1. What is Software Engineering?
A) Designing websites
B) Applying engineering to software development
C) Installing software
D) Writing code only
✅ **Answer:** B) Applying engineering to software development

---

2. Which of the following is *not* a characteristic of good software?
A) Maintainability
B) Complexity
C) Efficiency
D) Usability
✅ **Answer:** B) Complexity

---

3. Software engineering paradigms include:
A) Code paradigm only
B) Procedural paradigm only
C) Programming, Design, and Process paradigms
D) Hardware paradigm
✅ **Answer:** C) Programming, Design, and Process paradigms

---

4. What does the programming paradigm focus on?
A) Hardware management
B) Writing programs
C) Database queries
D) Documenting software
✅ **Answer:** B) Writing programs

---

5. The design paradigm is mainly concerned with:
A) UI Design
B) Implementation
C) Architecture and system design
D) Security
✅ **Answer:** C) Architecture and system design

🌐 `Generic View of Software Engineering`

6. What is the first phase of software engineering?
A) Implementation
B) Design
C) Communication
D) Testing
✅ **Answer:** C) Communication

---

7. In the generic view, the final phase is:
A) Deployment
B) Design
C) Testing
D) Maintenance
✅ **Answer:** D) Maintenance

---

8. Which activity includes requirements gathering?
A) Construction
B) Communication
C) Deployment
D) Testing
✅ **Answer:** B) Communication

---

9. Construction phase involves:
A) Requirement analysis
B) Maintenance
C) Coding and testing
D) Planning
✅ **Answer:** C) Coding and testing

---

10. Process framework activities include all except:
A) Communication
B) Planning
C) Compilation
D) Modeling
✅ **Answer:** C) Compilation

---

11. Deployment includes:
A) Building database
B) Delivering software to end-users

C) Planning design
D) Software backup only
✅ **Answer:** B) Delivering software to end-users

---

12. Support activity after deployment is known as:
A) Construction
B) Testing
C) Maintenance
D) Planning
✅ **Answer:** C) Maintenance

---

13. Which of the following is a part of the umbrella activity?
A) Testing
B) Risk management
C) Coding
D) Design
✅ **Answer:** B) Risk management

---

14. Software process framework includes how many generic activities?
A) 2
B) 4
C) 5
D) 6
✅ **Answer:** D) 6

---

15. Which of the following is NOT an umbrella activity in software engineering?
A) Risk management
B) Configuration management
C) Construction
D) Reusability management
✅ **Answer:** C) Construction

🔁 `SDLC Models`

16. SDLC stands for:
A) Software Device Life Cycle
B) System Development Logic Cycle
C) Software Development Life Cycle

D) Software Design Long Cycle
✅ **Answer:** C) Software Development Life Cycle

---

17. Which SDLC model is the oldest and simplest?
A) Spiral
B) Agile
C) Waterfall
D) V-Model
✅ **Answer:** C) Waterfall

---

18. In Waterfall model, each phase is:
A) Skipped sometimes
B) Iterative
C) Dependent on other
D) Completed before moving to the next
✅ **Answer:** D) Completed before moving to the next

---

19. Which model is best suited for small, clear, and well-defined projects?
A) Spiral
B) Waterfall
C) Agile
D) V-Model
✅ **Answer:** B) Waterfall

---

20. Which model emphasizes risk assessment?
A) Spiral
B) Waterfall
C) Agile
D) Incremental
✅ **Answer:** A) Spiral

---

21. The Spiral model is a combination of:
A) Waterfall and Agile
B) Design and Build
C) Iterative and Risk Analysis
D) Testing and Maintenance
✅ **Answer:** C) Iterative and Risk Analysis

22. Agile model focuses on:
A) Risk management
B) Documentation
C) Flexibility and rapid delivery
D) One-time delivery
✅ **Answer:** C) Flexibility and rapid delivery

23. Which model uses iterations called sprints?
A) Spiral
B) Agile
C) Waterfall
D) V-Model
✅ **Answer:** B) Agile

24. What is the main drawback of the Waterfall model?
A) Too flexible
B) Expensive
C) Not suitable for small projects
D) Inflexibility and late error discovery
✅ **Answer:** D) Inflexibility and late error discovery

25. In V-Model, testing activities are:
A) After development
B) Parallel to development
C) Ignored
D) Repeated after deployment
✅ **Answer:** B) Parallel to development

26. Agile development usually involves:
A) Only developers
B) Only testers
C) Cross-functional teams
D) Only project managers
✅ **Answer:** C) Cross-functional teams

27. Incremental model delivers software:
A) All at once
B) In phases
C) After maintenance
D) After hardware test
✅ **Answer:** B) In phases

