa 4 (I) 0 = gpa 1.0 (V) 1.0 = gpa 3.0 (V) 3.0 = gpa 3.7 (V) 3.7 = gpa = 4.0 (V). You selected this answer. This was the correct answer.

gpa < 0 (I)

gpa > 4 (I)

$0 \leq gpa \leq 4$ (V)

Question 3

0 / 3 pts

Which of the following is considered to be a data flow anomaly?

- Defining a variable, using it, and then redefining it
- Referencing an undefined variable
- Referencing a redefined variable
- Defining a variable more than once in a module

Correct Answer**You Answered****Question 4**

10 / 10 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

G	A	F	C
G	B	X	C
H	A	X	C

Question 4

10 / 10 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

○

G	A	F	C
G	B	X	C
H	A	X	C
W	B	F	C

○

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C
W	B	F	C

Correct!

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C
W	A	X	C
W	B	F	C

Question 5

8 / 8 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **1.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF negative**; receives **no** medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **no** medicine
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of **tcV** or **YTF** levels; receives no medicine.

If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?

 8 4 9

- Patients with **age less than or equal to 30**; with tcV level **less than or equal to 3.5** and YTF **positive**; receives **2.0mg** of the medicine
- Patients with **age less than or equal to 30**; with tcV level **greater than 3.5** and YTF **negative**; receives **no medicine**
- Patients with **age less than or equal to 30**; with tcV level **greater than 3.5** and YTF **positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with tcV level **less than or equal to 3.5** and YTF **negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with tcV level **less than or equal to 3.5** and YTF **positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with tcV level **greater than 3.5** and YTF **negative**; receives **no medicine**
- Patients with **age less than or equal to 50**; with tcV level **greater than 3.5** and YTF **positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives no medicine.

If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?

8

4

9

12

Correct!

8 / 8 pts

Question 6

You are asked to test a program which calculates the amount of medicine that would be given to a patient

Question 6

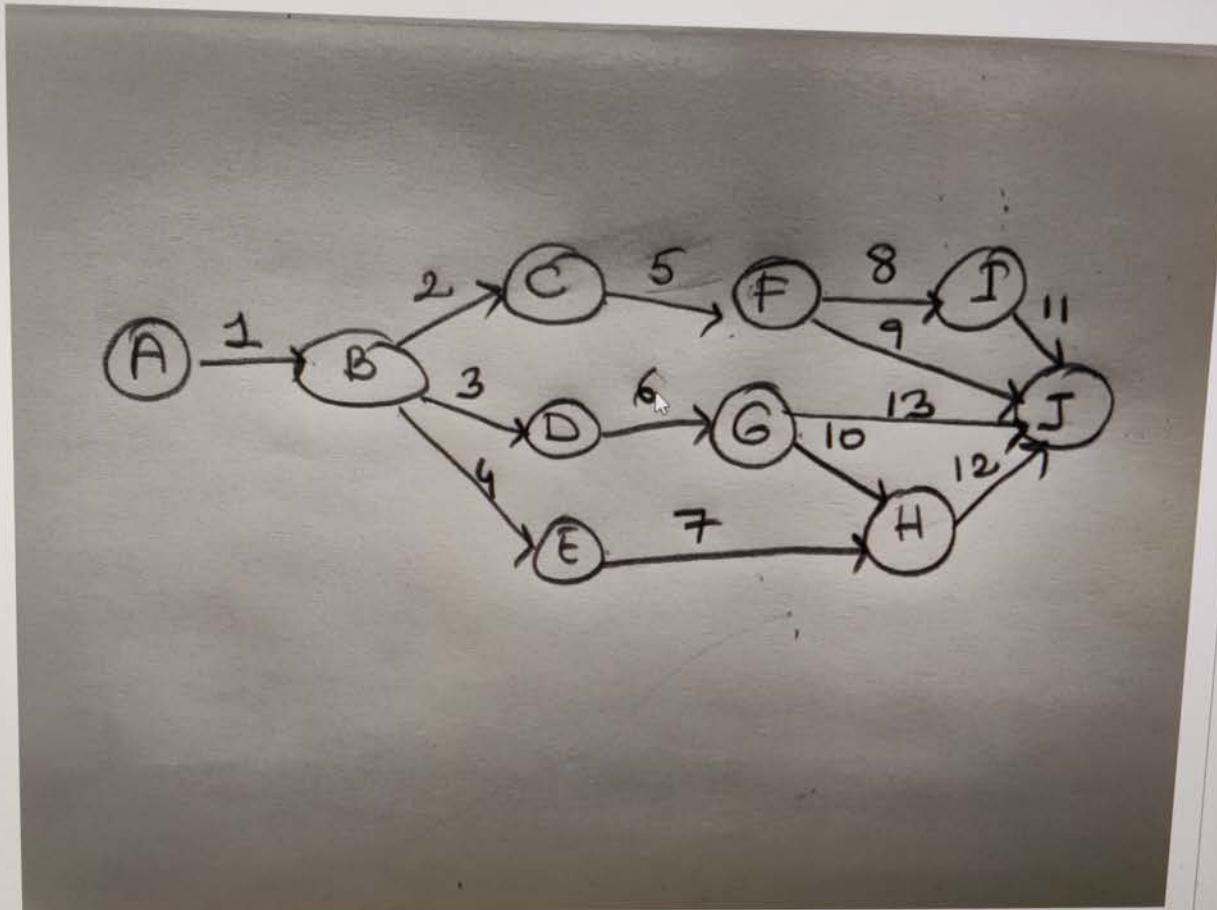
You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **1.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.0mg** of the medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
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- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives **0.5mg medicine**

If one were to develop a **decision tree** for testing this program, how many test cases would be needed?

Correct! 9 18 12 8

Given the state testing diagram below, how many test sequences would one find in the state testing tree?
You may assume "A" is the start state and "J" is the terminal state.



4

Correct!

5

Question 8

3 / 3 pts

Which of the following is considered a classic testing mistake?

- Believing the primary objective of system testing is to find important bugs
- not focusing on usability issues
- documenting and reviewing test designs
- good communication with developers

Correct!**Question 9**

3 / 3 pts

Which of the following best describes exploratory testing?

- All tests are created in advance and sources of errors are further explored.
- Exploratory testing does not require the use of a test oracle.
- All tests are not created in advance and new tests are added during the testing process.
- Testing tours are used to ensure 100% functional and code coverage.

Correct!



Question 10

3 / 3 pts

What is an advantage of model based test development?

- If there is a change in the model, tests will remain the same
- Model based test development executes the system
- If there is a change in the model, new tests can automatically be generated
- There are a set number of test generation criteria we can use

Correct!

Question 11

8 / 8 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a'; Y='c'; Z='e'

X='a'; Y='c'; Z='f'

X='a'; Y='d'; Z='e'

- There are a set number of test generation criteria we can use

Question 11

8 / 8 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'



Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a'; Y='c'; Z='e'

X='a'; Y='c'; Z='f'

X='a'; Y='d'; Z='e'

X='a'; Y='d'; Z='f'

X='b'; Y='d'; Z='g'

5/16

5/8

6/8

11/16

Correct!

testing needs to know specifications of the test input to create random test data.

- There is no difference between mutation and generation based fuzz testing.
- Mutation based fuzz testing needs to know specifications of the test input to create random test data.
Generation based fuzz does not require knowledge of inputs to create test data.
- Mutation based fuzz testing injects mutants / errors into the code based on typical defect types and frequencies.

Question 13

3 / 3 pts

Which of the following best describes metamorphic testing?

Correct!

- Metamorphic testing utilizes metamorphic relations to determine expected results.
- Metamorphic testing is a form of fuzz testing.
- Metamorphic testing utilizes metamorphic relations to determine test inputs.
- Metamorphic testing integrates with test oracles to determine expected results.

3 / 3 pts

Question 12

3 / 3 pts

What is the difference between mutation based fuzz testing and generation based fuzz testing?

Correct!

- Mutation based fuzz testing does not require knowledge of inputs to create test data. Generation based fuzz testing needs to know specifications of the test input to create random test data.
- There is no difference between mutation and generation based fuzz testing.
- Mutation based fuzz testing needs to know specifications of the test input to create random test data. Generation based fuzz does not require knowledge of inputs to create test data.
- Mutation based fuzz testing injects mutants / errors into the code based on typical defect types and frequencies.

Question 13

3 / 3 pts

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3 / 3 pts

Question 13**Correct!**

Which of the following best describes metamorphic testing?

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- Metamorphic testing utilizes metamorphic relations to determine test inputs.
- Metamorphic testing integrates with test oracles to determine expected results.

Question 14

3 / 3 pts

In defect based testing, a defect taxonomy is used...?

- To classify defects when test cases fail
- To derive test cases
- To categorize test cases once test cases are developed
- When performing only system level testing

Correct!

← → X ↻HELP CENTER

Question 15

3 / 3 pts

Which of the following best describes tours in exploratory testing?

- Tour testing consists of randomly exploring the product.
- Tour testing is performed with the customer to provide them with an overview of product capabilities.
- Tour testing ensures 100% functional and code coverage during exploratory testing.

Correct!

- Tour testing uses a structure or method that gives the tester a particular focus in the way he or she goes about exploring a product.

 Tour testing uses a structure or method that gives the tester a particular focus in the way he or she goes about exploring a product. You selected this answer. This was the correct answer.

Question 16

9 / 9 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

<1 (I)

Question 17

3 / 3 pts

Which of the following is used to assess the impact of asynchronous events.

Correct!

- interaction with synchronous events
- timeline
- nature of the asynchronous event
- impact of the asynchronous event on the user

Question 18

9 / 9 pts

A student can score a minimum of 20 points and a maximum of 50 points on an exam. Which one of these testes can be used for boundary level testing?

Correct!

