SOFTWARE ENGINEERING

1. Software does not wear-out in the traditional sense of the term, but software does tend to deteriorate as it evolves, because:
   (1) Software suffers from exposure to hostile environments.
   (2) Defects are more likely to arise after software has been used often.
   (3) Multiple change requests introduce errors in component interactions.
   (4) Software spare parts become harder to order.
   Answer: 3
   UGCNET-Nov2017-II-41

2. Software re-engineering is concerned with:
   (1) Re-constructing the original source code from the existing machine (low - level) code program and modifying it to make it more user - friendly.
   (2) Scrapping the source code of a software and re-writing it entirely from scratch.
   (3) Re-organising and modifying existing software systems to make them more maintainable.
   (4) Translating source code of an existing software to a new machine (low - level) language.
   Answer: 3
   UGCNET-Nov2017-II-42

3. Which of the following is not a key issue stressed by an agile philosophy of software engineering?
   (1) The importance of self-organizing teams as well as communication and collaboration between team members and customers.
   (2) Recognition that change represents opportunity.
   (3) Emphasis on rapid delivery of software that satisfies the customer.
   (4) Having a separate testing phase after a build phase.
   Answer: 4
   UGCNET-Nov2017-II-43

4. What is the normal order of activities in which traditional software testing is organized?
   (a) Integration Testing
   (b) System Testing
   (c) Unit Testing
   (d) Validation Testing
   Code:
   (1) (c), (a), (b), (d)
   (2) (c), (a), (d), (b)
   (3) (d), (c), (b), (a)
   (4) (b), (d), (a), (c)
   Answer: 2
   UGCNET-Nov2017-II-44

5. Which of the following testing techniques ensures that the software product runs correctly after the changes during maintenance?
   (1) Path Testing

(2) Integration Testing
(3) Unit Testing
(4) Regression Testing
Answer: 4
UGCNET-Nov2017-ii-45

6. Software Engineering is an engineering discipline that is concerned with:
    (1) how computer systems work.
    (2) theories and methods that underlie computers and software systems.
    (3) all aspects of software production.
 (4) all aspects of computer-based systems development, including hardware, software and process engineering.
    Answer: 3
    UGCNET-DEC2016-II-41

7. Which of the following is not one of three software product aspects addressed by McCall's software quality factors?
    (1) Ability to undergo change.
    (2) Adaptability to new environments.
    (3) Operational characteristics
    (4) Production costs and scheduling
    Answer: 4
    UGCNET-DEC2016-II-42

8. Which of the following statement(s) is/are true with respect to software architecture?
 S1: Coupling is a measure of how well the things grouped together in a module belong together logically.
    S2: Cohesion is a measure of the degree of interaction between software modules.
 S3: If coupling is low and cohesion is high then it is easier to change one module without affecting others.
    (1) Only S1 and S2
    (2) Only S3
    (3) All of S1, S2 and S3
    (4) Only S1
    Answer: 2
    UGCNET-DEC2016-II-43

9. The Prototyping model of software development is:
    (1) a reasonable approach when requirements are well-defined.
    (2) a useful approach when a customer cannot define requirements clearly.
    (3) the best approach to use for projects with large development teams.
    (4) a risky model that rarely produces a meaningful product.
    Answer: 2
    UGCNET-DEC2016-II-44

10. A software design pattern used to enhance the functionality of an object at run-time is:
   (1) Adapter
   (2) Decorator
   (3) Delegation
   (4) Proxy
   Answer: 2
   UGCNET-DEC2016-II-45

11. Which of the following is used to determine the specificity of requirements ?
   (A) n_1/n_2 (B) n_2/n_1
   (C) n_1+n_2 (D) n_1-n_2
   Where n_1 is the number of requirements for which all reviewers have identical interpretations, n_2 is number of requirements in a specification.
   Answer: A
   UGCNET-AUG2016-II-41

12. The major shortcoming of waterfall model is
   (A) the difficulty in accommodating changes after requirement analysis.
   (B) the difficult in accommodating changes after feasibility analysis.
   (C) the system testing.
   (D) the maintenance of system.
   Answer: A
   UGCNET-AUG2016-II-42

13. The quick design of a software that is visible to end users leads to ....
   (A) iterative model (B) prototype model
   (C) spiral model (D) **waterfall model**
   Answer: B

14. For a program of k variables, boundary value analysis yields .... test cases.
   (A) $4k – 1$ (B) $4k$
   (C) $4k + 1$ (D) $2^k – 1$
   Answer: C
   UGCNET-AUG2016-II-44

15. The extent to which a software performs its intended functions without failures, is termed as
   (A) Robustness (B) Correctness
   (C) Reliability (D) Accuracy
   Answer: C
   UGCNET-AUG2016-II-45

16. If S_1 is total number of modules defined in the program architecture, S_3 is the number of modules whose correct function depends on prior processing then the number of modules not dependent on prior processing is:
   (A) $1 + S_3/S_1$ (B) $1 - S_3/S_1$

(C) $1 + S_1/S_3$ (D) $1 - S_1/S_3$
Answer: B
UGCNET-June2016-II-41

17. The .... model is preferred for software development when the requirements are not clear.
(A) Rapid Application Development   (B) Rational Unified Process
(C) Evolutionary Model   (D) WaterfallModel
Answer: C
UGCNET-June2016-II-42

18. Which of the following is not included in waterfall model ?
(A) Requirement analysis   (B) Risk analysis
(C) Design   (D) Coding
Answer: B
UGCNET-June2016-II-43

19. The cyclomatic complexity of a flow graph V(G), in terms of predicate nodes is:
(A) $P + 1$ (B) $P - 1$
(C) $P - 2$ (D) $P + 2$
Where P is number of predicate nodes in flow graph V(G).
Answer: A
UGCNET-June2016-II-44 - GATE Overflow

20. The extent to which a software tolerates the unexpected problems, is termed as:
(A) Accuracy   (B) Reliability
(C) Correctness   (D) Robustness
Answer: D
UGCNET-June2014-III-19

21. Which of the following statements is false?
(A) Top-down parsers are LL parsers where first L stands for left-to-right scan and second L stands for a leftmost derivation.
(B) (000)* is a regular expression that matches only strings containing an odd number of zeroes, including the empty string.
(C) Bottom-up parsers are in the LR family, where L stands for left-to-right scan and R stands for rightmost derivation
(D) The class of context-free languages is closed under reversal. That is, if L is any context-free language, then the language $L^R=\{W^R:w\epsilon L\}$ is context free.
Answer: B
UGCNET-Dec2015-II-43

22. In software testing, how the error, fault and failure are related to each other?
(A) Error leads to failure but fault is not related to error and failure
(B) Fault leads to failure but error is not related to fault and failure
(C) Error leads to fault and fault leads to failure
(D) Fault leads to error and error leads to failure

