

一、客观题

- 1: The importance of software design can be summarized in a single word
 - A) accuracy
 - B) complexity
 - C) efficiency
 - D) quality
- 2: Which of the following models can be used to represent the architectural design of a piece of software.
 - A) Dynamic models
 - B) Functional models
 - C) Structural models
 - D) All of the above
- 3: Which of the following is not one of the five design class types
 - A) Business domain classes
 - B) Entity classes
 - C) Process classes
 - D) User interface classes
- 4: Which of these are characteristics of a good design?
 - A) exhibits strong coupling between its modules
 - B) implements all requirements in the analysis model
 - C) includes test cases for all components
 - D) provides a complete picture of the software
 - E) both b and d
- 5: Which design model is analogous to the detailed drawings of the access points and external utilities for a house?
 - A) Architectural design
 - B) Component-level design
 - C) Data design
 - D) Interface design
- 6: When using structured design methodologies the process of stepwise refinement is unnecessary.
 - A) True
 - B) False
- 7: Software design is an iterative generic process that may be applied without modification to any software project.
 - A) True
 - B) False
- 8: Cohesion is a qualitative indication of the degree to which a module
 - A) can be written more compactly.
 - B) focuses on just one thing.
 - C) is able to complete its function in a timely manner.
 - D) is connected to other modules and the outside world.
- 9: Polymorphism reduces the effort required to extend an object system by
 - A) coupling objects together more tightly.

- B) enabling a number of different operations to share the same name.
- C) making objects more dependent on one another.
- D) removing the barriers imposed by encapsulation

10: Information hiding makes program maintenance easier by hiding data and procedure from unaffected parts of the program.

- A) True
- B) False

11: Which design is analogous to the floor plan of a house?

- A) Architectural design
- B) Component-level design
- C) Data design
- D) Interface design

12: Which of the following is not a characteristic common to all design methods?

- A) configuration management
- B) functional component
- C) notation quality assessment
- D) guidelines refinement heuristics

13: Since modularity is an important design goal it is not possible to have too many modules in a proposed design.

- A) True
- B) False

14: Which of the following are areas of concern in the design model?

- A) architecture
- B) data
- C) interfaces
- D) project scope
- E) a, b and c

15: The deployment design elements specify the build order for the software components.

- A) True
- B) False

16: Design patterns are not applicable to the design of object-oriented software?

- A) True
- B) False

17: Design patterns are best thought of as coding patterns.

- A) True
- B) False

18: Which design model elements are used to depict a model of information represented from the user's view?

- A) Architectural design elements
- B) Component-level design elements
- C) Data design elements
- D) Interface design elements

19: Which design model is analogous to a set of detailed drawings for each room in a house?

- A) Architectural design

- B) Component-level design
- C) Data design
- D) Interface design

20: One of the key problems in software reuse is the inability to find existing reusable design patterns when hundreds of candidates exist.

- A) True
- B) False

21: Frameworks and design patterns are the same thing as far as designers are concerned.

- A) True
- B) False

22: Software designs are refactored to allow the creation of software that is easier to integrate, easier to test, and easier to maintain.

- A) True
- B) False

23: What types of abstraction are used in software design?

- A) control
- B) data
- C) environmental
- D) procedural
- E) a, b and d

24: Coupling is a qualitative indication of the degree to which a module

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

25: Information hiding makes program maintenance easier by hiding data and procedure from unaffected parts of the program.

- A) True
- B) False

26: Inheritance provides a mechanism by which changes to lower level classes can be propagated to all super classes quickly.

- A) True
- B) False

二、主观题

27: What are the elements that make up a software architectural style?

28: Describe the principle of information hiding as it applies to software design.

29: List the four design models required for a complete specification of a software design and the role of each.

30: Describe the differences between a design pattern and a framework.

- 31: Describe the types of dependencies that can exist in an architectural design.
- 32: How is a transaction center different from a transform center in a data flow diagram?
- 33: Explain how effective modular design is achieved through functional independence of the individual modules?
- 34: List three characteristics that can serve as a guide to evaluate design quality.
- 35: What is the goal of data design?