- Student score = {19, 20, 21, 49, 50, 51}

Student score = {19, 21, 49, 51}



- Student score = {3, 20, 21, 49, 50, 55}

- Student score = {18, 21, 52}

Question 16

9 / 9 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

<1 (I)

> 50 (I)

Input 2: Y

75..80 (V)

81..100 (V)

<75 (I)

> 100 (I)

2 valid tests and 2 invalid tests

1 valid and 2 invalid tests

1 valid test and 4 invalid tests

2 valid tests and 4 invalid tests

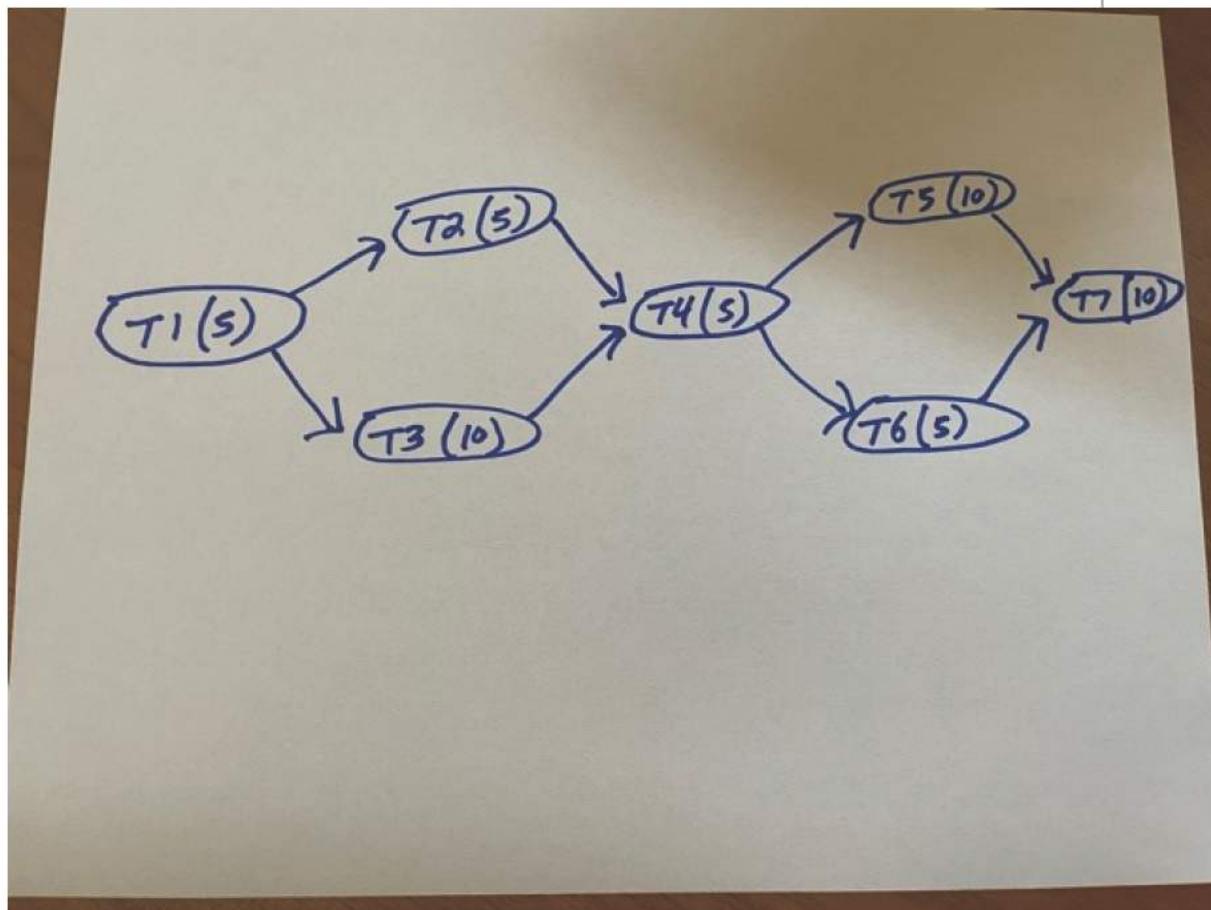
Correct!

! Correct answers are no longer available.

Question 1

4 / 4 pts

Given the following PERT chart, what is the minimum time to complete this project with the critical path?



35

30

45

Question 2

4 / 4 pts

Which of the following statements best characterizes how a test coordinator would utilize the results of risk analysis in risk based testing?



Test high risk areas early in the test schedule and more thoroughly than others



Test high risk areas early in the test schedule and less thoroughly than others since they are likely to change



Test high risk areas late in the test schedule and more thoroughly than others



Ensure all areas of the system are tested equally and high risk tests are only executed if time permits

Question 3

4 / 4 pts

In Risk Based testing, which of the following is not reflected in the calculation of risk exposure?

- probability of a failure
- cost of testing
- consequences of a failure

Question 4

4 / 4 pts

Which of the following is not a factor in the PORT Test Efficiency through Test Prioritization technique:

- tester assigned priority for testing
- customer assigned priority
- requirements volatility
- fault proneness of requirement

Question 5

4 / 4 pts

Given the following earned values, is the project over, on, or under budget?

BCWS = 400

BCWP = 400

ACWP = 300

- Over budget
- On budget

- Under budget

Question 6

4 / 4 pts

Given the following tasks and earned values, is the project ahead of, on, or behind schedule after week 1?

1A	30	2A	20
1B	30	2B	50
1C	30		

Week 1 To be Completed: 1A, 1B, 1C

Week 1 Actually Completed: 1A, 1B, 2A at a cost of 100

- Ahead of schedule
- On schedule
- Behind schedule

Question 7

4 / 4 pts

Which of the following is a criteria which favors an outsourced staffed testing model versus in house testing?

- Project requirements are stable

- Project requirements are changing frequently
- Testing requires close interaction with development team
- Project requires high quality

Question 8

4 / 4 pts

Which of the following best describes a testing statement of work (SOW) in an outsourcing plan?

-
- The SOW defines all of the tasks to be performed but does not identify processes to be followed.
-
- The SOW defines all of the tasks to be performed but does not identify tools to be utilized.
-
- The SOW defines all of the tasks to be performed and relevant processes to be followed.
-
- The SOW provides captures all of the risks associated with the outsourcing plan and provides mitigation plans.

Question 9

4 / 4 pts

Which of the following best describes the relationship of cumulative number of failures and testing time during system testing?



The cumulative number of failures increases over time and then levels off

The cumulative number of failures remains constant over time



The cumulative number of failures increases over time and then decreases

The cumulative number of failures decreases over time

Question 10

4 / 4 pts

Which of following provides the best calculation of failure intensity?

Total number of failures detected during the testing process.

Number of failures detected per cpu hour of testing.

Number of failures detected divided by the number of hours of testing.

Ratio of the number of severe defects to less intense defects.

Question 11

4 / 4 pts

Which of the following best describes the relationship of failure intensity and testing time during system testing?

Failure intensity normally decreases over time

Failure intensity remains constant over time

- Failure intensity increases over time
- Failure intensity increases over time and then levels off

Question 12

4 / 4 pts

Which of the following statements best describes operational profile testing?

-
- Operational profile testing tests the most critical features more extensively.
- Operational profile testing tests features that are used least by users
- Operation profile testing tests features based on their usage by the customer.
- Operational profile testing provides a high degree of code coverage

Question 13

4 / 4 pts

Which of the following types of testing is best for verifying the behavior of the system meets its requirements when its resources are saturated and pushed beyond their limits.

- Volume testing
- Stress testing
- Security testing

- Regression testing

Question 14

4 / 4 pts

Which of the following techniques can best assist with managing the potential large number of tests needed for configuration testing?

- operational profile testing
- fuzz testing
- Design of Experiments
- functional testing

Question 15

4 / 4 pts

Which of the following is an example of a software serviceability requirement?

- The software should be fixed within 100 hours after a defect is reported
- The software MTBF should be 100 hours
- The software should be able to handle 500 users
- The software shall be available 99.9% of the time

Question 16

4 / 4 pts

Which of the following best describes the relationship between reliability and availability?

- High availability and low reliability cannot exist together
- High availability implies high reliability
- A system can have poor reliability but also high availability.
- Low availability implies low reliability

Question 17

4 / 4 pts

Which of the following is not a factor to consider in estimating the time that it will take to adequately test a software application?

- Planned delivery date
- Experience of the test team
- Desired quality level
- Number of product requirements

Question 18

4 / 4 pts

Which of the following best describes how a testing organization might utilize the GQM paradigm?

- Use GQM to reduce testing time and improve test effectiveness

- Use GQM to appease stakeholder wishes
- Use GQM to ensure code coverage
- Use GQM to ensure all requirements are tested

Question 19

4 / 4 pts

Which of the following is a false statement regarding reliability estimation models?

- Estimation models are used prior to test generation
- Estimation models utilize operational profile testing
-
- Estimation models make assumptions about defect repairs introducing new failures
-
- Estimation models generally follow mathematical distributions

Question 20

4 / 4 pts

Which of the following is a false statement regarding reliability growth models?

- Growth models do not use failure intensity as a reliability measurement
- Growth models help to determine when to stop testing
-
- Growth models require that the right data is collected during testing

- Growth models show how reliability changes over time

Question 21

4 / 4 pts

A confidence test suite in selective regression testing does not necessarily need to address which of the following?

- Critical functionality
- High frequency test cases
- Low frequency test cases of non-critical functions
- Functional breadth

Question 22

4 / 4 pts

Which of the following is not part of the criteria for reviewing an incident report?

- ensuring incident report contains priority
- assess for clarity
- assess for repeatability
- ensuring incident report contains severity evaluation

Question 23

4 / 4 pts

Which of the following is a false statement regarding defect severity and defect priority?

- All high severity defects are also high priority
- Some high severity defects might be low priority
- One component of defect severity is its impact on the customer
- One component of defect priority is based on the effort needed to repair the defect

Question 24

4 / 4 pts

Which of the following best describes a test case per the IEEE standard?

- A test case must have both input and output specifications
- A test case is targeted towards a particular error type
- A test case needs output specifications but not necessarily input specifications
- A test case must be formal

Question 25

4 / 4 pts

Which of the following is not a strategy to analyze what went wrong during a retrospective/post mortem?

- perform regression testing
- Interviews with important people involved
- Understanding team interactions
- Investigating major problems

Quiz Score: **100** out of 100

Question 1

4 / 4 pts

Which of the following best describes the difference between verification and validation?

- Validation answers the question: are we building the product right.
- Verification answers the question are we building the right product.
- Validation primarily targets requirements errors.
- Verification primarily targets requirements errors.

Question 2

5 / 5 pts

Consider the following specification for a program:

A computerized letter is to be sent to high school seniors telling them their graduation status. There are three inputs.

The first input is a 10 digit identifying number (ID Number).

The second input is the student's grade point average (gpa) which is a real number.

The third input is a real number indicating the balance of the student's account.

For students with $0 \leq gpa < 1.0$ a letter is output informing the student that they will not graduate. For $1.0 \leq gpa \leq 3.0$ a letter is output informing the student that they have met the requirements for graduation. For $3.0 \leq gpa < 3.7$ a letter is output informing the student that they will graduate with honors. For $3.7 \leq gpa \leq 4.0$ a letter is output informing the student they will graduate with highest honors. The letter also contains the balance of the student's account.

