

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, July-Aug 2020

Course: Software Quality Management

Program: B.Tech CS with SPZ in OS&OS

Course Code: CSEG-3014

Semester: VI

Time 02 hrs.

Max. Marks: 100

Instructions: Attempt all Questions

1. Which of the following is not a SQA plan for a project?
 - a) evaluations to be performed
 - b) amount of technical work
 - c) audits and reviews to be performed
 - d) documents to be produced by the SQA group
2. Who identifies, documents, and verifies that corrections have been made to the software?
 - a) Project manager
 - b) Project team
 - c) SQA group
 - d) All of the mentioned
3. Which of the following is not included in External failure costs?
 - a) testing
 - b) help line support
 - c) warranty work
 - d) complaint resolution
4. Software quality assurance consists of the auditing and reporting functions of management.
 - a) True
 - b) False
5. What is not included in prevention costs?
 - a) quality planning
 - b) formal technical reviews
 - c) test equipment
 - d) equipment calibration and maintenance
6. Size and Complexity are a part of
 - a) Product Metrics
 - b) Process Metrics

- c) Project Metrics
 - d) All of the mentioned
7. Cost and schedule are a part of
- a) Product Metrics
 - b) Process Metrics
 - c) Project Metrics
 - d) All of the mentioned
8. Number of errors found per person hours expended is an example of a
- a) measurement
 - b) measure
 - c) metric
 - d) all of the mentioned
9. Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?
- a) Flexibility
 - b) Reliability
 - c) Usability
 - d) Integrity
10. Which of the following is not categorized under Component-Level Design Metrics?
- a) Complexity Metrics
 - b) Cohesion Metrics
 - c) Morphology Metrics
 - d) Coupling Metrics
11. Percentage of modules that were inspected is a part of
- a) Product Metrics
 - b) Process Metrics
 - c) Project Metrics
 - d) All of the mentioned
12. MTTC falls the the category of
- a) correctness
 - b) integrity
 - c) maintainability
 - d) all of the mentioned
13. Test cases should uncover errors like
- a) Nonexistent loop termination
 - b) Comparison of different data types
 - c) Incorrect logical operators or precedence
 - d) All of the mentioned
14. What is normally considered as an adjunct to the coding step
- a) Integration testing
 - b) Unit testing
 - c) Completion of Testing
 - d) Regression Testing

15. In which testing level the focus is on customer usage?
 - a) Alpha Testing
 - b) Beta Testing
 - c) Validation Testing
 - d) Both Alpha and Beta
16. Which of the following is not a phase of “bathtub curve” of hardware reliability?
 - a) Useful Life
 - b) Burn-in
 - c) Wear-out
 - d) Time
17. How is reliability and failure intensity related to each other?
 - a) direct relation
 - b) inverse relation
 - c) no relation
 - d) none of the mentioned
18. How many product quality factors are proposed in McCall quality model?
 - a) 2
 - b) 3
 - c) 11
 - d) 8
19. Which one of the following is not a software quality model?
 - a) ISO 9000
 - b) McCall model
 - c) Boehm model
 - d) ISO 9126
20. What is MTTF ?
 - a) Maximum time to failure
 - b) Mean time to failure
 - c) Minimum time to failure
 - d) None of the mentioned
21. How is software reliability defined?
 - a) time
 - b) efficiency
 - c) quality
 - d) speed
22. Suitability, Accuracy, Interoperability, and security are what type quality attribute of ISO 9126 ?
 - a) Reliability
 - b) Efficiency
 - c) Functionality
 - d) Usability
23. Time Behavior and Resource Behavior fall under which quality attribute of ISO 9126 ?
 - a) Reliability

- b) Efficiency
 - c) Functionality
 - d) Usability
24. The CMM model is a technique to
- a) automatically maintain the software reliability
 - b) improve the software process.
 - c) test the software
 - d) all of the mentioned
25. NHPP stands for
- a) Non Homogeneous Poisson Product
 - b) Non-Hetrogeneous Poisson Product
 - c) Non-Hetrogeneous Poisson Process
 - d) Non Homogeneous Poisson Process
26. Which of the following term describes testing?
- a) Finding broken code
 - b) Evaluating deliverable to find errors
 - c) A stage of all projects
 - d) None of the mentioned
27. Lower and upper limits are present in which chart?
- a) Run chart
 - b) Bar chart
 - c) Control chart
 - d) None of the mentioned
28. Maintenance testing is performed using which methodology?
- a) Retesting
 - b) Sanity testing
 - c) Breadth test and depth test
 - d) Confirmation testing
29. White Box techniques are also classified as
- a) Design based testing
 - b) Structural testing
 - c) Error guessing technique
 - d) None of the mentioned
30. Which level of CMM is for process management?
- a) Initial
 - b) Repeatable
 - c) Defined
 - d) Optimizing
31. In ISO 9126, time behavior and resource utilization are a part of
- a) maintainability
 - b) portability
 - c) efficiency
 - d) usability