Answer: C
UGCNET-Dec2015-II-46

23. Which of the following is not a software process model?
(A) Prototyping   (B) Iterative
(C) Timeboxing   (D) Glassboxing
Answer: D
UGCNET-Dec2015-II-47

24. Match the following:
   List – I   **List – II**
   (a) Size-oriented metrics   (i) uses number of external interfaces
       as one of the measurement parameter.
   (b) Function-oriented metrics   (ii) originally designed to be applied to
       business information systems.
oint Metrics   (iii) derived by normalizing quality and/or
productivity measures by considering
the size of the software.
   (d) Function point   (iv) uses algorithm characteristics
       as of the measurement parameter.
   Codes:
       (a)   (b)   (c)   (d)
   (A) (iii)   (iv)   (i)   (ii)
   (B) (ii)   (i)   (iv)   (iii)
   (C) (iv)   (ii)   (iii)   (i)
   (D) (iii)   (i)   (iv)   (ii)
   Answer: D
   UGCNET-June2015-II-41

25. In which testing strategy requirements established during requirements analysis are validated
   against developed software?
   (A) Validation testing   (B) Integration testing
   (C) Regression testing   (D) System testing
   Answer: A
   UGCNET-June2015-II-42,

26. Which process model is also called as classic life cycle model?
   (A) Waterfall model   (B) RAD model
   (C) Prototyping model   (D) Incremental model
   Answer: A
   UGCNET-June2015-II-43

27. Cohesion is an extension of:
   (A) Abstraction concept   (B) Refinement concept
   (C) Information hiding concept   (D) Modularity
   Answer: C
   UGCNET-June2015-II-44

28. Which one from the following is highly associated activity of project planning?
  (A) Keep track of the project progress.
  (B) Compare actual and planned progress and costs
  (C) Identify the activities, milestones and deliverables produced by a project
  (D) Both (B) and (C)
  Answer: C
  UGCNET-June2015-II-45

29. .... are applied throughout the software process.
      (A) Framework activities   (B) Umbrella activities
      (C) Planning activities   (D) Construction activities
      Answer: B
      UGCNET-Dec2014-II-41

30. Requirement Development, Organizational Process Focus, Organizational Training, Risk Management and Integrated Supplier Management are process areas required to achieve maturity level
      (A) Performed   (B) Managed
      (C) Defined   (D) Optimized
      Answer: C
      UGCNET-Dec2014-II-42

31. The software .... of a program or a computing system is the structure or structures of the system, which comprise software components, the externally visible properties of those components, and the relationships among them.
      (A) Design   (B) Architecture
      (C) Process   (D) Requirement
      Answer: B
      UGCNET-Dec2014-II-43

32. Which one of the following set of attributes should not be encompassed by effective software metrics ?
      (A) Simple and computable
      (B) Consistent and objective
      (C) Consistent in the use of units and dimensions
      (D) Programming language dependent
      Answer: D
      UGCNET-Dec2014-II-44

33. Which one of the following is used to compute cyclomatic complexity ?
      (A) The number of regions – 1
  (B) E – N + 1, where E is the number of flow graph edges and N is the number of flow graph nodes.
      (C) P – 1, where P is the number of predicate nodes in the flow graph G.
      (D) P + 1, where P is the number of predicate nodes in the flow graph G.

Answer: D
UGCNET-June2012-III-33

34. KPA in CMM stands for
(A) Key Process Area   (B) Key Product Area
(C) Key Principal Area   (D) Key Performance Area
Answer: A
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35. Which one of the following is not a risk management technique for managing the risk due to unrealistic schedules and budgets?
(A) Detailed multi source cost and schedule estimation
(B) Design Cost
(C) Incremental development
(D) Information hiding
Answer: D
UGCNET-June2014-II-12

36. .   ... of a system is the structure or structures of the system which comprise software elements, the externally visible properties of these elements and the relationship amongst them.
(A) Software construction   (B) Software evolution
(C) Software architecture   (D) Software reuse
Answer: C
UGCNET-June2014-II-28

37. In function point analysis, the number of complexity adjustment factors is
(A) 10   (B) 12
(C) 14   (D) 20
Answer: C
UGCNET-June2014-II-11

38. Regression testing is primarily related to
(A) Functional testing   (B) Development testing
(C) Data flow testing   (D) Maintenance testing
Answer: D

39. FAN IN of a component A is defined as
(A) Number of components that can call or pass control to component A.
(B) Number of components that are called by component A.
(C) Number of components related to component A.
(D) Number of components dependent on component A.
Answer: A
UGCNET-Dec2013-II-6

40. The relationship of data elements in a module is called
    (A) Coupling   (B) Modularity
    (C) Cohesion   (D) Granularity
    Answer: C
    UGCNET-Dec2013-II-7

41. Software Configuration Management is the discipline for systematically controlling
    (A) the changes due to the evolution of work products as the project proceeds.
    (B) the changes due to defects (bugs) being found and then fixed.
    (C) the changes due to requirement changes
    (D) all of the above
    Answer: D
    UGCNET-Dec2013-II-8

42. Which one of the following is not a step of requirement engineering ?
    (A) Requirement elicitation   (B) Requirement analysts
    (C) Requirement design   (D) Requirement documentation
    Answer: C
    UGCNET-Dec2013-II-9

43. Testing of software with actual data and in actual environment is called
    (A) Alpha testing   (B) Beta testing
    (C) Regression testing   (D) None of the above
    Answer: B
    UGCNET-Dec2013-II-10

44. In which one of the following, continuous process improvement is done?
    (A) ISO9001   (B) RMMM
    (C) CMM   (D) None of the above
    Answer: C
    UGCNET-Sep2013-II-27

45. The .... of a program or computing system is the structure or structures of the system, which comprise software components, the externally visible properties of these components, and the relationship among them.
    (A) E-R diagram   (B) Data flow diagram
    (C) Software architecture   (D) Software design
    Answer: C
    UGCNET-Sep2013-II-28

46. Working software is not available until late in the process in
    (A) Waterfall model   (B) Prototyping model
    (C) Incremental model   (D) Evolutionary Development model
    Answer: A
    UGCNET-Sep2013-II-29

47. Equivalence partitioning is a .... testing method that divides the input domain of a program into classes of data from which test cases can be derived.
   (A) White box   (B) Black box
   (C) Regression   (D) Smoke
   Answer: B
   UGCNET-June2013-III-4

48. Consider the following characteristics:
   (i) Correct and unambiguous
   (ii) Complete and consistent
   (iii) Ranked for importance and/or stability and verifiable
   (iv) Modifiable and Traceable
   Which of the following is true for a good SRS?
   (A) (i), (ii) and (iii)
   (B) (i), (iii) and (iv)
   (C) (ii), (iii) and (iv)
   (D) (i), (ii), (iii) and (iv)
   Answer: D
   UGCNET-Sep2013-II-31