Which of the following best describes the set of equivalence partitions for gpa.

gpa < 0 (I)

gpa > 4 (I)

0 \leq gpa \leq 4 (V)



gpa < 0 (I)

gpa > 4 (I)

0 \leq gpa $<$ 1.0 (V)

1.0 \leq gpa $<$ 3.0 (V)

3.0 \leq gpa $<$ 3.7 (V)



3.7 \leq gpa \leq 4.0 (V)



gpa < 0 (I)

gpa > 4 (I)

0 \leq gpa $<$ 1.0 (I)

1.0 \leq gpa $<$ 3.0 (V)

3.0 \leq gpa $<$ 3.7 (V)



3.7 \leq gpa \leq 4.0 (V)

- gpa < 0 (I)
- gpa > 4 (I)
- 1.0 <= gpa < 3.0 (V)
- 3.0 <= gpa < 3.7 (V)
- 3.7 <= gpa <= 4.0 (V)

Question 3

4 / 4 pts

Which of the following is considered to be a data flow anomaly?

- Defining a variable more than once in a module
- Defining a variable, using it, and then redefining it
- Referencing an undefined variable
- Referencing a redefined variable

Question 4

5 / 5 pts

Consider the following code segment:

```
if A < B  
then  
    exchange A and C  
else  
    exchange A and B;  
endif;
```

if $B < C$ then

exchange A and C;

endif:

Which of the following is the final symbolic values for A, B, C on the TT path?

Final Value of A = C_0

Final Value of B = A_0

Final Value of C = B_0

Final Value of A = C_0

Final Value of B = B_0

Final Value of C = A_0

Final Value of A = A_0

Final Value of B = B_0

Final Value of C = C_0

Final Value of A = B_0

Final Value of B = C_0

Final Value of C = A_0

Question 5

5 / 5 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

④

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C
W	A	X	C
W	B	F	C

⑤

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
H	B	X	C
W	A	X	C
W	B	F	C

Question 6

5 / 5 pts

Which of the following is the cyclomatic complexity of the code given below?

if A < B then

exchange A and B;

endif;

if B < C then

 exchange B and C

endif;

2

3

4

1

Question 7

4 / 4 pts

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If a > 15 or b < 2 or c > 5

 then Y = 25

 else Y = 30;

If w > 5 or z < 10

 then X = 14

 else X = 0;

4

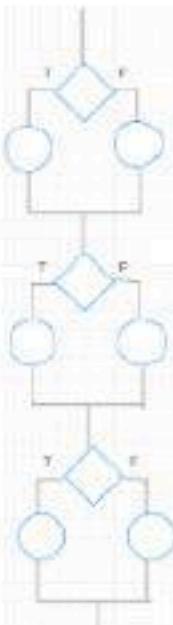
16

8

Question 8

5 / 5 pts

Which of the following is a possible set of basis paths for the given control flow diagram.



- TTT / FTT / TFT / TTF
- TTT / TFT / TTF
- TTT / FTT / FFT / FFF
- TTT / TTF / TFT / TFF / FTI / FTF / FFT / FFF

Question 9

5 / 5 pts

A new program for calculating auto insurance policy renewal premiums has been developed the the following rules. If one were to develop a decision table for testing this program, how many test cases / columns would be needed?

- 0 claims, age less than or equal to 22: raise by \$50;
- 0 claims, age greater than 22: raise by \$25
- 1 claims, age less than or equal to 22: raise by \$100;
- 1 claims, age greater than 22: raise by \$50
- 2 claims, age less than or equal to 22: raise by \$200;
- 3 or more claims regardless of age: cancel policy

6

4

8

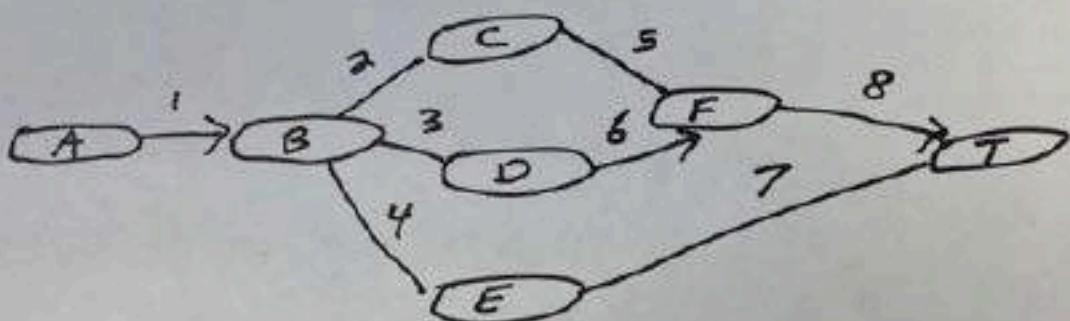
12

Question 10

5 / 5 pts

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "T" is the terminal state.



2

3

5

6

Question 11

3 / 3 pts

Which of the following is considered a classic testing mistake?

not focusing on usability issues

documenting and reviewing test designs

- good communication with developers



Believing the primary objective of system testing is to find important bugs

incorrect

Question 12

0 / 5 pts

Given the code and test cases below, what is the highest level of test coverage achieved by executing all of the tests?

read (w, x, y, z)

if x > 20 and y > 4

then s1

else s2

endif;

if z < 50 and w > 10

then s3

else s4

endif;

Test #1	Test#2	Test#3	Test#4
x=25	x=15	x=30	x=5
y=3	y=2	y=6	y=10
z=55	z=75	z=25	z=3
w=15	w=5	w=25	w=20

- statement coverage

- decision coverage

- decision / condition coverage
- multiple condition coverage
- No level of control flow coverage achieved

Question 13

3 / 3 pts

Which statement best describes Test-Driven Development TDD?

- TDD uses code to drive test case development.
- TDD creates test cases before software is developed.
- TDD is used to ensure full code coverage.
- none of the above are correct

Question 14

3 / 3 pts

What is an advantage of model based test development?

- If there is a change in the model, new tests can automatically be generated
- If there is a change in the model, tests will remain the same
- Model based test development executes the system
- There are a set number of test generation criteria we can use

Question 15

Assume we are testing a function with 3 variables:

Variable A: has values 0 and 1

Variable B: has values 0 and 1

Variable C: has values 0 and 1

What is the total 2-way variable value configuration coverage achieved by the following tests:

A=0; B=0; C=0

A=0; B=1; C=1

A=1, B=1, C=1

9/12

8/12

3/8

6/8

Question 16

What is the difference between mutation based fuzz testing and generation based fuzz testing?

Mutation based fuzz testing does not require knowledge of inputs to create test data. Generation based fuzz testing needs to know specifications of the test input to create random test data.

Mutation based fuzz testing needs to know specifications of the test input to create random test data. Generation based fuzz does not require knowledge of inputs to create test data.

There is no difference between mutation and generation based fuzz testing.

Mutation based fuzz testing injects mutants / errors into the code based on typical defect types and frequencies.

Question 17

3 / 3 pts

In defect based testing, a defect taxonomy is used...?

To derive test cases

To classify defects when test cases fail

When performing only system level testing

To categorize test cases once test cases are developed

Question 18

3 / 3 pts

Which of the following best describes metamorphic testing?

Metamorphic testing integrates with test oracles to determine expected results.

Metamorphic testing utilizes metamorphic relations to determine test inputs.

Metamorphic testing utilizes metamorphic relations to determine expected results.

Metamorphic testing is a form of fuzz testing.

Question 19

3 / 3 pts

Which of the following best describes tours in exploratory testing?

Tour testing ensures 100% functional and code coverage during exploratory testing.

Tour testing consists of randomly exploring the product.

Tour testing uses a structure or method that gives the tester a particular focus in the way he or she goes about exploring a product.

Tour testing is performed with the customer to provide them with an overview of product capabilities.

Question 20

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

11.. 50 (V)

<1 (I)

> 50 (I)

Input 2: Y

50..75 (V)

76.. 80 (V)

81..100 (V)

<50 (I)

> 100 (I)

④ 3 valid tests and 4 invalid tests

④ 4 valid tests and 4 invalid tests

④ 2 valid tests and 2 invalid tests

④ 1 valid and 2 invalid tests

Question 21

5 / 5 pts

Given the following code and test cases, is the following true or false:

"all uses" data flow coverage is achieved for variable "x"?

`x := 0; (notation means assign 0 to X)`

`y:= 0;`

`read (a,b);`

`if a > 10`

`then x := 5`

`else y:= 5;`

`if b > 10`

`then z := x + y`

`else z:= x + y;`

Test 1. $a = 19, b = 15$

Test 2. $a = 5, b = 16$

Test 3 $a = 20 \quad b = 5$

Test 4 $a = 6 \quad b = 4$

True

False

Given the following code and test cases, is the following true or false:

"all uses" data flow coverage is achieved for variable "y"?

`x := 0; (notation means assign 0 to X)`

`y:= 0;`

`read (a,b);`

`if a > 10`

`then x := 5`

`else y:= 5;`

`if b > 10`

`then z := x + y`

`else z:= x + y;`

Test 1. `a = 19, b = 15`

Test 2. `a = 5, b = 16`

Test 3 `a = 20 b = 5`

Test 4 `a = 6 b = 4`

True

False

Question 23

6 / 6 pts

Consider the following code segment:

`if A < C`

`then`

exchange A and C

else

 exchange A and B;

endif;

if B < C then

 exchange B and C;

endif:

What is the path expression for the TT path?

(A₀ < C₀) and (B₀ < A₀)

(A₀ < C₀) and (B₀ < C₀)

(A₀ < C₀) or (B₀ < A₀)

(A₀ < C₀) and (C₀ < A₀)

Unit 4 Quiz

Due No due date **Points** 10 **Questions** 10
Time Limit None

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is not a graded quiz.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 10

Submitted May 2 at 7:20pm

Inanswered

Question 1 0 / 1 pts

True or False?

Huang's Theorem helps reduce the number of iterations over a path during anomaly testing.

Correct Answer

True

False

Inanswered

Question 2 0 / 1 pts

True or False?

Symbolic execution can be used to determine that a specific path in the program cannot be executed.

Correct Answer True False**Inanswered****Question 3****0 / 1 pts**

Given the code below, which set of test cases will achieve 100% statement coverage?

