

Software Question Bank

1. What is software engineering primarily concerned with?

- a) Hardware development
- b) Professional software development
- c) Marketing software
- d) Designing hardware

Answer: b) Professional software development

2. Which is NOT a fundamental software engineering activity?

- a) Software specification
- b) Software validation
- c) Software marketing
- d) Software evolution

Answer: c) Software marketing

3. What is the primary goal of software engineering?

- a) Develop hardware
- b) Produce reliable software quickly
- c) Replace computer science
- d) Focus on maintenance

Answer: b) Produce reliable software quickly

4. What is the difference between software engineering and computer science?

- a) CS focuses on theory; SE on practical development
- b) CS focuses on hardware; SE on software
- c) No difference
- d) CS is a subset of SE

Answer: a) CS focuses on theory; SE on practical development

5. What is the most common type of software cost?

- a) Hardware costs
- b) Maintenance costs
- c) Marketing costs
- d) Training costs

Answer: b) Maintenance costs

6. Which is a key attribute of good software?

- a) High complexity
- b) Maintainability
- c) High storage use
- d) Limited usability

Answer: b) Maintainability

7. What is the primary purpose of software validation?

- a) Design software
- b) Ensure software meets requirements
- c) Market software
- d) Replace evolution

Answer: b) Ensure software meets requirements

8. Which is an example of customized software?

- a) PC graphics software
- b) Air traffic control software
- c) Project management tools
- d) CAD software

Answer: b) Air traffic control software

9. What is the main characteristic of plan-driven processes?

- a) Highly flexible
- b) Activities planned in advance
- c) Focus on maintenance
- d) No planning

Answer: b) Activities planned in advance

10. What is the primary focus of software evolution?

- a) Develop new hardware
- b) Modify software for changing needs
- c) Replace validation
- d) Focus on specification

Answer: b) Modify software for changing needs

11. What is the primary challenge in software engineering today?

- a) Decreasing diversity
- b) Coping with diversity and faster delivery
- c) Lack of interest
- d) Decreasing complexity

Answer: b) Coping with diversity and faster delivery

12. Which characteristic affects software development?

- a) Low malleability
- b) High complexity
- c) Limited size
- d) Low dependability

Answer: b) High complexity

13. What is the primary purpose of the waterfall model?

- a) Allow continuous changes
- b) Follow a sequential process
- c) Focus on testing
- d) Replace agile methods

Answer: b) Follow a sequential process

14. What is the main goal of requirements engineering?

- a) Design architecture
- b) Establish required services and constraints
- c) Replace validation
- d) Focus on implementation

Answer: b) Establish required services and constraints

15. What is the primary purpose of system testing?

- a) Test individual components
- b) Test the system as a whole
- c) Replace component testing
- d) Focus on acceptance testing

Answer: b) Test the system as a whole

16. What is the primary focus of software specification?

- a) Design architecture
- b) Define software requirements
- c) Replace validation
- d) Focus on implementation

Answer: b) Define software requirements

17. What is a key activity in software design?

- a) Marketing software
- b) Architectural design
- c) Replacing validation
- d) Focusing on evolution

Answer: b) Architectural design

18. What is the primary purpose of software validation?

- a) Ensure software meets requirements

- b) Design architecture
- c) Replace evolution
- d) Focus on specification

Answer: a) Ensure software meets requirements

19. What is the main characteristic of agile processes?

- a) Rigid and inflexible
- b) Incremental planning
- c) Focus on maintenance
- d) No planning

Answer: b) Incremental planning

20. What is the primary purpose of software evolution?

- a) Develop new hardware
- b) Modify software for changing needs
- c) Replace validation
- d) Focus on specification

Answer: b) Modify software for changing needs

1.1.1

21. What is the primary purpose of requirements engineering?

- a) Design architecture
- b) Establish required services and constraints
- c) Replace validation
- d) Focus on implementation

Answer: b) Establish required services and constraints

22. What is the main goal of software validation?

- a) Ensure software meets requirements
- b) Design architecture
- c) Replace evolution
- d) Focus on specification

Answer: a) Ensure software meets requirements

23. What is the primary focus of software design?

- a) Define requirements
- b) Convert specification into executable system
- c) Replace validation
- d) Focus on evolution

Answer: b) Convert specification into executable system

24. What is the main purpose of system testing?

- a) Test individual components
- b) Test the system as a whole
- c) Replace component testing
- d) Focus on acceptance testing

Answer: b) Test the system as a whole

25. What is the primary purpose of software evolution?

- a) Develop new hardware
- b) Modify software for changing needs

- c) Replace validation
- d) Focus on specification

Answer: b) Modify software for changing needs

1.1.2

26. What is the primary purpose of software specification?

- a) Design architecture
- b) Define requirements
- c) Replace validation
- d) Focus on implementation

Answer: b) Define requirements

27. What is the main characteristic of software that affects its development?

- a) Low malleability
- b) High complexity
- c) Limited size
- d) Low dependability

Answer: b) High complexity

28. What is the primary challenge in software engineering today?

- a) Decreasing diversity
- b) Coping with diversity and faster delivery
- c) Lack of interest
- d) Decreasing complexity

Answer: b) Coping with diversity and faster delivery

29. What is the primary focus of software evolution?

- a) Develop new hardware
- b) Modify software for changing needs
- c) Replace validation
- d) Focus on specification

Answer: b) Modify software for changing needs

30. What is the main goal of software validation?

- a) Ensure software meets requirements
- b) Design architecture
- c) Replace evolution
- d) Focus on specification

Answer: a) Ensure software meets requirements

31. What is the first stage in the Requirements Engineering Process?

- A) Requirements validation
- B) Requirements specification
- C) Requirements elicitation and analysis
- D) System descriptions

Answer: C) Requirements elicitation and analysis

32. What is the overall goal of real software processes?

- A) To write code quickly
- B) To specify, design, implement, and test a software system
- C) To create user interfaces
- D) To manage project budgets

Answer: B) To specify, design, implement, and test a software system

True/false:

1. Software engineering is concerned with all aspects of software production, from specification to maintenance. (True)
2. Software costs are usually lower than hardware costs in computer systems. (False)
3. Good software should be maintainable, dependable, and usable. (True)
4. Software engineering focuses on theory, while computer science focuses on practical software development. (False)
5. The waterfall model organizes software development activities in a sequential manner. (True)
6. Agile processes involve planning all activities in advance and sticking to the plan without changes. (False)
7. Software validation ensures that the software meets the customer's requirements. (True)
8. Embedded control systems are software systems that control and manage hardware devices. (True)
9. Software evolution involves modifying the software to reflect changing customer needs. (True)
10. System testing focuses on testing individual components in isolation. (False)
11. Dependability and performance are important for all types of software systems. (True)
12. Software design and implementation are unrelated activities. (False)
13. The requirements engineering process includes requirements validation. (True)
14. Component testing involves testing the system as a whole. (False)
15. It is usually more expensive to use software engineering methods than to write programs without them. (False)