49. COCOMO stands for
   (A) COmposite COst MOdel
   (B) COnstructive COst MOdel
   (C) COnstructive COmposite MOdel
   (D) COmprehensive COnstruction MOdel
   Answer: B
   UGCNET-June2013-II-1

50. Match the following:
   a. Good quality   i. Program does not fail for a specified time in a given environment
   b. Correctness   ii. Meets the functional requirements
   c. Predictable   iii. Meets both functional and non-functional requirements
   d. Reliable   iv. Process is under statistical control
   Codes:
      a b c d
   (A) iii ii   iv   i
   (B) ii   iii iv   i
   (C) i   ii   iv   iii
   (D) i   ii   iii iv
   Answer: A
   UGCNET-June2013-II-2

51. While estimating the cost of software, Lines of Code (LOC) and Function Points (FP) are used to measure which one of the following?
   (A) Length of code   (B) Size of software
   (C) Functionality of software (D) None of the above

Answer: B
UGCNET-June2013-II-3

52. A good software design must have
 (A) High module coupling, High module cohesion
 (B) High module coupling, Low module cohesion
 (C) Low module coupling, High module cohesion
 (D) Low module coupling, Low module cohesion
 Answer: C
 UGCNET-June2013-II-4

53. Cyclometric complexity of a flow graph G with n vertices and e edges is
 (A) V(G) = e+n-2
 (B) V(G) = e-n+2
 (C) V(G) = e+n+2
 (D) V(G) = e-n-2
 Answer: B
 UGCNET-June2012-III-33

54. Component level design is concerned with
 (A) Flow oriented analysis   (B) Class based analysis
 (C) Both of the above   (D) None of the above
 Answer: C
 UGCNET-Dec2012-II-6

55. RAD stands for ………………
 (A) Rapid and Design
 (B) Rapid Aided Development
 (C) Rapid Application Development
 (D) Rapid Application Design
 Answer: C
 UGCNET-June2016-II-42

56. Basis path testing falls under
 (A) system testing   (B) white box testing
 (C) black box testing   (D) unit testing
 Answer: B
 UGCNET-Dec2012-II-31

57. …………... is an "umbrella" activity that is applied throughout the software engineering process.
 (A) Debugging   (B) Testing
 (C) Designing   (D) Software quality assurance
 Answer: D
 UGCNET-Dec2012-II-48

58. Main aim of software engineering is to produce
    (A) program
    (B) software
    (C) within budget
    (D) software within budget in the given schedule
    Answer: D
    UGCNET-June2012-II-20

59. In a function oriented design, we
    (A) minimize cohesion and maximize coupling
    (B) maximize cohesion and minimize coupling
    (C) maximize cohesion and maximize coupling
    (D) minimize cohesion and minimize coupling
    Answer: B
    UGCNET-June2012-II-20

60. Reliability of software is directly dependent on
    (A) quality of the design
    (B) number of errors present
    (C) software engineers experience
    (D) user requirement
    Answer: B
    UGCNET-June2012-II-43

61. An SRS
  (A) establishes the basis for agreement between client and the supplier.
    (B) provides a reference for validation of the final product.
    (C) is a prerequisite to high quality software.
    (D) all of the above.
    Answer: D
    UGCNET-Dec2011-II-14

62. Emergency fixes known as patches are result of
    (A) adaptive maintenance   (B) perfective maintenance
    (C) corrective maintenance   (D) none of the above
    Answer: C
    UGCNET-Dec2011-II-16

63. Design recovery from source code is done during
    (A) reverse engineering   (B) re-engineering
    (C) reuse   (D) all of the above
    Answer: D
    UGCNET-Dec2011-II-17

64. Following is used to demonstrate that the new release of software still performs the old one did by rerunning the old tests :

(A) Functional testing   (B) Path testing

(C) Stress testing   (D) Regression testing

Answer: D

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65. Software risk estimation involves following two tasks :

    (A) Risk magnitude and risk impact

    (B) Risk probability and risk impact

    (C) Risk maintenance and risk impact

    (D) Risk development and risk impact

    Answer: B

    UGCNET-Dec2011-II-41

66. Which one of the items listed below is not one of the software engineering layers ?

    (A) Process   (B) Manufacturing

    (C) Method   (D) Tools

    Answer: B

    UGCNET-June2011-II-41

67. What is the first stage in program development ?

    (A) Specification and design

    (B) System Analysis

    (C) Testing

    (D) None of the above

    Answer: B

    UGC net Paper -II June2011 No 42

68. By means of a data flow diagram, the analyst can detect

    (A) Task duplication   (B) Unnecessary delays

    (C) Task overlapping   (D) All of the above

    Answer: D

    UGCNET-June2011-II-43

69. Which of these are the 5 generic software engineering framework activities ?

    (A) Communication, planning, modelling, construction, deployment

 (B) Communication, risk management, measurement, production, reviewing

    (C) Analysis, designing, programming, Debugging, maintenance

    (D) Analysis, planning, designing, programming, testing

    Answer: A

    UGCNET-June2011-II-44

70. Many causes of the software crisis can be traced to mythology based on

    (A) Management Myths   (B) Customer Myths

    (C) Practitioner Myths   (D) All of the above

    Answer: D

    UGCNET-June2011-II-45

71. Prototyping is used to
    (A) test the software as an end product
    (B) expand design details
    (C) refine and establish requirements gathering
    (D) None of the above
    Answer: C
    UGCNET-Dec2010-II-41

72. Which one of these are not software maintenance activity?
    (A) Error correction
    (B) Adaptation
    (C) Implementation of Enhancement
    (D) Establishing scope
    Answer: D
    UGCNET-Dec2010-II-42

73. The system specification is the first deliverable in the computer system engineering process which does not include
    (A) Functional Description
    (B) Cost
    (C) Schedule
    (D) Technical Analysis
    Answer: A
    UGCNET-Dec2010-II-42

74. The COCOMO model was introduced in the book title "Software Engineering Economics" authored by
    (A) Abraham Silberschatz
    (B) Barry Boehm
    (C) C.J. Date
    (D) D.E. Knuth
    Answer: B
    UGCNET-Dec2010-II-44

75. The Warnier diagram enables analyst
    (A) to represent information hierarchy in a compact manner
    (B) to further identify requirement
    (C) to estimate the total cost involved
    (D) None of the above
    Answer: A
    ISRO2011-51

76. Software engineering primarily aims on
    (A) reliable software
    (B) cost effective software
    (C) reliable and cost effective software
    (D) none of the above

Answer: C
UGCNET-June2010-II-41

77. Top-down design does not require
   (A) step-wise refinement
   (B) loop invariants
   (C) flow charting
   (D) modularity
   Answer: B
   UGCNET-June2010-II-42

78. Which model is simplest model in Software Development?
   (A) Waterfall model
   (B) Prototyping
   (C) Iterative
   (D) None of these
   Answer: A

79. Design phase will usually be
   (A) top-down
   (B) bottom-up
   (C) random
   (D) centre fringing
   Answer: A
   UGCNET-June2010-II-44

80. Applications-software
   (A) is used to control the operating system
   (B) includes programs designed to help programmers
   (C) performs a specific task for computer users
   (D) all of the above
   Answer: C

81. Software Engineering is a discipline that integrates ………….. for the development of computer software.
   (A) Process
   (B) Methods
   (C) Tools
   (D) All
   Answer: D
   UGCNET-dec2009-ii-43

82. Any error whose cause cannot be identified anywhere within the software system is called …………..
   (A) Internal error
   (B) External error

(C) Inherent error

(D) Logic error

Answer: B

UGCNET-dec2009-ii-42

83. Recorded software attributes can be used in the following endeavours :

(i) Cost and schedule estimates.