If $a < 5$ or $b > 7$

$X = 50;$

$c = a + b;$

Else

$X = 25;$

$c = a - b;$

If $X = 50$ and $c > 6$

$Z = 10;$

Else

$Z = 12;$

Test Case 1: $a=3, b=10, c=13, X=50$

Test Case 2: $a=1, b=2, c=3, X=50$

Test Case 1: $a=2, b=10, c=12, X=25$

Test Case 2: $a=3, b=4, c=4, X=25$

Test Case 1: $a=3, b=10, c=13, X=50$

Test Case 2: $a=3, b=4, c=4, X=25$

Correct Answer

Test Case 1: $a=3, b=10, c=13, X=50$

Test Case 2: $a=5, b=1, c=4, X=25$

Inanswered

Question 4

0 / 1 pts

True or False?

Statement coverage always satisfies decision coverage.

 True False

Correct Answer

Inanswered

Question 5

0 / 1 pts

Based on the code and the DU paths determined in Q9, what coverage does the test case below provide?

A = 2; B=2

 2/7 4/7 5/7

Correct Answer

 3/7

Inanswered

Question 6

0 / 1 pts

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If a < 10 or b < 5 or c > 15 or d > 2

X = 10;

Else

X = 20;

8

Correct Answer 16

2

4

Inanswered

Question 7

0 / 1 pts

True or False?

Code coverage can be assessed in terms of control flow and data flow.

Correct Answer

True

False

Inanswered

Question 8

0 / 1 pts

Given the code below, what is the final symbolic value of Z?

- (0) Input X, Y, Z
- (1) $Y = 2*X + Z$
- (2) $W = Y + X$
- (3) $Z = W + Y$

$5X_0 + Z_0$

Correct Answer

$5X_0 + 2Z_0$

$3X_0 + Z_0$

- $3X_0 + 2Z_0$

Inanswered

Question 9

0 / 1 pts

Given the code below, what is the correct set of DU Paths?

Get a, b
 $X = 0$] Node 1

If $a \geq 5$ (Predicate I)
Then $c = x + 3$ (Node 2)
Else $c = 0$ (Node 3)

If $b < 4$ (Predicate II)
Then $b = c + 4$ (Node 4)
Else $b = c + 2$ (Node 5)

-
- Def1(a) = USEI(a)
Def1(b) = USEII(b)
Def1(x) = USE2(x)
 Def2(c) = USE4(c) || USE5(c)
-

- Def1(a) = USEI(a)
Def1(b) = USEII(b)
Def2(c) = USE4(c) || USE5(c)
 Def3(c) = USE4(c) || USE5(c)
-

- Def1(a) = USEI(a)
Def1(b) = USEII(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c)
 Def3(c) = USE4(c)

Correct Answer

Def1(a) = USEI(a)

Def1(b) = USEII(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(c)

Def3(c) = USE4(c) || USE5(c)

Inanswered**Question 10**

0 / 1 pts

True or False?

Static analysis techniques are applied during program execution.

Correct Answer

False

True

Unit 5 Practice Quiz

Due Apr 18 at 11:59pm **Points** 10 **Questions** 10

Time Limit None **Allowed Attempts** Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is only a practice quiz.

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	8 minutes	10 out of 10

Submitted Apr 18 at 10:25pm

Question 1

1 / 1 pts

True or False?

A good way to do a regression test is to rerun tests that evaluate any changed or deleted code.

False

True

Correct!

Question 2

1 / 1 pts

True or False?

Stress testing is usually performed over a long period of time, whereas volume testing is performed over a short period of time.

Correct!

False

True

Question 3

1 / 1 pts

True or False?

Testing based on most popular customer configurations minimizes risk in configuration testing.

False

True

Question 4

1 / 1 pts

True or False?

Performance and stress testing ideally should be scheduled at the end of testing.

True

False

Question 5

1 / 1 pts

True or False?

Stress testing does not require analysis of program outputs only whether or not the system crashes.

True

False

Correct!

Question 6

1 / 1 pts

True or False?

Performance requirements specify how load variation affects response time.

True

False

Correct!

Question 7

1 / 1 pts

True or False?

The following requirement is an example of a good performance requirement.

The system shall be available 99.999% of the time.

True

False

Correct!

Question 8

1 / 1 pts

Which is not a good way to create configuration combinations to test in configuration testing?

- Risk based testing
- Boundary value testing
- DOE Pairwise Combination Testing
- Randomized testing

Correct!

Question 9

1 / 1 pts

True or False?

Selective regression testing involves rerunning a selected subset of tests related to the software addition/modification.

- False
- True

Correct!

Question 10

1 / 1 pts

Which is not an entry criterion for performance testing?

- Representative test environment exists
- Performance requirements are defined and testable
- Stable system that is working
- Functional testing is complete

Correct!

Unit 6 Practice Quiz

Due Apr 18 at 11:59pm Points 10 Questions 10

Time Limit None Allowed Attempts Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is only a practice quiz.

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	5 minutes	9 out of 10
LATEST	Attempt 2	5 minutes	9 out of 10
	Attempt 1	2 minutes	5 out of 10

Submitted Apr 19 at 1:49pm

Question 1

1 / 1 pts

Which of the following is a correct security testing strategy?

- Testing only some ways to perform a given task
- Only testing correct forms of input
- Not forcing the system to use default values

Correct!

Attempting to fake the source of data and seeing if the system accepts it

Question 2**1 / 1 pts**

Which of the following is not a type of evaluation used during usability tests?

Correct!

- Generative evaluation
- Formative evaluation
- Summative evaluation

Question 3**1 / 1 pts**

True or False?

A system can have high availability even if it has low reliability.

Correct!

- True
- False

Question 4**1 / 1 pts**

True or False?

Reliability models require system testing to be performed with an operational profile.

Correct!

- False
- True

Question 5**1 / 1 pts**

Which of the following is not a step in constructing an operational profile of a system?

- Calculating the occurrence probability
- Identifying the occurrence rate
- Identifying major functions performed by system
- Identifying high risk features

Correct!**Question 6****0 / 1 pts**

True or False?

The goal of certification testing is to remove faults that have caused failures.

Correct Answer

- False

You Answered

- True

Question 7**1 / 1 pts**

Which of the following does not help achieve high reliability and availability in a system?

- specifying what failures need to be detected
- implementing defect prevention techniques

Correct!

- Verifying security requirements
- implementing fault tolerant design and code

Question 8**1 / 1 pts**

Which of the following is not a part of developing and running a usability test?

- Identifying test users
- Creating reasonable test tasks
- Piloting the test

Correct!

- Emphasizing that the user is being tested

Question 9**1 / 1 pts**

True or False?

The objective of serviceability testing is to verify that serviceability requirements are being met.

- False
- True

Correct!**Question 10****1 / 1 pts**

True or False?

Operational profiles can be used in performance analysis.

False

True

Correct!

Unit 7 Practice Quiz

Due No due date

Points 10

Questions 10

Time Limit None

Allowed Attempts Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is a practice quiz

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	4 out of 10

Submitted Apr 19 at 1:41pm

Question 1 0 / 1 pts

True or False?

POFA (pass of first attempt) helps with estimating system testing time.

Correct Answer

True

You Answered

False

Question 2 0 / 1 pts

Which of the following is not a factor that contributes to the number of errors created by developers in a software application?

Correct Answer

- the test environment

You Answered

- code complexity

- degree of code changes

- experience of the developers working on the code

Question 3

0 / 1 pts

True or False?

Risk management helps determine the amount of contingency time needed in a schedule.

Correct Answer

- True

You Answered

- False

Question 4

1 / 1 pts

True or False?

Having a list of effort and resources needed to perform tasks is not required when creating a test schedule.

Correct!

- False

- True

Question 5

1 / 1 pts

True or False?

High severity errors implies high priority errors.

Correct!

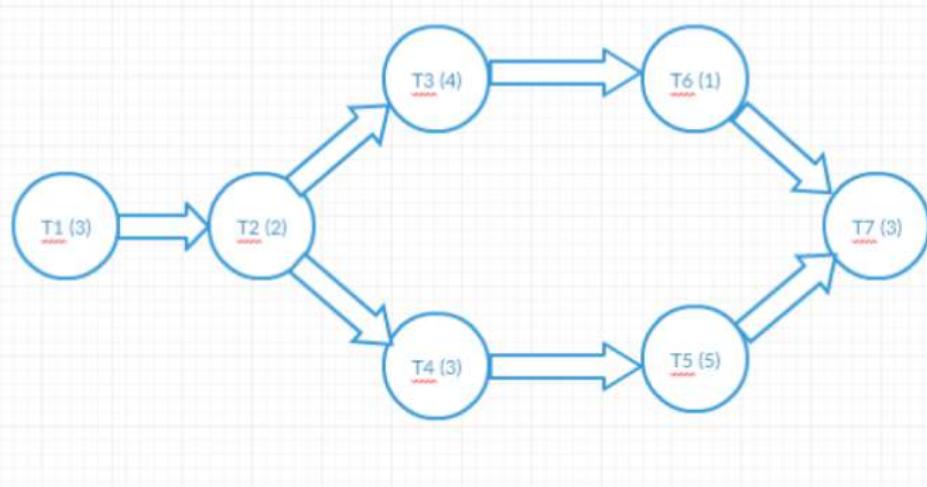
False

True

Question 6

0 / 1 pts

Given the following PERT chart, what is the minimum time to complete this project with the critical path?



Correct Answer

16

You Answered

13

17

21

Question 7

1 / 1 pts

True or False?

Agile methods require IEEE standards for test documentation to be followed.

True

False

Correct!

Question 8

0 / 1 pts

When should system test planning begin?

Design Phase

Testing Phase

Requirements Phase

Development Phase

You Answered

Correct Answer

Question 9

1 / 1 pts

True or False?

A contingency plan should be written against all risk items.

True

False

Correct!

Question 10**0 / 1 pts**

Which of the following is not addressed in a system test plan?

Correct Answer

- Expected Test results
- Test objectives
- Risk management
- Schedule

You Answered

Unit 8 Practice Quiz

Due Apr 19 at 11:59pm Points 10 Questions 10

Time Limit None Allowed Attempts Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is a practice quiz.

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	3 out of 10

Submitted Apr 18 at 10:31pm

Question 1

1 / 1 pts

True or False?

Software developers are not needed during test inspections.

Correct!

False

True

Question 2

0 / 1 pts

True or False?

Causal analysis involves identifying common causes among defects found.

Correct Answer True**You Answered** False**Question 3**

0 / 1 pts

True or False?

As part of the outsourcing contract, an organization might require that particular testing processes be followed.

You Answered False**Correct Answer** True**Question 4**

1 / 1 pts

True or False?

