

Software Engineering - MCQs and True/False Questions

1. What is Brooks's Law?
 - a) Adding more people to a late project speeds it up
 - b) Adding more people to a late project makes it later
 - c) Fewer people make the project faster
 - d) Projects always need more people

2. Which software life cycle model emphasizes validation and verification at each step?
 - a) Waterfall
 - b) RAD
 - c) V-Model
 - d) Prototyping

3. What is the primary goal of Configuration Management (CM)?
 - a) Manage project costs
 - b) Control and track changes in software
 - c) Ensure faster development
 - d) Reduce the number of developers needed

4. What is the Capability Maturity Model (CMM) used for?
 - a) Improving software tools
 - b) Measuring and improving software development processes
 - c) Reducing costs in software projects
 - d) Adding more features to software

5. Which of the following is NOT part of McCall's Quality Model?
 - a) Correctness
 - b) Reliability
 - c) Flexibility

d) Integrity

6. Agile development primarily focuses on:

- a) Comprehensive documentation
- b) Customer collaboration and rapid delivery
- c) Waterfall development
- d) Using heavy-weight tools

7. In TQM, the focus is primarily on:

- a) Cost reduction only
- b) Customer value, continuous improvement
- c) Following strict rules
- d) Rapid prototyping

8. What does the 'Defined' level in CMM indicate?

- a) Software development is ad-hoc
- b) Standard processes are in place across the organization
- c) Basic project management techniques are in use
- d) No formal procedures

9. Which attribute of quality refers to the ease with which software can be adapted to new requirements?

- a) Usability
- b) Maintainability
- c) Portability
- d) Testability

10. In the V-Model, each development stage has a corresponding:

- a) Coding stage

- b) Testing phase
- c) Documentation step
- d) Design meeting

11. True or False: The Waterfall model includes feedback after each stage.

12. True or False: Brooks's Law states that adding more people to a late project makes it finish on time.

13. True or False: In Agile development, customer collaboration is more important than strict adherence to the original plan.

14. True or False: The Capability Maturity Model (CMM) helps in improving software product features directly.

15. True or False: Configuration Management focuses only on managing project budgets.

16. True or False: ISO 9126 focuses exclusively on internal software quality attributes like lines of code.

17. True or False: McCall's Quality Model includes attributes like correctness and reliability.

18. True or False: TQM encourages reactive approaches to quality management.

19. True or False: In CMM Level 1 (Initial), software processes are ad-hoc and chaotic.

20. True or False: Prototyping in software development helps to gather early feedback from users.

21. Which software development approach values individuals and interactions over processes and tools?

- a) Waterfall
- b) Agile

c) V-Model

d) RAD

22. What does the 'Optimizing' level in CMM focus on?

a) Fixing bugs

b) Continuous process improvement

c) Adding more developers

d) Reducing costs

23. Which quality attribute refers to the ability of software to function under specified conditions?

a) Usability

b) Reliability

c) Flexibility

d) Efficiency

24. In ISO 9126, 'Functionality' includes which of the following?

a) Integrity and usability

b) Suitability and accuracy

c) Maintainability and portability

d) Flexibility and reusability

25. Which of the following is an example of a heavyweight development method?

a) Agile

b) Waterfall

c) XP

d) Scrum

26. Which CMM level introduces the concept of 'Quantitative Management'?

a) Level 1

- b) Level 2
- c) Level 3
- d) Level 4

27. Which process involves the systematic identification, control, and audit of software artifacts?

- a) Configuration Management
- b) Software Testing
- c) Software Estimation
- d) Software Debugging

28. Agile emphasizes which of the following?

- a) Documentation over working software
- b) Following a strict plan
- c) Customer collaboration
- d) Delayed product releases

29. What is the main benefit of using Prototyping in software development?

- a) It increases the speed of coding
- b) It helps in getting early feedback from users
- c) It reduces the cost of software
- d) It avoids the need for testing

30. What is the goal of ISO 9001?

- a) Increase software functionality
- b) Improve software quality processes
- c) Reduce project costs
- d) Add new features to the software

31. True or False: The V-Model emphasizes validation and verification after each development step.

32. True or False: Configuration Management helps in tracking changes in the software code only.
33. True or False: TQM focuses on continuous improvement and customer value.
34. True or False: In CMM Level 5 (Optimizing), the focus is on managing costs.
35. True or False: The Waterfall model is a linear approach to software development.
36. True or False: XP (Extreme Programming) includes practices like pair programming and small releases.
37. True or False: The 'Initial' level in CMM indicates that processes are standardized and documented.
38. True or False: ISO 9126 focuses on both product and process quality.
39. True or False: Brooks's Law implies that adding more people to a late project always reduces delivery time.
40. True or False: Agile development encourages frequent product releases and close customer collaboration.
41. Which of the following models focuses on delivering software in small increments?
- a) Agile
 - b) Waterfall
 - c) V-Model
 - d) Spiral
42. In the CMM model, what is the focus of the 'Defined' level?
- a) Basic project management
 - b) Standard processes for software development across the organization
 - c) Chaotic, unstructured processes

d) Fixing bugs

43. Which quality attribute refers to how easily software can be ported to a new environment?

a) Maintainability

b) Portability

c) Reliability

d) Usability

44. Which methodology uses time-boxed iterations and continuous feedback?

a) Waterfall

b) RAD

c) Agile

d) V-Model

45. What does the 'Repeatable' level in CMM focus on?

a) Ad-hoc processes

b) Basic project management techniques

c) Continuous improvement

d) Delivering software faster

46. What is the primary goal of Software Configuration Management (SCM)?

a) Ensure faster development

b) Manage and track changes in software artifacts

c) Reduce the cost of software

d) Improve software security

47. Which attribute refers to how easily software can be tested?

a) Usability

b) Testability

- c) Flexibility
- d) Reliability

48. What is a primary focus of McCall's Quality Model?

- a) Efficiency
- b) Integrity
- c) Reliability
- d) Usability

49. In Agile, which is prioritized over comprehensive documentation?

- a) Customer collaboration
- b) Following strict schedules
- c) Cost management
- d) Feature development

50. In CMM Level 4, what is used to manage and improve projects?

- a) Standardized processes
- b) Quantitative measurements
- c) Customer feedback
- d) Test cases