(ii) Software product reliability predictions.

(iii) Managing the development process.

(iv) No where

Codes:

(A) (i) (ii) (iv)

(B) (ii) (iii) (iv)

(C) (i) (ii) (iii)

(D) (i) (ii) (iii) (iv)

Answer: C

UGCNET-dec2009-ii-43

84. Black Box testing is done

(A) to show that s/w is operational at its interfaces i.e. input and output.

(B) to examine internal details of code.

(C) at client side.

(D) none of above.

Answer: A

UGCNET-dec2009-ii-44

85. The name of the transaction file shall be provided by the operator and the file that contains the edited transactions ready for execution shall be called

(A) Batch. Exe

(B) Trans. Exe

(C) Opt. Exe

(D) Edit.Exe

Answer: C

UGCNET-dec2009-ii-45

86. In the light of software engineering software consists of:

(A) Programs

(B) Data

(C) Documentation

(D) All of the above

Answer: D

UGCNET-Jan2017-II-42

87. Which one of the following ISO standard is used for software process?

(A) ISO 9000

(B) ISO 9001

(C) ISO 9003
(D) ISO 9000-3
Answer: D
UGCNET-june2009-ii-4

88. Which of the following is used for test data generation?
    (A) White box
    (B) Black box
    (C) Boundary-value analysis
    (D) All of the above
    Answer: C
    UGCNET-june2009-ii-42

89. Reverse engineering is the process which deals with:
    (A) Size measurement
    (B) Cost measurement
    (C) Design recovery
    (D) All of the above
    Answer: C
    UGCNET-june2009-ii-43

90. Software Quality Assurance(SQA) encompasses:
  (A) verification
  (B) validation
  (C) both verification and validation
  (D) none of the above
        Answer: C
        UGCNET-dec2008-ii-43

91. Which level is called as "*defined*" in capability maturity model?
  (A) level 0
  (B) level 3
  (C) level 4
  (D) level 1
        Answer: B
        UGCNET-dec2008-ii-44

92. COCOMO model is used for:
  (A) product quality estimation
  (B) product complexity estimation
  (C) product cost estimation
  (D) all of the above
        Answer: C
        UGCNET-dec2008-ii-45

93. Water fall model for software development is:

(A) a top down approach.

(B) a bottom up approach.

(C) a sequential approach.

(D) a consequential approach.

Answer: C

94. In software development, value adjustment factors include the following among others:

(A) the criticality of the performance and reusability of the code.

(B) number of lines of code in the software.

(C) number of technical manpower and hardware costs.

(D) time period available and the level of user friendliness.

Answer: A

UGCNET-june2008-ii-42

95. While designing the user interface, one should:

(A) use as many short cuts as possible.

(B) use as many defaults as possible.

(C) use as many visual layouts as possible.

(D) reduce the demand on short-term memory.

Answer: D

96. In software cost estimation, base estimation is related to:

(A) cost of similar projects already completed.

(B) cost of the base model of the present project.

(C) cost of the project with the base minimum profit.

(D) cost of the project under ideal situations.

Answer: A

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97. In clean room software engineering:

(A) only eco-friendly hardware is used.

(B) only hired facilities are used for development.

(C) correctness of the code is verified before testing.

(D) implementation is done only after ensuring correctness.

Answer: D

98. A major defect in water fall model in software development is that:
  (A) the documentation is difficult
  (B) a blunder at any stage can be disastrous
  (C) a trial version is available only at the end of the project
  (D) the maintenance of the software is difficult
  Answer: C

99. Function point metric of a software also depends on the:
  (A) number of function needed
  (B) number of final users of the software
  (C) number of external inputs and outputs
  (D) time required for one set of output from a set of input data
  Answer: C

100.   An error message produced by an interactive system should have:
  (A) always the error code
  (B) the list of mistakes done by the user displayed
  (C) a non-judgemental approach
  (D) the past records of the occurrence of the same mistake
  Answer: B

101.   System development cost estimation with use-cases is problematic because:
  (A) of paucity of examples
  (B) the data can be totally incorrect
  (C) the expertise and resource available are not used
  (D) the problem is being over simplified
  Answer: B

102.   The approach to software testing is to design test cases to:
  (A) break the software
  (B) understand the software
  (C) analyze the design of sub processes in the software
  (D) analyze the output of the software

103.   Which of the following combination is preferred with respect to cohesion and coupling?
  (A) low and low
  (B) low and high
  (C) high and low
  (D) high and high
  Answer: C

104.   Difference between flow-chart and data-flow diagram is:
  (A) there is no difference
  (B) usage in high level design and low level design
  (C) control flow and data flow
  (D) used in application programs and system programs
  Answer: C

105.   Match the following:
List - 1
(a) Unit test
(b) System test
(c) Validation test
(d) Integration test
List - 2
(i) Requirements
(ii) Design
(iii) Code
(iv) System Engineering
Which of the following is true?

	(a)	(b)	(c)	(d)
(A)	(ii)	(iii)	(iv)	(i)
(B)	(i)	(ii)	(iv)	(iii)
(C)	(iii)	(iv)	(i)	(ii)
(D)	None of the above			

Answer: D

106.   Problems with waterfall model are:
 1. Real projects rarely follow this model proposes
 2. It is often difficult for the customer
 3. Working model is available only in the end
 4. Developers are delayed unnecessarily
Which of the following is true?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2 and 3 only
(D) 1, 2, 3 and 4
Answer: D

107.   Which one of the following is a object-oriented approaches:
(A) The Booch method
(B) The Rumbaugh method
(C) The Coad and Yomdon method
(D) All of the above
Answer: D

108.   Software Cost Performance index (CPI) is given by:
    (A) BCWP/ACWP   (B)
    (C) BCWP−ACWP   (D) BCWP−BCWS
    Where: BCWP stands for Budgeted Cost of Work Performed
        BCWS stands for Budget Cost of Work Scheduled
        ACWP stands for Actual Cost of Work Performed
    Answer: A