Post mortem analysis typically involves collection of data from many related projects.

Correct! False True**Question 5**

0 / 1 pts

True or False?

A popular causal analysis strategy is to ask variations of “why” five times.

You Answered False**Correct Answer** True**Question 6**

0 / 1 pts

Given the following tasks and earned values, is the project above, on, or below budget?

1A	30	2A	10
1B	50	2B	20
1C	20		

Week 1 To be Completed: 1A, 1B, 2A

Week 1 Actually Completed: 1A, 1B, 1C at a cost of 90

You Answered Above budget On budget**Correct Answer** Below budget**Question 7**

0 / 1 pts

True or False?

Continuous risk management is needed during tracking and oversight of an outsourced project.

You Answered False

Correct Answer True**Question 8**

0 / 1 pts

True or False?

Pair testing is similar to pair programming.

Correct Answer True**You Answered** False**Question 9**

1 / 1 pts

True or False?

GQM advocates that a project should collect as many metrics as possible.

 True False**Correct!****Question 10**

0 / 1 pts

True or False?

Testability implies having both visibility and control.

You Answered False

Correct Answer True

Unit 8 Practice Quiz Results for Vaishali Sharma

Submitted May 3 at 12:18am

In answered

Question 1

0 / 1 pts

True or False?

Software developers are not needed during test inspections.

Correct Answer

False

True

In answered

Question 2

0 / 1 pts

Given the following tasks and earned values, is the project above, on, or below budget?

1A	30	2A	10
1B	50	2B	20
1C	20		

Week 1 To be Completed: 1A, 1B, 2A

Week 1 Actually Completed: 1A, 1B, 1C at a cost of 90

Correct Answer

Below budget

On budget

Above budget

Inanswered**Question 3****0 / 1 pts**

Which of the following is not a component of a statement of work?

- Identify all tasks to be performed
- Identify maintenance responsibilities
- Identify relevant processes to be followed

Correct Answer

- budgeted cost of the work performed

Inanswered**Question 4****0 / 1 pts**

True or False?

Testability implies having both visibility and control.

Correct Answer

- True
- False

Inanswered**Question 5****0 / 1 pts**

True or False?

Pair testing is similar to pair programming.

Correct Answer

- True
- False

Inanswered

Question 6

0 / 1 pts

True or False?

As part of the outsourcing contract, an organization might require that particular testing processes be followed.

Correct Answer

 True False

Inanswered

Question 7

0 / 1 pts

True or False?

A popular causal analysis strategy is to ask variations of “why” five times.

 False

Correct Answer

 True

Inanswered

Question 8

0 / 1 pts

True or False?

Continuous risk management is needed during tracking and oversight of an outsourced project.

 False

Correct Answer

 True

Inanswered

Question 9

0 / 1 pts

Which of the following is not a process improvement phase?

- Process redesign
- Analyze the current process

Correct Answer

- Talk with members following the current process
- Characterize the target process

Inanswered

Question 10

0 / 1 pts

Given the following tasks and earned values, is the project ahead of, on, or behind schedule after week 1?

1A	30	2A	10
1B	50	2B	20
1C	20		

Week 1 To be Completed: 1A, 1B, 2A

Week 1 Actually Completed: 1A, 1B, 1C at a cost of 90

Correct Answer

- Ahead of schedule
- Behind schedule
- On schedule

Unit 7 Practice Quiz

Due No due date

Points 10

Questions 10

Time Limit None

Allowed Attempts Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is a practice quiz

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
KEPT	<u>Attempt 1</u>	less than 1 minute	4 out of 10
LATEST	<u>Attempt 2</u>	less than 1 minute	0 out of 10
	<u>Attempt 1</u>	less than 1 minute	4 out of 10

Submitted May 3 at 9:19pm

Inanswered

Question 1

0 / 1 pts

When should system test planning begin?

Correct Answer

- Requirements Phase
- Testing Phase
- Design Phase
- Development Phase

Inanswered

Question 2

0 / 1 pts

True or False?

Risk management helps determine the amount of contingency time needed in a schedule.

Correct Answer

True

False

Inanswered

Question 3

0 / 1 pts

Which of the following is not a curve used to analyze software readiness?

Correct Answer

Remaining defects in the software

Mean time to failure

Number of failures per unit of time

Failure intensity

Inanswered

Question 4

0 / 1 pts

True or False?

POFA (pass of first attempt) helps with estimating system testing time.

Correct Answer

True

False

Inanswered

Question 5

0 / 1 pts

True or False?

The testing strategy is determined by the test environment.

Correct Answer

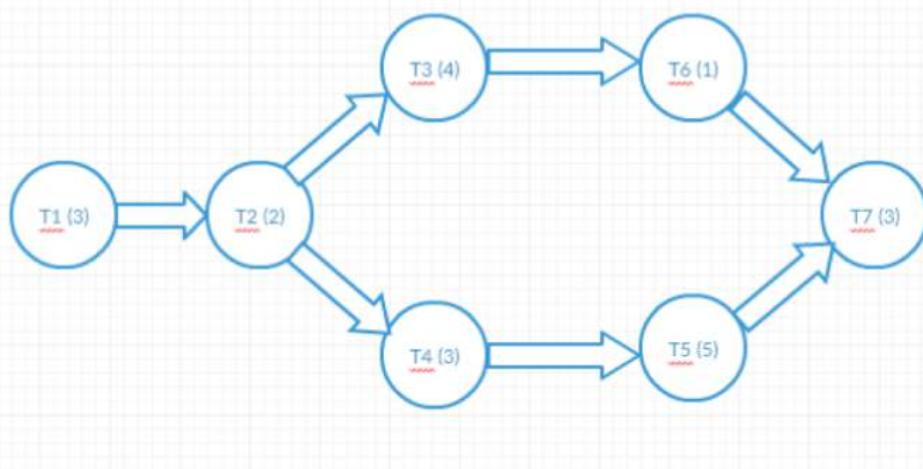
- False
- True

Inanswered

Question 6

0 / 1 pts

Given the following PERT chart, what is the minimum time to complete this project with the critical path?



Correct Answer

- 16
- 17
- 13
- 21

Inanswered

Question 7

0 / 1 pts

Which of the following is not a factor that contributes to the number of errors created by developers in a software application?

Correct Answer

- the test environment
- code complexity
- degree of code changes
- experience of the developers working on the code

Inanswered

Question 8

0 / 1 pts

Which of the following is not a reason for inaccurate estimates?

Correct Answer

- Losing personnel
- Overlooked tasks
- Lack of historical data
- Lack of analysis when developing estimates

Inanswered

Question 9

0 / 1 pts

True or False?

The quality of the program under test does not affect the time needed to test it.

Correct Answer

- False
- True

Inanswered**Question 10****0 / 1 pts**

True or False?

Agile methods require IEEE standards for test documentation to be followed.

Correct Answer False True

Unit 6 Practice Quiz Results for Vaishali Sharma

Submitted Apr 19 at 1:43pm

Question 1

1 / 1 pts

True or False?

System reliability and availability is affected by the ability of the system to detect and recover from failures.

False

True

Correct!

Question 2

1 / 1 pts

True or False?

The objective of serviceability testing is to verify that serviceability requirements are being met.

False

True

Correct!

Question 3

1 / 1 pts

Which of the following is a correct security testing strategy?

Correct!

Attempting to fake the source of data and seeing if the system accepts it

- Not forcing the system to use default values
- Testing only some ways to perform a given task
- Only testing correct forms of input

Question 4

0 / 1 pts

Which of the following is not a part of developing and running a usability test?

- Identifying test users
- Piloting the test

You Answered**Correct Answer**

- Emphasizing that the user is being tested
- Creating reasonable test tasks

Question 5

0 / 1 pts

Which of the following is not included in a good usability requirement?

- Learnability
- Efficiency

You Answered**Correct Answer**

- System accuracy
- Memorability

Question 6

1 / 1 pts

True or False?

Reliability models require system testing to be performed with an operational profile.

Correct! True False**Question 7**

1 / 1 pts

True or False?

Security testing focuses only on the system under test.

Correct! False True**Question 8**

0 / 1 pts

True or False?

Operational profiles can be used in performance analysis.

Correct Answer True**You Answered** False

Question 9

0 / 1 pts

Which of the following is not a type of evaluation used during usability tests?

Correct Answer Generative evaluation**You Answered** Formative evaluation Summative evaluation**Question 10**

0 / 1 pts

True or False?

Use cases can help with developing quantitative and measurable usability tests.

You Answered False**Correct Answer** True

Unit 5 Practice Quiz

Due Apr 18 at 11:59pm Points 10 Questions 10

Time Limit None Allowed Attempts Unlimited

Instructions

Complete the following quiz to confirm your understanding of the material covered in the unit's lecture videos as well as the work you completed for the unit assignments. This is only a practice quiz.

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
KEPT	Attempt 1	8 minutes	10 out of 10
LATEST	Attempt 2	less than 1 minute	0 out of 10
	Attempt 1	8 minutes	10 out of 10

Submitted May 3 at 9:19pm

Inanswered

Question 1

0 / 1 pts

True or False?

Performance and stress testing ideally should be scheduled at the end of testing.

Correct Answer

False

True

Inanswered

Question 2

0 / 1 pts

True or False?

Selective regression testing involves rerunning a selected subset of tests related to the software addition/modification.

False

Correct Answer

True

Inanswered**Question 3****0 / 1 pts****True or False?**

Performance requirements specify how load variation affects response time.

False

Correct Answer

True

Inanswered**Question 4****0 / 1 pts****True or False?**

Stress testing looks to verify the requirements of a system are met when the users are under stress.

False

Correct Answer

True

Inanswered**Question 5****0 / 1 pts**

True or False?

Regression testing is only performed at the system level.

Correct Answer

False

True

Inanswered

Question 6

0 / 1 pts

True or False?

Stress testing is usually performed over a long period of time, whereas volume testing is performed over a short period of time.

Correct Answer

False

True

Inanswered

Question 7

0 / 1 pts

True or False?

The following requirement is an example of a good performance requirement.

The system shall be available 99.999% of the time.

Correct Answer

False

True

Inanswered

Question 8

0 / 1 pts

Which is not a good way to create configuration combinations to test in configuration testing?

DOE Pairwise Combination Testing

Randomized testing

Boundary value testing

Risk based testing

Correct Answer

Inanswered

Question 9

0 / 1 pts

True or False?

Testing based on most popular customer configurations minimizes risk in configuration testing.

False

True

Correct Answer

Inanswered

Question 10

0 / 1 pts

True or False?

