1 CORRECT

With thorough testing it is possible to remove all defects from a program prior to delivery to the customer.

- **A)** True
- ✓ **B)** False

Section 18.1

2 CORRECT

Which of the following are characteristics of testable software?

- **A)** observability
- **B)** simplicity
- **C)** stability
- ✓ **D)** all of the above

Section 18.2

3 CORRECT

The testing technique that requires devising test cases to demonstrate that each program function is operational is called

- ✓ **A)** black-box testing
- **B)** glass-box testing
- **C)** grey-box testing
- **D)** white-box testing

Section 18.2

4 CORRECT

The testing technique that requires devising test cases to exercise the internal logic of a software module is called

- **A)** behavioral testing
- **B)** black-box testing
- **C)** grey-box testing
- ✓ **D)** white-box testing

Section 18.3

5

CORRECT

What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- **A)** behavioral errors
- **B)** logic errors
- **C)** performance errors
- **D)** typographical errors
- ✓ **E)** both b and d

Section 18.4.1

6 CORRECT

Program flow graphs are identical to program flowcharts.

- **A)** True
- ✓ **B)** False

Section 18.4.2

7 CORRECT

The cyclomatic complexity metric provides the designer with information regarding the number of

- **A)** cycles in the program
- **B)** errors in the program
- ✓ **C)** independent logic paths in the program
- **D)** statements in the program

Section 18.4.3

8 CORRECT

The cyclomatic complexity of a program can be computed directly from a PDL representation of an algorithm without drawing a program flow graph.

- ✓ **A)** True
- **B)** False

Section 18.5.1

9 CORRECT

Condition testing is a control structure testing technique where the criteria used to design test cases is that they

- **A)** rely on basis path testing
- ✓ **B)** exercise the logical conditions in a program module

C) select test paths based on the locations and uses of variables

D) focus on testing the validity of loop constructs

Section 18.5.2

10 CORRECT

Data flow testing is a control structure testing technique where the criteria used to design test cases is that they

A) rely on basis path testing

B) exercise the logical conditions in a program module

✓ C) select test paths based on the locations and uses of variables

D) focus on testing the validity of loop constructs

Section 18.5.3

11 CORRECT

Loop testing is a control structure testing technique where the criteria used to design test cases is that they

A) rely basis path testing

B) exercise the logical conditions in a program module

C) select test paths based on the locations and uses of variables

✓ D) focus on testing the validity of loop constructs

Section 18.6

12 CORRECT

Black-box testing attempts to find errors in which of the following categories

A) incorrect or missing functions

B) interface errors

C) performance errors

D) none of the above

✓ E) a, b, and c

Section 18.6.1

13 CORRECT

Graph-based testing methods can only be used for object-oriented systems

A) True

✓ ○ **B)** False

Section 18.6.2

14 CORRECT

Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.

✓ ○ **A)** True

○ **B)** False

Section 18.6.3

15 CORRECT

Boundary value analysis can only be used to do white-box testing.

○ **A)** True

✓ ○ **B)** False

Section 18.6.4

16 CORRECT

Orthogonal array testing enables the test designer to maximize the coverage of the test cases devised for relatively small input domains.

✓ ○ **A)** True

○ **B)** False

Section 18.7

17 INCORRECT

Test derived from behavioral class models should be based on the

○ **A)** data flow diagram

○ **B)** object-relation diagram

✓ ○ **C)** state transition diagram

○ **D)** use-case diagram

Section 18.8.2

18 CORRECT

Client/server architectures cannot be properly tested because network load is highly variable.

A) True

✓ B) False

Section 18.8.4

19 CORRECT

Real-time applications add a new and potentially difficult element to the testing mix

A) performance

B) reliability

C) security

✓ D) time

---

14 CORRECT

Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.

✓ A) True

B) False

Feedback:

16 CORRECT

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

A) True

✓ B) False

Feedback:

17 CORRECT

Orthogonal array testing enables the test designer to maximize the coverage of the test cases devised for relatively small input domains.

✓ A) True

B) False

Feedback:

18 CORRECT

Test case design "in the small" for OO software is driven by the algorithmic detail of the individual operations.

✓ A) True

B) False

Feedback:

19 CORRECT

Encapsulation of attributes and operations inside objects makes it easy to obtain object state information during testing.

A) True

✓ B) False

Feedback:

20 CORRECT

Use-cases can provide useful input into the design of black-box and state-based tests of OO software.

✓ A) True

B) False

Feedback:

21 INCORRECT

Fault-based testing is best reserved for

A) conventional software testing

✓ B) operations and classes that are critical or suspect

C) use-case validation

D) white-box testing of operator algorithms

Feedback:

22 CORRECT

Testing OO class operations is made more difficult by

A) encapsulation

B) inheritance

C) polymorphism

✓ D) both b and c

Feedback:

23 INCORRECT

Scenario-based testing

✓ A) concentrates on actor and software interaction

B) misses errors in specifications

C) misses errors in subsystem interactions

D) both a and b

Feedback:

24 CORRECT

Deep structure testing is not designed to

A) examine object behaviors

B) exercise communication mechanisms

C) exercise object dependencies

✓ D) exercise structure observable by the user

Feedback:

25 **CORRECT**

Random order tests are conducted to exercise different class instance life histories.

✓ **A)** True

B) False

Feedback:

---

26 **INCORRECT**

Which of these techniques is not useful for partition testing at the class level

A) attribute-based partitioning

B) category-based partitioning

✓ **C)** equivalence class partitioning

D) state-based partitioning

Feedback:

---

27 **INCORRECT**

Multiple class testing is too complex to be tested using random test cases.

A) True

✓ **B)** False

Feedback:

---

28 **CORRECT**

Tests derived from behavioral class models should be based on the

A) data flow diagram

B) object-relation diagram

✓ **C)** state diagram

D) use-case diagram

Feedback:

---

29 **CORRECT**

Client/server architectures cannot be properly tested because network load is highly variable.

A) True

✓ **B)** False

Feedback:

---

18 **CORRECT**

Documentation does not need to be tested.

A) True

✓ **B)** False

Feedback: (Section 23.8)