109.   Software Risk estimation involves following two tasks:
    (A) risk magnitude and risk impact
    (B) risk probability and risk impact
    (C) risk maintenance and risk impact

(D) risk development and risk impact

Answer: B

110. In a object oriented software design, 'Inheritance' is a kind of..................
(A) relationship   (B) module
(C) testing   (D) optimization

Answer: A

111. Reliability of software is directly dependent on:
(A) quality of the design
(B) number of errors present
(C) software engineer's experience
(D) user requirement

Answer: B

112. 'Abstraction' is.....................step of Attribute in a software design.
(A) First   (B) Final
(C) Last   (D) Middle

Answer: A

113. In software project planning, work Breakdown structure must be ....
(A) A graph
(B) A tree
(C) A Euler's graph
(D) None of the above

Answer: B

114. In Software Metrics, McCABE's cyclomatic number is given by following formula:
(A) $c = e - n + 2p$
(B) $c = e - n - 2p$
(C) $c = e + n + 2p$
(D) $c = e - n * 2p$

Answer: A

115. In a good software design, ... coupling is desirable between modules.
(A) Highest
(B) Lowest
(C) Internal
(D) External

Answer: B

116. System study yields the following:
(A) Requirement specifications
(B) Prevailing process description
(C) Data source identification
(D) All the above

Answer: D

117. The COCOMO model is used for ....
(A) software design
(B) software cost estimation
(C) software cost approximation
(D) software analysis

Answer: B

118.   The testing of software against SRS is called:
 (A) Acceptance testing   (B) Integration testing
 (C) Regression testing   (D) Series testing
 Answer: A

119.   The lower degree of cohesion is:
 (A) logical cohesion   (B) coincidental cohesion
 (C) procedural cohesion   (D) communicational cohesion
 Answer: B

120.   The reliability of the software is directly dependent upon:
 (A) Quality of the design
 (B) Programmer's experience
 (C) Number of error
 (D) Set of user requirements
 Answer: C

121.   Successive layer of design in software using bottom-up design is called:
 (A) Layer of Refinement   (B) Layer of Construction
 (C) Layer of abstraction   (D) None of the above
 Answer: C

122.   Sliding window concept of software project management is:
 (A) Preparation of comprehensible plan
 (B) Preparation of the various stages of development
 (C) Ad-hoc planning
 (D) Requirement analysis
 Answer: B

123.   The capability maturity model (err) defines 5 levels:
        (a) Level 1   (i) Managed
        (b) Level 2   (ii) Defined
        (c) Level 3   (iii) Repeatable
        (d) Level 4   (iv) Initial
        (e) Level 5   (v) Optimized
        correct matching is:
   a   b   c   d   e
        (A) (i)   (ii)   (iii) (iv) (v)
        (B) (iv) (iii) (ii)   (i)   (v)
        (C) (v)   (i)   (iii) (ii) (iv)
        (D) (v)   (ii)   (i)   (iii) (iv)
        Answer: B

124.   Which one of the following is not a software process model ?
        (A) Linear sequential model
        (B) Prototyping model
        (C) The spiral model
        (D) COCOMO model
        Answer: D

125.   System Development Life-cycle has following stages:
        (I) Requirement analysis   (II) Coding
        (III) Design   (IV) Testing

Which option describes the correct sequence of stages?
(A) III, I, IV, II
(B) II, III, I, IV
(C) I, III, IV, II
(D) None of the above
Answer: D

126.   Which one is measure of software complexity ?
(A) Number of lines of code (LOC)
(B) Number of man years
(C) Number of function points (FP)
(D) All of the above
Answer: A

127.   Which type of coupling is least preferred ?
(A) Content coupling
(B) Data coupling
(C) Control coupling
(D) Common coupling
Answer: A

128.   The main objective of designing various modules of a software system is:
(A) To decrease the cohesion and to increase the coupling
(B) To increase the cohesion and to decrease the coupling
(C) To increase the coupling only
(D) To increase the cohesion only
Answer: B

129.   Three essential components of a software project plan are:
(A) Team structure, Quality assurance plans, Cost estimation
(B) Cost estimation, Time estimation, Quality assurance plan
(C) Cost estimation, Time estimation, Personnel estimation
(D) Cost estimation, Personnel estimation, Team structure
Answer: B

130.   Reliability of software is dependent on:
(A) Number of errors present in software
(B) Documentation
(C) Testing suties
(D) Development Processes
Answer: A

131.   In transform analysis, input portion is called:
(A) Afferent branch   (B) Efferent branch
(C) Central Transform   (D) None of the above
Answer: A

132.   The Function Point (FP) metric is:
(A) Calculated from user requirements
(B) Calculated from Lines of code
(C) Calculated from software's complexity assessment
(D) None of the above
Answer: C

133. Complete each of the following sentences in List-I on the left hand side by filling in the word or phrase from the List-II on the right hand side that best completes the sentence:

List-I   **List-II**

I. Determining whether you
have built the right system
is called ....   A. Software testing

II. Determining whether you
have built the system right
is called ....   B. Software verification

III. .... is the process of
demonstrating the existence
of defects or providing
confidence that they do not
appear to be present.   C. Software debugging

IV. .... is the process of
discovering the cause of a
defect and fixing it.   D. Software validation

Codes:
   I II III IV
(1) B D A C
(2) B D C A
(3) D B C A
(4) D B A C
Answer: 4

134. A software company needs to develop a project that is estimated as 1000 function points and is planning to use JAVA as the programming language whose approximate lines of code per function point is accepted as 50. Considering a=1.4 as multiplicative factor, b=1.0 as exponention factor for the basic COCOMO effort equation and c=3.0 as multiplicative factor, d=0.33 as exponention factor for the basic COCOMO duration equation, approximately how long does the project take to complete?
(1) 11.2 months
(2) 12.2 months
(3) 13.2 months
(4) 10.2 months
Answer: 2

135. Which of the following are facts about a top-down software testing approach?
I. Top-down testing typically requires the tester to build method stubs.
II. Top-down testing typically requires the tester to build test drivers.
(1) only I
(2) Only II
(3) Both I and II
(4) Neither I nor II
Answer: 1

136. Match the terms related to Software Configuration Management (SCM) in List-I with the descriptions in List-II.

List-1   **List-II**

I. Version   A. An instance of a system that is
   distributed to customers.
II. Release   B. An instance of a system which
is functionally identical to other
instances, but designed for different
hardware/software configurations.
III. Variant   C. An instance of a system that differs,
   in some way, from other instances.