Stress testing does not require analysis of program outputs only whether or not the system crashes.

False

True

Correct Answer

Knowledge Check: Control Flow Testing

Due No due date **Points** 0 **Questions** 6
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	1 minute	0 out of 0

Submitted Apr 29 at 6:39pm

Question 1 0 / 0 pts

True or False?

Thoroughly executing all requirements guarantees full code coverage.

Correct!

False

There maybe undocumented requirements in the code.

True

Question 2 0 / 0 pts

Given the code below, which set of test cases will achieve 100% statement coverage?

If $a < 12$ and $b = 5$ or $c > 15$

$X = 50;$

Else

X = 25;

If X = 25

Z = 12;

Else

Z = 15;

Correct!

Test Case 1: A = 6, B=5, C=17, X=50

Test Case 2: A=15, B=3, C=8, X=25

Each statement is covered with 2 test cases.

A = 11, B=5, C=20, X=50

Test Case 1: A = 6, B=5, C=17, X=50

A=15, B=3, C=8, X=25

Question 3

0 / 0 pts

Given the code below, which set of test cases will achieve 100% decision coverage?

If a < 12 and b = 5 or c > 15

X = 50;

Else

X = 25;

If X = 25

Z = 12;

Else

Z = 15;

Correct!

- A=15, B=3, C=8, X=25

Test Case 1: A = 6, B=5, C=17, X=50

- Test Case 2: A=15, B=3, C=8, X=25

The first test case covers Decision 1 True and Decision 2 F. The second test case covers Decision 1 False and Decision 2 True.

- A = 11, B=5, C=20, X=50

- Test Case 1: A = 6, B=5, C=17, X=50

Question 4

0 / 0 pts

Given the code below, how many test cases are needed to achieve 100% decision condition coverage?

If a < 12 and b = 5 or c > 15

X = 50;

Else

X = 25;

- 3

We need to test the T/F outcome of each condition. This can be completed in 2 test cases, with each condition being true as a test case and each condition being false as a test case.

- 6

- 2

- 8

You Answered**Correct Answer**

Question 5**0 / 0 pts**

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If $a < 12$ and $b = 5$ or $c > 15$

$X = 50;$

Else

$X = 25;$

You Answered 6

A < 12 needs to be tested as T/F, $b = 5$ needs to be tested as T/F, and $c > 15$ needs to be tested as T / F, and every combination must be tested with each other. ($2 \times 2 \times 2 = 8$)

 2 8 3**Correct Answer****Question 6****0 / 0 pts**

Please choose the correct order in terms of the power of the different levels of control flow coverage.

Statement coverage < decision/condition coverage < decision coverage < multiple condition coverage

Statement coverage < decision coverage < multiple condition coverage < decision/condition coverage

Correct Answer

Statement coverage < decision coverage < decision/condition coverage
< multiple condition coverage

You Answered

Decision coverage < Statement coverage < decision/condition coverage < multiple condition coverage

Decision coverage always satisfies statement coverage. Decision /condition always satisfies decision coverage and statement coverage. Multiple condition coverage always satisfies the other three.

Knowledge Check: Structured Testing

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

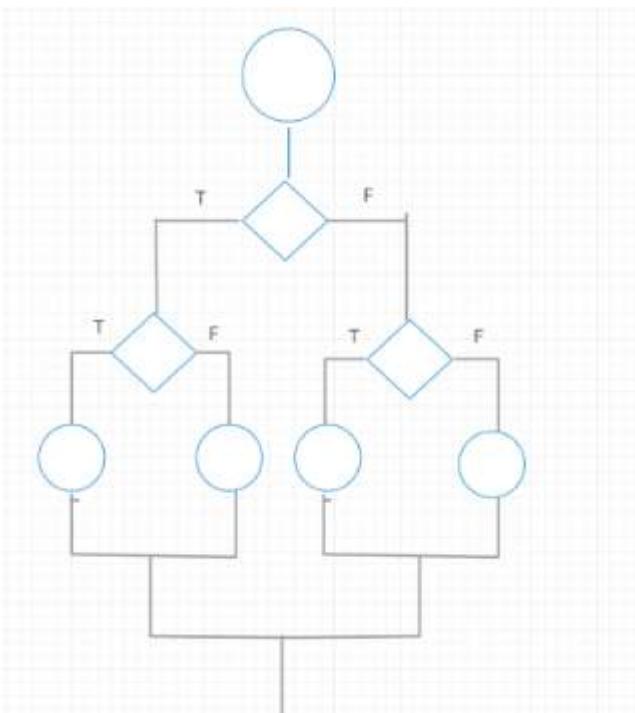
	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	2 minutes	0 out of 0

Submitted Apr 29 at 10:26pm

Question 1

0 / 0 pts

What is the cyclomatic complexity of the given control flow diagram?



3

7

Correct! 4

There are three test predicates and the formula is # of test predicates + 1.

 1**Question 2**

0 / 0 pts

TTT, FTT, TFT, TTF are possible basis paths for the given code.

if $x < 0$

 then S1

 else S2;

if $y < 0$

 then S3

 else S4;

if $z < 0$

 then S5

 else S6;

You Answered False

The first, second, and third decisions are flipped then reset, and then the process is repeated.

Correct Answer True**Question 3**

0 / 0 pts

True or False?

The number of basis paths is the minimum number of paths needed to build test cases and linear combinations for every other possible path.

False

True

This is the definition of basis paths.

Correct!

Knowledge Check: Data Flow Testing

Due No due date **Points** 0 **Questions** 4
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	6 minutes	0 out of 0

Submitted Apr 30 at 9:10am

Question 1 0 / 0 pts

What is not a variable set used in definition use coverage?

Correct Answer

S-Use(i)

You Answered

Def(i)

This is the set of variables defined in node i.

C-Use(i)

P-Use(i)

Question 2 0 / 0 pts

A definition use path is not always along a definition clear path.

Correct Answer False**You Answered** True

Definition use path is always along a definition clear path.

Question 3

0 / 0 pts

Given the code below, what is the correct set of DU Paths?

Get a, b
 $x = 0$



Node 1

If $a < 5$ (Predicate I)
 Then $c = x + 3$ (Node 2)
 Else $c = a + 2$ (Node 3)

If $b > 4$ (Predicate II)
 Then $y = c + 4$ (Node 4)
 Else $x = c + 2$ (Node 5)

Correct!

Def1(a) = USEI(a) || USE3(a)

Def1(b) = USEII(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(c)

 Def3(c) = USE4(c) || USE5(c)

There are 5 variables defined in the code, and each variable is displayed with the correct use.

Def1(a) = USEI(a) || USE3(a)

Def1(b) = USEII(b)

Def1(x) = USE2(x)

 Def2(c) = USE4(c) || USE5(c)

- Def1(a) = USE3(a)
Def1(b) = USEII(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c) || USE5(c)
 Def3(c) = USE4(c) || USE5(c)

- Def1(a) = USEI(a) || USE3(a)
Def1(b) = USEII(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c)
 Def3(c) = USE4(c)

Question 4

0 / 0 pts

Based on the code and the DU paths determined in Q3, what coverage do the test cases below provide?

A = 3; B=2

A=6, B=5

5/8

4/8

6/8

Correct!

Covered test cases bolded

- Def1(a) = **USEI(a)** || USE3(a)
Def1(b) = **USEII(b)**
Def1(x) = **USE2(x)**
Def2(c) = USE4(c) || **USE5(c)**
Def3(c) = USE4(c) || **USE5(c)**

7/8

Knowledge Check: Static Analysis

Due No due date

Points 0

Questions 2

Time Limit None

Allowed Attempts Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	2 minutes	0 out of 0

Submitted Apr 30 at 9:25am

Question 1 0 / 0 pts

Static analysis models the flow of the data in a program by looking at where variables are defined and used.

False

True

This is the definition of static analysis.

Correct!

Question 2 0 / 0 pts

What is not an example of a data flow anomaly?

Correct!

Variable is defined then referenced

This is not an anomaly. For example $x = 5; x = x + 3$.

- Variable defined then redefined without being referenced
- Referencing an undefined variable
- Defining a variable but never using it

Knowledge Check: Performance Testing

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted Apr 30 at 1:23pm

Question 1 0 / 0 pts

True or False?

Performance testing involves varying the load on the system and comparing the results against the performance requirements.

Correct!

True

The response time must be specified under various loads.

False

Question 2 0 / 0 pts

How can the following performance requirement be improved?

On Canvas, once an assignment is submitted, the confirmation screen should load quickly.

Correct Answer

- Under normal conditions of 100 students submitting an assignment on Canvas, the confirmation screen should load in less than 2 seconds.

You Answered

- Under normal conditions of 100 students submitting an assignment at the same time on Canvas, the confirmation screen should load in less than 2 seconds.

- Under normal conditions of 100 students submitting an assignment at the same time on Canvas, the confirmation screen should load quickly.

This requirement does not provide a quantitative measurement for quickly.

- When normal conditions of submitting an assignment at the same time on Canvas, the confirmation screen should load in less than 2 seconds.

Question 3

0 / 0 pts

True or False?

Analysis of resource usage helps identify potential sources of performance issues.

Correct!

- True

Seeing how resources are used/affected helps identify performance bottlenecks through looking at relationships.

- False

Knowledge Check: Stress Testing

Due No due date

Points 0

Questions 2

Time Limit None

Allowed Attempts Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted Apr 30 at 7:50pm

Question 1 0 / 0 pts

True or False?

Stress testing should be scheduled during the last couple of weeks of the project.

You Answered

True

Stress testing should begin earlier.

Correct Answer

False

Question 2 0 / 0 pts

Which of the following is not a stress testing step?

Identify the resources to stress

Measure and verify that stress is actually achieved.

Correct!

Determine an approach for saturating the resources

Run additional tests where stress is not generated

Additional testing is good but is not a part of stress testing.

Knowledge Check: Volume Testing

Due No due date **Points** 0 **Questions** 2
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	less than 1 minute	0 out of 0

Submitted Apr 30 at 7:59pm

Question 1 0 / 0 pts

True or False?

Volume testing looks to verify that a system meets its requirements when it is subjected to a large volume of activity over a short amount of time.

True

False

Volume testing is looking at activity over an extended period of time.

Correct!

Question 2 0 / 0 pts

What is not an error targeted by volume testing?

Memory leaks

Counter overflow

Resource depletion

logic errors

Functional testing techniques target logic errors.

Correct!

Knowledge Check: Configuration Testing

Due No due date **Points** 0 **Questions** 2
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted Apr 30 at 8:13pm

Question 1 0 / 0 pts

True or False?

