Date: July 21, 2012

Software Engineering (60 Minutes)

1. The outcome of the analysis phase is
   1. Sufficient understanding of the problem to write a design specification
   2. Sufficient understanding of the problem to write a formal description of it
   3. Sufficient understanding of the problem to suggest a solution (or solutions)
   4. Sufficient understanding of the problem to write a code specification
2. Corrective maintenance is related to:
   1. Making the system more functional.
   2. Correcting the fault that could not be found during testing
   3. Making the system work in new environment.
   4. All of the above
3. Testing is done with the objective of _____
   1. Finding new errors in the software
   2. Correcting errors in the software
   3. Both 1 and 2
   4. None of the above
4. If a software had 5 failures in 100 tests during 10 days of testing (Assume 10 tests per day), what would be a good estimate of the reliability of the software over the next week? (Assume 5 working days in a week)
   1. 0.0275
   2. 0.5987
   3. 0.0769
   4. 0.9500
5. A requirements specification is:
   1. A general list of things that the proposed software ought to do.
   2. A precise and mathematical list of things that the proposed software ought to do.
   3. A formal list of things that the proposed software must do.
   4. A list of software and hardware resources needed for completing the proposed system.
6. To achieve a good design, different modules should have _____.
   1. weak cohesion and low coupling
   2. weak cohesion and high coupling
   3. strong cohesion and low coupling
   4. strong cohesion and high coupling
7. Which of the following is the input to the feasibility study?
   1. Outline description of the system
   2. Set of preliminary business requirements
   3. How the system is intended to support business process
   4. All of the above
8. Assuming that the tests are representative of the operational situation, then calculate the reliability of a software system that has had 10 failures in 200 test cases.
   1. 0.95
   2. 0.9
   3. 0.1
   4. 1
9. A critical task is one with _____.
   1. Minimum slack time
   2. Maximum slack time
   3. No slack time
   4. None of the above
10. Which of the following is identified as critical for success in software development process?
    1. Adopting SDLC configuration management
    2. Adopt Continuous risk management
    3. Both 1 and 2
    4. Choice 2 only
11. Quality control _____.
    1. focuses on inspections, testing and removal of defects before release.
    2. is to check the system for its interface errors.
    3. is checking and reviewing work that has not been done.
    4. is a set of planned and systematic actions to provide confidence that a product or service will satisfy given requirements for quality.
12. How maintainability can be achieved?
    1. Through Error recovery.
    2. When the S/W process evolves to reflect changed organizational requirements or identified process improvements.
    3. Both 1 and 2
    4. None of the above
13. A major emphasis of software design technique concerns _____.
    1. How to effectively decompose a large problem into manageable parts.
    2. Handling complexity.
    3. Software reuse
    4. None of the above
14. Which testing methods are used by end-users who actually test software before they use it?
    1. White Box Testing
    2. Alpha and Beta Testing
    3. Black Box Testing
    4. Trial and Error Testing
15. What do you mean by nonfunctional requirements?
    1. User requirements
    2. Requirements definition
    3. A timing constraint placed on the system or the use of a specific language during development.
    4. None of the above
16. The project plan should be regularly revised during the project
    1. Yes
    2. No
    3. It cannot be changed, it is to be followed
    4. It is made only once at the start of project
17. A program's control flow structure indicates _____.
    1. Correct program
    2. The sequence in which the program's instructions are executed.
    3. High-level language programming
    4. All of the above.

