Final 1 Module B 2020

Due Dec 16 at 11:59pm **Points** 25 **Questions** 25
Time Limit 35 Minutes

Instructions

The questions on this quiz are based mainly on:

- Module 7 - Design (especially chapter 9 and chapter 11 slides)
- Module 10 - Testing (especially the slides)
- Module 11 - Formal Reasoning (especially the slides and recordings)

There may also be a couple questions from the first half of the course.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	30 minutes	23 out of 25

ⓘ Correct answers will be available on Dec 16 at 12am.

Score for this quiz: **23** out of 25
Submitted Dec 11 at 9:44pm
This attempt took 30 minutes.

Question 1 — 1 / 1 pts

What Java mechanism or feature directly supports information hiding of class members?

- (●) access modifiers
- ( ) instance variables
- ( ) Javadocs

- static fields

Incorrect

Question 2

0 / 1 pts

Cohesion is a qualitative indication of the degree to which a module

- can be written more compactly
- focuses on just one thing
- is able to complete its function in a timely manner
- is connected to other modules and the outside world

Question 3

1 / 1 pts

Software coupling is a sign of poor design and can always be avoided.

- True
- False

Question 4

1 / 1 pts

Which UML diagram is least likely to influence user interface design?

- Activity diagram

- (selected) Class diagram
- State diagram
- Use case diagram

Question 5

1 / 1 pts

In the Object-Oriented view, a component can be seen as a set of collaborating classes.

- (selected) True
- False

Question 6

1 / 1 pts

What design principle states that “many client specific interfaces are better than one general purpose interface”?

- Program to Abstractions, not Concretions
- The Dependency Inversion Principle
- (selected) The Interface Segregation Principle
- The Open-Closed Principle

Question 7

1 / 1 pts

In strict design-by-contract, a precondition must be checked by *both* the caller and the implementer.

- ○ True
- ◉ False

Question 8

1 / 1 pts

The Liskov substitution principle states that:

- ○ you should be able to extend a class without modifying its code
- ○ you should be able to inline functions and expressions without breaking the code
- ○ you should be able to pass functions as first-class objects to other functions
- ◉ you should be able to substitute a subclass for a parent class without breaking the code

Question 9

1 / 1 pts

This occurs when one component surreptitiously modifies data that is internal to another component.

- Common coupling
- Content coupling
- Import coupling
- Functional cohesion

Question 10

1 / 1 pts

Which of the following is considered the least harmful kind of coupling?

- Common coupling
- Content coupling
- Global coupling
- Type-use coupling

Question 11

1 / 1 pts

Which of the following is NOT true about having the developer test their own software.

- A good developer should be writing unit tests
- The developer is driven by delivery
- The developer must learn about the system under test
- The developer will tend to test "gently"

Question 12

1 / 1 pts

What is the normal order of activities in which traditional software testing is organized?

- integration, unit, system, and validation testing
- unit, system, integration, and validation testing
- unit, integration, validation, and system testing
- validation, integration, unit, and system testing

Question 13

1 / 1 pts

Acceptance tests are normally conducted by the

- developer
- end users
- test team
- systems engineers

Question 14

1 / 1 pts

What kind of testing executes a system so that it demands resources in abnormal quantity, frequency, or volume?

- Alpha testing
- Performance testing
- Recovery testing
- Stress testing

Question 15

1 / 1 pts

Performance testing is only important for real-time or embedded systems.

- True
- False

Question 16

1 / 1 pts

In this type of testing, the implementation is hidden.

- black-box testing
- glass-box testing
- smoke-box testing
- white-box testing

Question 17

1 / 1 pts

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

- behavioral testing
- black-box testing
- grey-box testing
- white-box testing

Question 18

1 / 1 pts

The shortest path through a flow graph that covers a new edge will give you

- a linearly independent path
- a new control node
- a white-box text case
- an alternative flow graph

Question 19

1 / 1 pts

How many predicate nodes does the following code have?

```
while (cond1) {
    if (cond2) {
        x++;
    } else {
        x--;
    }
}
```

- 1
- 2
- 3
- 4

Incorrect

Question 20

0 / 1 pts

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

- True
- False

Question 21

1 / 1 pts

An informal specification is usually written in a natural language (like English) whereas a formal specification is written in a mathematical language that a computer can understand.

- True

False

Question 22

1 / 1 pts

Which of the following is NOT a benefit of informal specification?

- They are easier to write than formal specifications
- They are precise and unambiguous
- Pictures and diagrams can help users easily grasp the behavior
- Understanding them does not require a lot of math

Question 23

1 / 1 pts

One challenge to writing a verifying compiler is that coming up with a program that can automatically prove general logical assertions is difficult.

- True
- False

Question 24

1 / 1 pts

This object-oriented development activity emphasizes finding and describing the objects in the problem domain.

- Requirements gathering
- Analysis
- Design
- Testing

Question 25

1 / 1 pts

Which of the following is NOT a principle of agile development?

- Always consider the architecture of the system to be built
- At regular intervals, the team reflects on how to become more effective
- Simplicity - the art of maximizing the work not done - is essential
- The best architectures, requirements, and designs emerge from self-organizing teams

Quiz Score: **23** out of 25