Configuration testing looks to verify that the functional and performance requirements of a system are met for different configurations of the system.

Correct!

True

This is the definition of configuration testing.

False

Question 2 0 / 0 pts

Which of the following is not a strategy for configuration testing?

You Answered

- Test maximum and minimum configurations.
- Utilize design of experiments to identify configurations to test.

This is a practical strategy for structuring tests.

Correct Answer

- Execute tests on all possible configurations
- Select configurations to test based on risk of failure.

Knowledge Check: Regression Testing

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted Apr 30 at 9:33pm

Question 1 0 / 0 pts

True or False?

Regression testing ensures that the current software changes work with the system.

Correct Answer

False

You Answered

True

Regression testing ensures that previous software is still working with current software additions.

Question 2 0 / 0 pts

True or False?

Ripple effect analysis requires developers to identify the impact of changes on other requirements.

False

True

This is the definition of ripple effect analysis.

Correct!

Question 3

0 / 0 pts

Which of the following is not a reason why errors can be introduced in code?

Code ripple effects

None of these

All of the reasons are ways that errors can be introduced in code.

Changes in performance caused by code changes.

Unintended feature interactions

Knowledge Check: Error Detection, Recovery and Serviceability Testing

Due No due date **Points** 0 **Questions** 2
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 1 at 12:15am

Question 1 0 / 0 pts

True or False?

A system needs to detect and recover from all possible failures.

Correct Answer

False

You Answered

True

A system must be able to detect and recover from specified failures.

Question 2 0 / 0 pts

Which of the following activities is not normally a part of verifying a serviceability requirement?

Correct!

- Implement error recovery code

Implementing error recovery code is part of the development process and not part of verification.

- Problem correction

- Problem isolation

- Problem verification

Knowledge Check: Usability Testing

Due No due date

Points 0

Questions 3

Time Limit None

Allowed Attempts Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	less than 1 minute	0 out of 0

Submitted May 1 at 1:31am

Question 1 0 / 0 pts

What is not an objective of usability testing?

Ensuring that the user can perform tasks as intended

Correct!

Ensuring that the user does not access functions for which they do not have permission..

This is not a part of usability testing. This would be part of security testing.

Ensuring that the user is protected from possible actions

Ensuring that the user is satisfied by the interface

Question 2 0 / 0 pts

True or False?

Usability testing should be performed immediately after integration testing.

You Answered

True

Usability testing should begin early on during the prototyping phase.

Correct Answer

False

Question 3

0 / 0 pts

True or False?

Usability tests should also be reliable and valid.

Correct!

True

Tests should ensure that the results can be replicated and are testing something of relevance.

False

Knowledge Check: Reliability Testing and Operational Profiles

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 1 at 10:32am

Question 1 0 / 0 pts

Which of the following is not a method for obtaining operational profile data?

You Answered Marketing

This gives operational profile data of people who would want to use the system.

Competing systems

Existing systems

Tester opinions

Correct Answer

Question 2 0 / 0 pts

True or False?

"System failure during the next ten minutes is very likely." is an example of a reliability requirement.

You Answered True

Reliability requirements must be expressed in terms of probabilities. "Very likely" is not a probability.

Correct Answer False**Question 3**

0 / 0 pts

Five nines availability requires a maximum of how many minutes of unavailability per year?

 200 minutes 10 Minutes 5 Minutes

5 minutes is the requirement.

Correct! 999 minutes

Knowledge Check: Reliability Models

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	less than 1 minute	0 out of 0

Submitted May 1 at 10:58am

Question 1 0 / 0 pts

Which of the following is not a typical assumption made by reliability models?

- Operational profiles are always used.
- Models are represented by mathematical distributions.
- Failure intensity is constant.

Correct!

Models typically assume reliability will improve over time as defects are found and removed.

- No new errors are introduced by fixes.

Question 2 0 / 0 pts

True or False?

Software Reliability Growth models utilize historic data to predict system reliability.

Correct Answer

False

You Answered

True

Data is obtained from system testing, not historic data.

Question 3

0 / 0 pts

True or False?

Reliability models help to answer the question: “when do we stop testing?”.

Correct!

True

Models typically show how reliability changes over time and what our failure intensity is.

False

Knowledge Check: Security Testing

Due No due date

Points 0

Questions 3

Time Limit None

Allowed Attempts Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 1 at 11:05am

Question 1 0 / 0 pts

Which of the following does not need to be considered during security testing?

Correct Answer

Reliability

Availability

Confidentiality

Protection of data (i.e. passwords) is important.

Integrity

Question 2 0 / 0 pts

True or False?

Security testing checks to see if private data is protected from unauthorized users.

False

True

This is the definition of security testing.

Correct!

Question 3

0 / 0 pts

True or False?

Stress testing a system with low memory could result in a security risk.

Correct!

True

Stress testing with low memory could leave data unprotected.

False

Knowledge Check: Test Planning Overview

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 1 at 11:47pm

Question 1 0 / 0 pts

True or False?

Test planning is only needed for system testing.

True

False

Test plans should be written for all testing levels.

Correct!

Question 2 0 / 0 pts

True or False?

System test planning involves both an understanding of the test objectives and the constraints.

Correct! True

Test plans must address objectives and constraints.

 False**Question 3**

0 / 0 pts

Which of the following is not a component of a system test plan?

 Test Strategy Schedule Specification of the test environment Set of test cases and their expected results

Test cases are not a part of the test plan

Correct!

Knowledge Check: Test Schedule

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 1:30am

Question 1 0 / 0 pts

True or False?

A PERT chart helps document dependencies in a test schedule.

Correct Answer

True

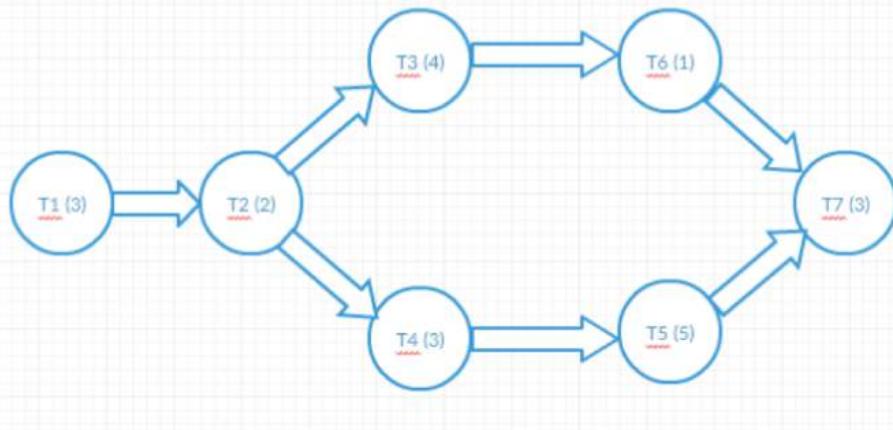
You Answered

False

PERT charts were designed to identify dependencies.

Question 2 0 / 0 pts

Given the following PERT chart, what is the minimum time to complete this project with only one person working?

**Correct Answer** 21 17 13**You Answered** 16

The time for each task must be added up if only completed by one person. $3 + 2 + 4 + 3 + 1 + 5 + 3 = 21$.

Question 3

0 / 0 pts

True or False?

A good way to encourage participants to commit to a schedule is provide them with an opportunity to help develop the schedule.

Correct! True

Having important contributions encourages participants to want to complete the project.

 False

Knowledge Check: Test Estimation

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:43am

Question 1 0 / 0 pts

Which of the following is not an approach for developing test estimates?

Correct!

- estimating the number of expected defects

Even if one were to know the expected number of defects, there is no basis for estimating the time to detect them.

- Using a cost estimation model
- Using a percentage of the development estimate
- Using historical data

Question 2 0 / 0 pts

True or False?

Size and complexity of a system affect the time needed to test it.

Correct! False True

Size and complexity are two factors that affect system testing time.

Question 3**0 / 0 pts**

True or False?

POFA (pass of first attempt) provides an early indication of the quality of code.

Correct! True

POFA is a percentage of tests that will pass on the first attempt.

 False

Knowledge Check: Test Estimation Steps

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 11:08am

Question 1 0 / 0 pts

True or False?

Effort estimation can take part before, concurrently, or after size estimation.

True

False

Effort is based upon the size of the project, and can only be determined after the size of the project is estimated.

Correct!

Question 2 0 / 0 pts

True or False?

A work breakdown structure (WBS) helps in bottom up estimation.

You Answered False

A WBS helps to organize the parts that were broken down during bottom up estimation.

Correct Answer True**Question 3**

0 / 0 pts

Which of the following is not a strategy for checking if an estimate is correct?

Correct! Randomly selecting estimates based on personal assumptions

This would most likely not provide a valid estimate.

 Checking that estimates for similar parts of a product are the same Looking at historical data Discussing with other experts

Knowledge Check: Risk Based Testing

Due No due date **Points** 0 **Questions** 2
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 11:16am

Question 1 0 / 0 pts

True or False?

It is good to test high risk areas areas early, but they do not need to be tested thoroughly.

True

False

High risk areas should be tested more thoroughly.

Correct!

Question 2 0 / 0 pts

True or False?

Testing should be prioritized based on the risk exposure.

Correct! True

Risk exposure is the probability of an adverse event occurring multiplied by the consequences. If this value is high, it should be tested first.

 False

Knowledge Check: Test Exit Criteria

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	1 minute	0 out of 0

Submitted May 2 at 11:46am

Question 1 0 / 0 pts

True or False?

Using historical data to predict defect density may not always lead to accurate predictions.

You Answered

False

The current project may be performing better than the historical data projects.

Correct Answer

True

Question 2 0 / 0 pts

True or False?

Defect seeding is typically used with operational profiles.

Correct! False

Defect pooling is typically used with operational profiles.

 True**Question 3**

0 / 0 pts

Given the following example, how many defects are estimated to be remaining?

Assume Group X found 20 defects and Group Y found 10 defects. 5 defects were common to both Group X and Group Y. What is the estimated remaining defects?

 5 25

(20+10)-5 = 25 unique defects. $(20*10)/5 = 40$ estimated total defects. Estimated remaining defects is estimated total defects – unique defects.

 40 15**You Answered****Correct Answer**

Knowledge Check: Test Documentation

Due No due date **Points** 0 **Questions** 4
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	2 minutes	0 out of 0

Submitted May 2 at 5:02pm

Question 1 0 / 0 pts

True or False?

Good test cases ideally map back to requirements and have their own identifiers.

Correct!