Codes:
   I II III
(1) B C A
(2) C A B
(3) C B A
(4) B A C
Answer: 2

137.   A software project was estimated at 352 Function Points (FP). A four person team will be
assigned to this project consisting of an architect, two programmers, and a tester. The salary of
the architect is Rs.80,000 per month, the programmer Rs.60,000 per month and the tester
Rs.50,000 per month. The average productivity for the team is 8 FP per person month. Which
of the following represents the projected cost of the project?
(1) Rs.28,16,000
(2) Rs.20,90,000
(3) Rs.26,95,000
(4) Rs.27,50,000
Answer: 4

138.   Match each software lifecycle model in List – I to its description in List – II:

List – I   **List – II**
I. Code-and-Fix   a. Assess risks at each step; do most critical
   action first.
II. Evolutionary prototyping   b. Build an initial small requirement specifications,
   code it, then "evolve" the specifications and code
   as needed.
III. Spiral   c. Build initial requirement specification for
   several releases, then design-and-code in
   sequence
IV. Staged Delivery   d. Standard phases (requirements, design,
   code, test) in order
V. Waterfall   e. Write some code, debug it, repeat
   (i.e. ad-hoc)

Codes :
   I II III IV V
(A) e b a c d
(B) e c a b d
(C) d a b c e
(D) c e a b d

Answer: A

139.   Match each software term in List – I to its description in List – II:

List – I   **List – II**

I. Wizards   a. Forms that provide structure for a document

II. Templates   b. A series of commands grouped into a
single command

III. Macro   c. A single program that incorporates most
commonly used tools

IV. Integrated Software   d. Step-by-step guides in application software

V. Software Suite   e. Bundled group of software programs

Codes :

   I II III IV V

(A) d a b c e

(B) b a d c e

(C) d e b a c

(D) e c b a d

Answer: A

140.   The ISO quality assurance standard that applies to software Engineering is

(A) ISO 9000 : 2004   (B) ISO 9001 : 2000

(C) ISO 9002 : 2001   (D) ISO 9003 : 2004

Answer: B

141.   Which of the following are external qualities of a software product ?

(A) Maintainability, reusability, portability, efficiency, correctness.

(B) Correctness, reliability, robustness, efficiency, usability.

(C) Portability, interoperability, maintainability, reusability.

(D) Robustness, efficiency, reliability, maintainability, reusability.

Answer: B

142.   Which of the following is/are CORRECT statement(s) about version and release ?

I. A version is an instance of a system, which is functionally identical but nonfunctionally distinct from other instances of a system.

II. A version is an instance of a system, which is functionally distinct in some way from other system instances.

III. A release is an instance of a system, which is distributed to users outside of the development team.

IV. A release is an instance of a system, which is functionally identical but onfunctionally distinct from other instances of a system.

(A) I and III   (B) II and IV

(C) I and IV   (D) II and III

Answer: D

143.   Match the software maintenance activities in List-I to its meaning in List-II.

List-I   List-II

I. Corrective   (a) Concerned with performing activities to reduce the software complexity thereby improving program understandability and increasing software maintainability.

(b) Concerned with fixing errors that are observed when the software is in use.

III. Per   (c) Concerned with the change in the software that takes place to make the software adaptable to new environment (both hardware and software).

(d) Concerned with the change in the software that takes place to make the software adaptable to changing user requirements.

Codes:

	I	II	III	IV
(A)	(b)	(d)	(c)	(a)
(B)	(b)	(c)	(d)	(a)
(C)	(c)	(b)	(d)	(a)
(D)	(a)	(d)	(b)	(c)

Answer: B

144.   Match each application/software design concept in List-I to its definition in List-II.

List-I   List-II

I. Couplng   (a) Easy to visually inspect the design of the software and understand its purpose.

II. C   (b) Easy to add functionality to a software without having to redesign it.

(c) Focus of a code upon a single goal.

(d) Reliance of a code module upon other code modules.

Codes:

	I	II	III	IV
(A)	(b)	(a)	(d)	(c)
(B)	(c)	(d)	(a)	(b)
(C)	(d)	(c)	(b)	(a)
(D)	(d)	(a)	(c)	(b)

Answer: C

145.   Software safety is quality assurance activity that focuses on hazards that
(A) affect the reliability of a software component
(B) may cause an entire system to fail.
(C) may result from user input errors.
(D) prevent profitable marketing of the final product
Answer: B

146.   Which of the following sets represent five stages defined by Capability Maturity Model (CMM) in increasing order of maturity?
(A) Initial, Defined, Repeatable, Managed, Optimized.
(B) Initial, Repeatable, Defined, Managed, Optimized.
(C) Initial, Defined, Managed, Repeatable, Optimized.
(D) Initial, Repeatable, Managed, Defined, Optimized.
Answer: B

147.   The number of function points of a proposed system is calculated as 500. Suppose that the system is planned to be developed in Java and the LOC/FP ratio of Java is 50. Estimate the effort (E) required to complete the project using the effort formula of basic
    COCOMO given below:
    E = a(KLOC)b
    Assume that the values of a and b are 2.5 and 1.0 respectively.
    (A) 25 person months   (B) 75 person months
    (C) 62.5 person months   (D) 72.5 person months
    Answer: C

148.   Which one of the following statements, related to the requirements phase in Software Engineering, is incorrect ?
    (A) "Requirement validation" is one of the activities in the requirements phase.
    (B) "Prototyping" is one of the methods for requirement analysis.
    (C) "Modelling-oriented approach" is one of the methods for specifying the functional specifications.
    (D) "Function points" is one of the most commonly used size metric for requirements.
    Answer: C

149.   Which one of the following non-functional quality attributes is not highly affected by the architecture of the software ?
    (A) Performance   (B) Reliability
    (C) Usability   (D) Portability
    Answer: C

150.   Verification:
    (A) refers to the set of activities that ensure that software correctly implements a specific function.
    (B) gives answer to the question - Are we building the product right ?
    (C) requires execution of software
    (D) both (A) and (B)
    Answer: D

151.   Which design metric is used to measure the compactness of the program in terms of lines of code?
    (A) Consistency   (B) Conciseness
    (C) Efficiency   (D) Accuracy
    Answer: B

152.   Requirements prioritization and negotiation belongs to:
    (A) Requirements validation (B) Requirements elicitation
    (C) Feasibility Study   (D) Requirement reviews
    Answer: B

153.   Adaptive maintenance is a maintenance which ....
    (A) Correct errors that were not discovered till testing phase.
    (B) is carried out to port the existing software to a new environment.
    (C) improves the system performance.
    (D) both (B) and (C)
    Answer: B

154.   A Design concept Refinement is a:

(A) Top-down Approach   (B) Complementary of Abstraction concept
(C) Process of elaboration   (D) All of the above
Answer: D

155.   A software design is highly modular if :
(A) cohesion is functional and coupling is data type.
(B) cohesion is coincidental and coupling is data type.
(C) cohesion is sequential and coupling is content type.
(D) cohesion is functional and coupling is stamp type.
Answer: A