32. Incremental development in Extreme Programming (XP) is supported through a system release once every month.
- a) True
 - b) False
33. Which of the following is not a Probabilistic Model?
- a) Error seeding
 - b) NHPP
 - c) Input domain
 - d) Halstead's software metric
34. In XP, as soon as the work on a task is complete, it is integrated into the whole system.
- a) True
 - b) False
35. User requirements are expressed as _____ in Extreme Programming.
- a) implementation tasks
 - b) functionalities
 - c) scenarios
 - d) none of the mentioned
36. Which four framework activities are found in the Extreme Programming(XP) ?
- a) analysis, design, coding, testing
 - b) planning, analysis, design, coding
 - c) planning, design, coding, testing
 - d) planning, analysis, coding, testing
37. Developers work individually on a release and they compare their results with other developers before forwarding that release to customers.
- a) True
 - b) False
38. In XP an automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented.
- a) True
 - b) False
39. Which requirements are the foundation from which quality is measured?
- a) Hardware
 - b) Software
 - c) Programmers
 - d) None of the mentioned
40. Which of the following is not a metric for design model?
- a) Interface design metrics
 - b) Component-level metrics
 - c) Architectural metrics
 - d) Complexity metrics
41. Statement and branch coverage metrics are part of
- a) Analysis Model
 - b) Testing

- c) Design Model
 - d) Source Code
42. Function Points in software engineering was first proposed by
- a) Booch
 - b) Boehm
 - c) Albrecht
 - d) Jacobson
43. How many Information Domain Values are used for Function Point Computation?
- a) three
 - b) four
 - c) five
 - d) six
44. Function Point Computation is given by the formula
- a) $FP = [\text{count total} * 0.65] + 0.01 * \text{sum}(Fi)$
 - b) $FP = \text{count total} * [0.65 + 0.01 * \text{sum}(Fi)]$.
 - c) $FP = \text{count total} * [0.65 + 0.01] * \text{sum}(Fi)$
 - d) $FP = [\text{count total} * 0.65 + 0.01] * \text{sum}(Fi)$
45. Architectural Design Metrics are _____ in nature.
- a) Black Box
 - b) White Box
 - c) Gray Box
 - d) Green Box
46. Structural complexity of a module i is given as $S(i) = f * f(i)$. What does f symbolizes here?
- a) “fan check-out” of module i
 - b) “fan check-in” of module i
 - c) “fan in” of module i
 - d) “fan out” of module i
47. SMI stands for
- a) Software Mature Indicator
 - b) Software Maturity Index
 - c) Software Mature Index
 - d) Software Maturity Indicator
48. As the SMI approaches 1.0, the software product starts becoming unstable
- a) True
 - b) False
49. $SMI = [Mt - (Fa + Fc + Fd)] / Mt$. Here Mt is the number of modules
- a) in the current release
 - b) in the current release that have been changed
 - c) from the preceding release that were deleted in the current release
 - d) none of the mentioned
50. The amount of time that the software is available for use is known as
- a) Reliability

- b) Usability
 - c) Efficiency
 - d) Functionality
51. Usability in metric analysis is defined as the degree to which the software
- a) stated needs
 - b) is easy to use
 - c) makes optimal use of system resources
 - d) none of the mentioned
52. What type of fault remains in the system for some period and then disappears?
- a) Permanent
 - b) Transient
 - c) Intermittent
 - d) All of the mentioned
53. Which of the following approaches are used to achieve reliable systems?
- a) Fault prevention
 - b) Fault removal
 - c) Fault tolerance
 - d) All of the mentioned
54. A system maintaining its integrity while accepting a temporary halt in its operation is said to be in a state of
- a) Full Fault Tolerance
 - b) Graceful Degradation
 - c) Fail Soft
 - d) Fail Safe
55. Which of the following Error Detection checks is not a part of Application detection?
- a) Hardware checks
 - b) Timing checks
 - c) Reversal checks
 - d) Coding checks
56. Exception handling is a type of
- a) forward error recovery mechanism
 - b) backward error recovery mechanism
 - c) All of the mentioned
 - d) None of the mentioned
57. Non-occurrence of improper alteration of information is known as
- a) Available Dependability
 - b) Confidential Dependability
 - c) Maintainable Dependability
 - d) Integral Dependability
58. In N-version programming which is the independent generation of N, the value of N is
- a) greater than 1
 - b) less than 1

- c) greater than 2
 - d) less than 2
59. In Log-based fault tolerance, logs of undetermined events are saved and replayed on failure.
- a) True
 - b) False
60. All fault-tolerant techniques rely on
- a) Integrity
 - b) Dependability
 - c) Redundancy
 - d) None of the mentioned