True

Mapping back to requirements ensures that the test cases are testing the input and output specifications. Identifiers help with traceability of test cases.

False

Question 2 0 / 0 pts

True or False?

Severity reflects the customer impact of the error.

Correct! True

This is the definition of severity.

 False**Question 3**

0 / 0 pts

What is not included in a test incident report description?

 Date and time

Date and time need to be included.

 Expected results Attempts to repeat Priority of the defect**Answered****Correct Answer****Question 4**

0 / 0 pts

Which of the following is not a part of a test summary report?

 Evaluation Recommendations for improving the testing process

This would be a part of a testing post mortem or project retrospective.

 Summary of what was tested

- Comprehensive assessments

Knowledge Check: Test Tracking

Due No due date

Points 0

Questions 3

Time Limit None

Allowed Attempts Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:40pm

Inanswered

Question 1 0 / 0 pts

True or False?

Earned values are used primarily to identify schedule variance.

Correct Answer

False

True

Inanswered

Question 2 0 / 0 pts

Given the following earned values, is the project ahead of, on, or behind schedule?

BCWS	150
BCWP	150

ACWP	100
------	-----

Correct Answer

- On schedule
- Behind schedule
- Ahead of schedule

Inanswered**Question 3**

0 / 0 pts

Which of the following is not a method to track test progress against a plan?

Correct Answer

- Looking at the percentage of requirements tested
- Looking at the percentage of tests that pass
- Looking at the percentage of tests developed
- Looking at the percentage of tests executed

Knowledge Check: Test Process Improvement

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:40pm

Inanswered

Question 1 0 / 0 pts

True or False?

When doing process improvement in an organization, the focus should be on examining the “official process”.

Correct Answer

False

True

Inanswered

Question 2 0 / 0 pts

True or False?

Analytics are important in performing objective process analysis.

Correct Answer

True

False

In answered

Question 3

0 / 0 pts

Which of the following is not a part of the Goal Question Metric (GQM) paradigm?

- Define the goals of the measurement process
- Delegate tasks to team members to reach the goals defined
- Derive questions that must be answered to meet the goals
- Develop metrics to answer the questions

Correct Answer

Knowledge Check: Test Outsourcing

Due No due date **Points** 0 **Questions** 4
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:40pm

Inanswered

Question 1 0 / 0 pts

True or False?

Outsourcing testing is always cheaper than performing the testing in-house.

True

False

Correct Answer

Inanswered

Question 2 0 / 0 pts

True or False?

When developing a subcontractor management plan, estimation is only performed by the subcontractor.

False

Correct Answer

True

In answered

Question 3

0 / 0 pts

Which of the following is not a component of an outsourcing agreement?

 Technical specifications Statement of work Specific team members working on the project Contract

Correct Answer

In answered

Question 4

0 / 0 pts

True or False?

Acceptance of work criteria are specified by the subcontractor.

 True False

Correct Answer

Knowledge Check: People Management

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:40pm

Inanswered

Question 1 0 / 0 pts

True or False?

Software testers are motivated by recognition of their accomplishments.

False

Correct Answer True

Inanswered

Question 2 0 / 0 pts

True or False?

A system test lead only has to interact with the test team0

True

Correct Answer False

Inanswered

Question 3**0 / 0 pts**

Which of the following may not be a primary motivator for software testers?

Correct Answer

- Money
- Pride in accomplishment
- Pride in contribution
- Pride in work

Knowledge Check: Software Inspections

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:40pm

Inanswered

Question 1 0 / 0 pts

True or False?

The primary goal of a good test documentation inspection is to educate the team.

Correct Answer

False

True

Inanswered

Question 2 0 / 0 pts

True or False?

Checklists guide the defect detection process.

False

Correct Answer

- True

Inanswered**Question 3****0 / 0 pts**

Which of the following is not part of the software inspection process?

- Advanced preparation
- Bring in potential fixes for any problems found
- Utilization of checklists
- Metrics analysis to help process improvement

Correct Answer

Knowledge Check: Causal Analysis

Due No due date **Points** 0 **Questions** 3
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:41pm

In answered

Question 1	0 / 0 pts
True or False?	
Causal analysis tries to identify the root cause of defects and ways to decrease future occurrences.	
<input type="radio"/> False	
Correct Answer	<input checked="" type="radio"/> True

In answered

Question 2	0 / 0 pts
True or False?	
Defects could be caused by miscommunication or oversight.	
<input type="radio"/> False	
Correct Answer	<input checked="" type="radio"/> True

Inanswered**Question 3****0 / 0 pts**

True or False?

Oversight issues could be reduced with better tools and checklists.

Correct Answer

True

False

Knowledge Check: Test Maturity Model

Due No due date **Points** 0 **Questions** 2
Time Limit None **Allowed Attempts** Unlimited

[Take the Quiz Again](#)

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 0

Submitted May 2 at 10:41pm

Inanswered

Question 1 0 / 0 pts

True or False?

If a company is at level 4 of CMMI, they will only have processes that are defined and documented.

Correct Answer

False

True

Inanswered

Question 2 0 / 0 pts

True or False?

TMMI starts to look at metrics in level 4.

Correct Answer

True

False

Question 5

1 / 1 pts

Given 2 input variables, age and height, an output of vitamins, and a function that computes the number of vitamins a person should take based on age and height, which method(s) can be used to test this example?

Correct!

- Cause Effect Analysis

Both cause effect analysis and equivalence partitioning

Mutation testing

Equivalence partitioning

Cause Effect Analysis. You selected this answer. This was the correct answer.

Question 6

0 / 5 pts

Question 6

0 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 5 and 10

Variable Y: has values 5 and 10

Variable Z: has values 5 and 10

What is the total 2-way variable value configuration coverage achieved by the following tests:

X=5; Y=5; Z=5

X=5; Y=10; Z=10

X=10, Y=10, Z=5

Correct Answer

9/12

You Answered

8/12

Possible combinations:

- X=5 Y=5;
- X=5 Z=5;
- Y=5 Z=5;
- X=5 Y=10;
- X=5 Z=10;
- Y=10 Z=10;
- X=10 Y=10;
- X=10 Z=5;
- Y=10 Z=5

Question 7

5 / 5 pts

Given 3 inputs: P1 with values V1, V2 and V3; P2 with values V4 and V5; P3 with values V6, V7 and V8, what are the correct tests for a pairwise combination design of experiments?

Correct!

V1	V4	V6
V2	V5	V7
V1	V4	V7
V2	V5	V6
V3	V4	V8
V3	V5	V8
V3	V4	V6
V1	V5	V8
V2	V4	V8
V3	V4	V7

Question 8

0 / 5 pts

What is one way to reduce the number of test cases in a cause and effect decision table?

Write as many test cases as there are partitions

Correct Answer

Make assumptions about how the partitions are related

Write as many test cases as there are partitions.

You Answered

- Write only valid test cases

Testing invalid cases is necessary to see how it affects the results

Question 9

5 / 5 pts

Equivalence partitioning is a good technique to utilize when there are multiple independent inputs.

Question 9

5 / 5 pts

Equivalence partitioning is a good technique to utilize when there are multiple independent inputs.

Correct!

- True

Equivalence partitioning must be applied with independent inputs. In the lecture example of $\text{abs}(x)$, it is necessary to test a negative value, 0, and a positive value which are all independent inputs.

False

Question 10

5 / 5 pts

False

Question 10

5 / 5 pts

(True or False) Fuzz testing consists of random, invalid or unexpected inputs that are created automatically.

Correct!

True

Fuzz testing is an approach to testing where invalid, random or unexpected inputs are automatically generated.

False

Question 11

0 / 5 pts

Why do defects cluster?

Because a developer intentionally includes them to be found by testers

You Answered

- Defects are actually distributed evenly across every thousand lines of code.

Because a developer intentionally includes them to be found by testers.

Defects are not evenly distributed due to them usually appearing because of the complexity of the code in certain areas, the ability of a developer who coded a certain portion, etc.

Because there are no changes happening to the codebase

Correct Answer

- Because of the complexity of code, programmer skill, etc.

Question 12

5 / 5 pts

Without using a calculator, what would be the expected output of this example using metamorphic testing for the third test case?

Initial Test: 5 10 15 20 25 Stan. Dev Result: 7.2

Second Test: 5 15 25 35 45 Stan Dev Result: 14.4

Third test: 15 20 25 30 35 Stan Dev Result: _____

14.4

28.8

3.6

7.2

The values are incremented by 5 in the third test, and thus has a standard deviation of 7.2

Correct!

Question 13

5 / 5 pts

Consider, as an example, a program that compute the cosine function ($\cos(x)$). Suppose the program produces output -0.3999 when run with input $x=42$ radians. An important property of the cosine function is $\cos(x)=\cos(-x)$.

Using this property, we design a new test case with $x=-42$. Assume the output of the program for this input is 0.4235 . And we concluded that the program is not correct.

What kind of testing did we do?

Correct!

- Metamorphic Testing

Using the metamorphic property we conducted a metamorphic testing.

Fuzz Testing

Mutation Testing

Explonatory Testing

Question 14

0 / 10 pts

Given the code below, how many test cases are needed to achieve 100% multiple condition coverage?

If $a > 15$ or $b < 2$ or $c > 5$

then $Y = 25$

else $Y = 30;$

If $w > 5$ or $z < 10$

then $X = 14$

else $X = 0;$

16

You Answered

32

Correct Answer

8

4

Question 16

0 / 10 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: A

10..100 (V)

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

71.. 80 (V)

81.. 90 (V)

<40 (I)

>90 (I)

2 valid tests and 2 invalid tests

You Answered

3 valid tests and 4 invalid tests

3 valid tests and 4 invalid tests

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

71.. 80 (V)

81.. 90 (V)

<40 (I)

>90 (I)

2 valid tests and 2 invalid tests

You Answered

3 valid tests and 4 invalid tests

3 valid tests and 4 invalid tests

Correct Answer

4 valid tests and 4 invalid tests

2 valid tests and 4 invalid tests

0 / 10 pts

Question 15

A new program for calculating auto insurance policy renewal premiums has been developed the the following rules. If one were to develop a decision table for testing this program, how many test cases / columns would be needed?

- 0 claims, age less than or equal to 22: raise by \$50;
- 0 claims, age greater than 22: raise by \$25
- 1 claims, age less than or equal to 22: raise by \$100;
- 1 claims, age greater than 22: raise by \$50
- 2 claims, age less than or equal to 22: raise by \$200;
- 3 or more claims regardless of age: cancel policy

12

4

You Answered

6

Correct Answer

8