156.   Match the following for methods of MIS development:
List-I   List-II
(a) Joint Application Design(JAD)   (i) Delivers functionality in rapid iteration
measured in weeks and needs frequent communication, development, testing and delivery
(b) Computer Aided Software Engg (ii) Reusable applications generally with one
          specific function. It is closely linked with idea of
web services and service oriented architecture.
(c) Agile development   (iii) Tools to automate many tasks of SDLC
chnology   (iv) A group based tool for collecting user requirements and creating system design. Mostly used in
    analysis and design stages of SDLC
Codes:
    (a) (b) (c) (d)
(A) (i)   (iii) (ii) (iv)
(B) (iv) (iii) (i)   (ii)
(C) (iii) (iv) (i)   (ii)
(D) (iii) (i)   (iv) (ii)
Answer: B

157.   Assume that the software team defines a project risk with 80% probability of occurrence
    of risk in the following manner :
Only 70 percent of the software components scheduled for reuse will be integrated into the
application and the remaining functionality will have to be custom developed. If 60 reusable
components were planned with average component size as 100 LOC and software engineering
cost for each LOC as $ 14, then the risk exposure would be
      (A) $ 25,200   (B) $ 20,160
      (C) $ 17,640   (D) $ 15,120
Answer: B

158.   Which one of the following is not a source code metric ?
      (A) Halstead metric   (B) Function point metric
      (C) Complexity metric   (D) Length metric
Answer: B

159.   Temporal cohesion means
      (A) Coincidental cohesion
      (B) Cohesion between temporary variables
      (C) Cohesion between local variables
      (D) Cohesion with respect to time
Answer: D

160.   Software testing is

(A) the process of establishing that errors are not present.

(B) the process of establishing confidence that a program does what it is supposed to do.

(C) the process of executing a program to show that it is working as per specifications.

(D) the process of executing a program with the intent of finding errors.

Answer: D

161.   Assume that a program will experience 200 failures in infinite time. It has now experienced 100 failures. The initial failure intensity was 20 failures/CPU hr. Then the current failure intensity will be

(A) 5 failures/CPU hr

(B) 10 failures/CPU hr.

(C) 20 failures/CPU hr.

(D) 40 failures/CPU hr.

Answer: B

162.   Consider a project with the following functional units :

Number of user inputs = 50

Number of user outputs = 40

Number of user enquiries = 35

Number of user files = 06

Number of external interfaces = 04

Assuming all complexity adjustment factors and weighing factors as average, the function points for the project will be

(A) 135

(B) 722

(C) 675

(D) 672

Answer: D

163.   Match the following :

List – I

a. Correctness

b. Accuracy

c. Robustness

d. Completeness

List – II

i. The extent to which a software tolerates the unexpected problems

ii. The extent to which a software meets its specifications

iii. The extent to which a software has specified functions

iv. Meeting specifications with precision

Codes :

	a	b	c	d
(A)	ii	iv	i	iii
(B)	i	ii	iii	iv
(C)	ii	i	iv	iii
(D)	iv	ii	i	iii

Answer: A

164.   Which one of the following is not a key process area in CMM level 5?

(A) Defect prevention

(B) Process change management

(C) Software product engineering

(D) Technology change management

Answer: C

165.   Superficially the term "object-oriented", means that, we organize software as a

(A) collection of continuous objects that incorporates both data structure and behaviour.

(B) collection of discrete objects that incorporates both discrete structure and behaviour.

(C) collection of discrete objects that incorporates both data structure and behaviour.

(D) collection of objects that incorporates both discrete data structure and behaviour.

Answer: C

166.   Function points can be calculated by

(A) UFP*CAF

(B) UFP*FAC

(C) UFP*Cost

(D) UFP*Productivity

Answer: A

Explanation:

UFP (Unadjusted Function Point)

CAF (Complexity Adjustment Factor)

Function Point FP = UFP*CAF

167.   Match the following:

List-I

a. Data coupling

b. Stamp coupling

c. Common coupling

d. Content coupling

List-II

i. Module A and Module B have shared data

ii. Dependency between modules is based on the fact they communicate by only passing of data.

iii. When complete data structure is passed from one module to another.

iv. When the control is passed from one module to the middle of another.

Codes:

   a b c d

(A) iii ii i iv

(B) ii iii i iv

(C) ii iii   iv i

(D) iii ii   iv i

Answer: B

Explanation:

Coupling: A measure of how closely connected two routines or modules are; the strength of the relationships between modules. Low coupling is often a sign of a well-structured computer system and a good design.

Types of coupling

Content coupling (high) (Pathological coupling) occurs when one module modifies the internal workings of another module (e.g., accessing local data of another module).

Common coupling (Global coupling) occurs when two modules share the same global data (e.g., a global variable).

External coupling occurs when two modules share an externally imposed data format, communication protocol, or device interface.

Control coupling is one module controlling the flow of another, by passing it information on what to do (e.g., passing a what-to-do flag).

Stamp coupling (Data-structured coupling) occurs when modules share a composite data structure and use only a part of it. (e.g., passing a whole record to a function that only needs one field of it).

Data coupling occurs when modules share data through, for example, parameters. (e.g., passing an integer to a function that computes a square root).

Message coupling (low): This is the loosest type of coupling. It can be achieved by state decentralization (as in objects) and component communication is done via parameters or message passing.

168.   A process which defines a series of tasks that have the following four primary objectives is known as

1. to identify all items that collectively define the software configuration.

2. to manage changes to one or more of these items.

3. to facilitate the construction of different versions of an application.

4. to ensure that software quality is maintained as the configuration evolves over time.

(A) Software Quality Management Process

(B) Software Configuration Management Process

(C) Software Version Management Process

(D) Software Change Management Process

Answer: B

169. One weakness of boundary value analysis and equivalence partitioning is

(A) they are not effective.

(B) they do not explore combinations of input circumstances.

(C) they explore combinations of input circumstances

(D) none of the above

Answer: B

170. Which one of the following is not a software myth?

(A) Once we write the program and get it to work, our job is done.

(B) Project requirements continually change, but change can be easily accommodated because software is flexible.

(C) If we get behind schedule, we can add more programmers and catch up.

(D) If an organization does not understand how to control software projects internally, it will invariably struggle when it outsources software projects.

Answer: D

171. Equivalence class partitioning approach is used to divide the input domain into a set of equivalence classes, so that if a program works correctly for a value, then it will work correctly for all the other values in that class. This is used ....
(A) to partition the program in the form of classes.
(B) to reduce the number of test cases required.
(C) for designing test cases in white box testing.
(D) all of the above.
Answer: B

172. The failure intensity for a basic model as a function of failures experienced is given as $\lambda(\mu)\text{-}\lambda_0[1 - (\mu)/(V_0)]$ where $\lambda0$ is the initial failure intensity at the start of the execution, μ is the average or expected number of failures at a given point in time, the quantity V_0 is the total number of failures that would occur in infinite time.