---

28. Which model is useful when requirements are unclear?
A) Waterfall
B) Spiral
C) V-Model
D) Agile
✅ **Answer:** D) Agile

---

29. Which SDLC model is considered evolutionary?
A) Waterfall
B) Spiral
C) V-Model
D) Build-and-fix
✅ **Answer:** B) Spiral

---

30. Which is *not* a phase in the Waterfall model?
A) Design
B) Coding
C) Debugging
D) Testing
✅ **Answer:** C) Debugging

---

31. In Agile, customer involvement is:
A) Low
B) Only at the start
C) Continuous
D) Not required
✅ **Answer:** C) Continuous

---

32. Which model promotes prototype development?
A) V-Model
B) Incremental

C) Prototype Model
D) Waterfall
✅ **Answer:** C) Prototype Model

---

33. Prototyping model is useful when:
A) Cost is fixed
B) Time is fixed
C) Requirements are not clear
D) UI is not needed
✅ **Answer:** C) Requirements are not clear

---

34. Agile values __ over processes and tools.
A) Documentation
B) Individuals and interactions
C) Contracts
D) Formal methods
✅ **Answer:** B) Individuals and interactions

---

35. What is time-boxing in Agile?
A) Time-based salary
B) Fixed time for each sprint
C) Time limits for meetings
D) Estimation of testing time
✅ **Answer:** B) Fixed time for each sprint

---

36. In SDLC, maintenance phase involves:
A) Creating a new project
B) Gathering requirements
C) Fixing bugs and updates
D) Testing code only
✅ **Answer:** C) Fixing bugs and updates

---

37. What is the first activity in the SDLC?
A) Design
B) Coding
C) Requirement gathering
D) Testing
✅ **Answer:** C) Requirement gathering

38. SDLC model selection depends on:
A) Team size
B) User interface
C) Project size and clarity
D) Compiler used
✅ **Answer:** C) Project size and clarity

---

39. What is the main goal of SDLC?
A) Buy new software
B) Develop software efficiently
C) Test only
D) Install OS
✅ **Answer:** B) Develop software efficiently

---

40. In which model is feedback incorporated at each stage?
A) Waterfall
B) Spiral
C) V-Model
D) Build-and-Fix
✅ **Answer:** B) Spiral

41. Which of the following best describes the *primary distinction* **between the Spiral Model and the Incremental Model?**
A) Spiral is sequential, Incremental is iterative
B) Spiral focuses on risk analysis, Incremental focuses on staged delivery
C) Spiral is used for maintenance only
D) Incremental is more expensive than Spiral
✅ **Answer:** B) Spiral focuses on risk analysis, Incremental focuses on staged delivery

---

42. Which quality attribute refers to the ease with which software can be modified to correct faults or improve performance?
A) Portability
B) Maintainability
C) Usability
D) Efficiency
✅ **Answer:** B) Maintainability

---

43. In software engineering, what does the term "refactoring" refer to?
A) Testing modules
B) Rewriting requirements
C) Improving internal code structure without changing its behavior
D) Redesigning the user interface
✅ **Answer:** C) Improving internal code structure without changing its behavior

---

44. Which SDLC model is *most suitable* **for projects where high-level risks need continuous evaluation?**
A) Waterfall Model
B) V-Model
C) Spiral Model
D) Agile Model
✅ **Answer:** C) Spiral Model

---

45. A major disadvantage of the Build-and-Fix model is:
A) High documentation overhead
B) No user involvement
C) No structured development process or maintenance planning
D) Too many iterations
✅ **Answer:** C) No structured development process or maintenance planning

---

46. In software engineering, which of the following is an example of a *non-functional requirement***?**
A) The user must be able to log in
B) The system must support 200 concurrent users
C) The application shall allow adding items to cart
D) The form must have a name and email field
✅ **Answer:** B) The system must support 200 concurrent users

---

47. What is the main goal of *configuration management* **in software projects?**
A) Scheduling team meetings
B) Tracking and controlling changes in the software
C) Measuring code size
D) Refactoring database schema
✅ **Answer:** B) Tracking and controlling changes in the software

48. Which of the following is *not* typically considered an SDLC model?
A) Agile
B) Spiral
C) Scrum
D) V-Model
✅ **Answer:** C) Scrum
(*Note: Scrum is a project management framework used within Agile.*)

---

49. Which activity is most likely to detect integration-level defects?
A) Unit Testing
B) Regression Testing
C) Integration Testing
D) Acceptance Testing
✅ **Answer:** C) Integration Testing

---

50. Why is requirements traceability important in software engineering?
A) To trace code coverage
B) To trace bug sources
C) To ensure that all requirements are implemented and tested
D) To improve compiler performance
✅ **Answer:** C) To ensure that all requirements are implemented and tested