18. Bar charts and activity networks are graphical notation which are used to illustrate the
    1. Project Plan
    2. Project Dependencies
    3. Project Schedule
    4. Project Risk Analysis
19. Which factor is not contributing to software crisis?
    1. Larger problem sizes
    2. Skill shortage
    3. Low productivity improvements
    4. None of the above
20. Spiral model _____
    1. is an example of Exploratory programming.
    2. is characterized by the assessment of management risk items.
    3. Both 1 and 2
    4. None of the above
21. Cohesion is _____.
    1. measure of quality
    2. concept related to testing
    3. understandability
    4. measure of closeness of the relationships between the system's components.
22. Which term defines the process of project compliance with policies and procedures?
    1. Quality control
    2. Quality assurances
    3. Quality audits
    4. Quality control management
23. The data items that are exchanged between the different functions are represented as _____
    1. Design phase
    2. DFDs
    3. ER Diagram
    4. Data Structures
24. Which of these terms apply to identify quality standards and how to satisfy them?
    1. Quality projections
    2. Quality management
    3. Quality overview
    4. Quality planning
25. Software engineering principles are based on _____.
    1. Error correction
    2. Error prevention
    3. Error detection
    4. None of the above
26. Pick up the correct sequence of processes
    1. Requirements, Analysis, Test case design, Design
    2. Requirements, Test case design, Analysis, Design
    3. Requirements, Analysis, Design, Test case design
    4. Requirements, Design, Analysis, Test case design
27. Acceptance test plan is _____.
    1. most likely to arise form the requirements specification process.
    2. most likely to arise form the System integration.
    3. Both 1 and 2
    4. None of the above
28. Visibility of design means_____
    1. Efficient design
    2. Less complex design
    3. Good quality, consistent document
    4. None of the above
29. Project quality management includes _____.
    1. All activities of the performing organization that determines policies and responsibilites of a project.
    2. Performance quality control
    3. Error detection
    4. None of the above
30. Important distinction between the spiral model and other software process model is
    1. Explicit consideration of planning next phase
    2. Explicit consideration of Validation
    3. Explicit consideration of Risk Assessment and reduction
    4. Explicit consideration of Objective setting
31. Capability maturity model _____
    1. gives description for software process
    2. states what activities are necessary for success
    3. describes how activities are to be performed
    4. compare essential difficulties of software
32. What are the important characteristics of a software product?
    1. Dependability, usability, reliability, robustness
    2. Maintainability, dependability, efficiency, usability
    3. Supportability, maintainability, visibility, rapidity
    4. Visibility, rapidity, dependability, robustness
33. Validation is to check _____.
    1. whether we are building the product right
    2. whether we are building the right product
    3. the methodology of software development
    4. the methodology of software testing
34. Which lifecycle model would you use for developing a commercial web site that requires about 8 months of effort from a team of 6 people?
    1. Opportunistic
    2. Waterfall
    3. Incremental
    4. Spiral
35. Which of the following software development life cycle shows high amount of risk analysis?
    1. Water fall model
    2. Spiral model
    3. V – shaped model
    4. Incremental model
36. Match the correct pair?
    1. Embeded System a. Effort=3.6 $KDLOC^{1.20}$
    2. Organic System b. Effort=2.4 $KDLOC^{1.05}$
    3. Semidettached System c. Effort=3.0 $KDLOC^{1.12}$
    1. 1 – b, 2 – a, 3 – c
    2. 1 – c, 2 – b, 3 – a
    3. 1 – b, 2 – c, 3 – a
    4. 1 – a, 2 – b, 3 – c
37. Deliverables are usually milestones but milestones need not be deliverables
    1. True
    2. False
    3. May be True
    4. None of the above
38. Design phase will usually be _____.
    1. bottom-up
    2. top-down
    3. random
    4. centre fringing

39. The execution of every possible test case is called as _____.
    1. Static analysis
    2. Dynamic testing
    3. Structural testing
    4. Exhaustive testing
40. Configuration Management is not related with
    1. Controlling changes to the source code
    2. Choice of hardware configuration for an application
    3. Controlling documentation for an application
    4. Maintaining versions of software
41. Which of the following statement is correct?
    1. The project schedule is usually represented as a set of charts showing the work breakdown and staff allocations.
    2. The project schedule is usually represented as a set of charts showing the activities dependencies and staff allocations.
    3. The project schedule is usually represented as a set of charts showing the work breakdown and activities dependencies.
    4. The project schedule is usually represented as a set of charts showing the work breakdown, activities dependencies and staff allocations.
42. Which is true about Regression testing?
    1. Regression testing is carried out if the system underline is an upgraded or corrected version
    2. Regression testing checks that there is no side effect after changes
    3. Both 1 and 2
    4. None of the above
43. Which of the following is true about integration testing?
    1. Integration testing aims to find out the errors related to various module interfaces.
    2. Integration testing is a kind of testing, which is carried out while constructing or integrating the system.
    3. Integration testing is a kind of testing, which is carried out after constructing or integrating the system.
    4. Both 1 and 2
44. The Quality management is _____
    1. a set of software engineering actions that ensure that software is built in a way that achieves high quality.
    2. a set of software engineering actions that ensure that the software built is of high quality.
    3. a set of software engineering actions that ensure that the software built is of high quality and cost effective.
    4. All of the above
45. The project scope is:
    1. The set of hardware and software to be used for system proposed
    2. Total cost the proposed system may need
    3. A set of statement of basic requirements of the software to be built is supposed to fulfil
    4. None of the above
46. A legacy system or software is one with
    1. Legally approved applications.
    2. Law related applications.
    3. Poor maintainability.
    4. Both 1 and 2
47. Software re-engineering is
    1. A series of activities that transform legacy systems into software that exhibits high quality
    2. A decision to cancel the development activities in the middle and restart all the processes with a new team.
    3. A set of activities to develop a new version
    4. None of the above
48. Deployment of a system refers to
    1. activities performed in system testing
    2. implementing the design into executable codes
    3. the transition of the system from its development phase to the operational phase.
    4. None of the above
49. White box testing refers to the _____.
    1. Functional testing
    2. Structural testing
    3. Performance testing
    4. None of the above
50. CASE tools aimed at supporting analysis and design are called
    1. Upper CASE tools
    2. Middle CASE tools
    3. Lower CASE tools
    4. CASE tools