Assume that a program will experience 100 failures in infinite time, the initial failure intensity was 10 failures/CPU hr. Then the decrement of failures intensity per failure will be
(A) 10 per CPU hr.
(B) 0.1 per CPU hr.
(C) –0.1 per CPU hr.
(D) 90 per CPU hr.
Answer: C

173. Improving processing efficiency or performance or restructuring of software to improve changeability is known as
(A) Corrective maintenance
(B) Perfective maintenance

(C) Adaptive maintenance
(D) Code maintenance
Answer: B

174.   In ....,modules A and B make use of a common data type, but perhaps perform different operations on it.
(A) Data coupling
(B) Stamp coupling
(C) Control coupling
(D) Content coupling
Answer: B

175.   .... refers to the discrepancy among a computed, observed or measured value and the true specified or theoretically correct values.
(A) Fault
(B) Failure
(C) Defect
(D) Error
Answer: D
Answer: D

176.   Sixty (60) reusable components were available for an application. If only 70% of these components can be used, rest 30% would have to be developed from scratch. If average component is 100 LOC and cost of each LOC is Rs 14, what will be the risk exposure if risk probability is 80% ?
(A) Rs 25,200
(B) Rs 20,160
(C) Rs 25,160
(D) Rs 20,400
Answer: B

177.   Eco system is a Frame work for

(A) Building a Computer System

(B) Building Internet Market

(C) Building Offline Market

(D) Building Market

Answer: B

178.   The factors that determine the quality of a software system are
(A) correctness, reliability
(B) efficiency, usability, maintainability
(C) testability, portability, accuracy, error tolerances, expandability, access control, audit.
(D) All of the above
Answer: D

179.   Module design is used to maximize cohesion and minimize coupling. Which of the following is the key to implement this rule?
(A) Inheritance   (B) Polymorphism
(C) Encapsulation   (D) Abstraction

Answer: C

180.   Which of the following is characteristic of an MIS?
 (A) Provides guidance in identifying problems, finding and evaluating alternative solutions, and selecting or comparing alternatives.
 (B) Draws on diverse yet predictable data resources to aggregate and summarize data.
 (C) High volume, data capture focus.
 (D) Has as its goal the efficiency of data movement and processing and interfacing different TPS.

Answer: B

181.   The Software Maturity Index (SMI) is defined as

$$SMI = [M_f - (F_a + F_c + F_d)] / M_f$$

Where

M_f = the number of modules in the current release.

F_a = the number of modules in the current release that have been added.

F_c = the number of modules in the current release that have been changed.

F_d = the number of modules in the current release that have been deleted.

The product begins to stabilize when

(A) SMI approaches 1

(B) SMI approaches 0

(C) SMI approaches -1

(D) None of the above

Answer: A

Explanation:

SMI can be a measurement of product stability, when SMI approaches 1.0 the product is stable.

182.   Match the following:

List - I

a. Watson-Felix model

b. Quick-Fix model

c. Putnam resource allocation model

d. Logarithmetic- Poisson Model

List - II

i. Failure intensity

ii. Cost estimation

iii. Project planning

iv. Maintenance

Codes:

   a b c d

(A) ii i iv iii

(B) i ii iv iii

(C) ii i iii iv

(D) ii iv iii i

Answer: D

183.   .... is a process model that removes defects before they can precipitate serious hazards.

    (A) Incremental model

    (B) Spiral model

    (C) Cleanroom software engineering

    (D) Agile model

    Answer: C

    Explanation:

The **Cleanroom software engineering** process is a software development process intended to produce software with a certifiable level of reliability. The focus of the Cleanroom process is on defect prevention, rather than defect removal.

184.   Equivalence partitioning is a .... method that divides the input domain of a program into classes of data from which test cases can be derived.

    (A) White-box testing

    (B) Black-box testing

    (C) Orthogonal array testing

    (D) Stress testing

    Answer: B

    Explanation:

Black-box testing is a method of software testing that examines the functionality of an application (Eg. What the software does) without peering into its internal structures or workings. This method of test can be applied to virtually every level of software testing: unit, integration, system and acceptance.

185.   The following three golden rules:

    (i) Place the user in control

    (ii) Reduce the user's memory load

(iii) Make the interface consistent are for

(A) User satisfaction

(B) Good interface design

(C) Saving system's resources

(D) None of these

Answer: B

186.   Software safety is a .... activity that focuses on the identification and assessment of potential hazards that may affect software negatively and cause an entire system to fail.

(A) Risk mitigation, monitoring and management

(B) Software quality assurance

(C) Software cost estimation

(D) Defect removal efficiency

Answer: B

Explanation:

Software Quality Assurance (SQA) consists of a means of monitoring the software engineering processes and methods used to ensure quality. SQA encompasses the entire software development process, which includes processes such as requirements definition, software design, coding, source code control, code reviews, change management, configuration management, testing, release management, and product integration.

187.   Which of the following statement(s) is/are TRUE with regard to software testing?
I. Regression testing technique ensures that the software product runs correctly after the changes during maintenance.
II. Equivalence partitioning is a white-box testing technique that divides the input domain of a program into classes of data from which test cases can be derived.
(1) only I
(2) only II
(3) both I and II
(4) neither I nor II
Answer: 1

188.   The Software Maturity Index (SMI) is defined as

$$SMI = [M_f - (F_a + F_c + F_d)] / M_f$$

Where

M_f = the number of modules in the current release.

F_a = the number of modules in the current release that have been added.

F_c = the number of modules in the current release that have been changed.

F_d = the number of modules in the current release that have been deleted.

The product begins to stabilize when

(A) SMI approaches 1

(B) SMI approaches 0

(C) SMI approaches -1

(D) None of the above

Answer: A

Explanation:

SMI can be a measurement of product stability, when SMI approaches 1.0 the product is stable.

189.   Match the following:

List - I

a. Watson-Felix model

b. Quick-Fix model

c. Putnam resource allocation model

d. Logarithmetic- Poisson Model

List - II

i. Failure intensity

ii. Cost estimation

iii. Project planning

iv. Maintenance

Codes:

   a b c d

(A) ii   i iv iii

(B) i   ii iv iii

(C) ii i iii iv

(D) ii iv iii i

Answer: D

190.   .... is a process model that removes defects before they can precipitate serious hazards.

(A) Incremental model

(B) Spiral model

(C) Cleanroom software engineering

(D) Agile model

Answer: C

Explanation:

The **Cleanroom software engineering** process is a software development process intended to produce software with a certifiable level of reliability. The focus of the Cleanroom process is on defect prevention, rather than defect removal.

191.   Equivalence partitioning is a .... method that divides the input domain of a program into classes of data from which test cases can be derived.

(A) White-box testing

(B) Black-box testing

(C) Orthogonal array testing

(D) Stress testing

Answer: B

Explanation:

Black-box testing is a method of software testing that examines the functionality of an application (Eg. What the software does) without peering into its internal structures or workings. This method of test can be applied to virtually every level of software testing: unit, integration, system and acceptance.

192.   The following three golden rules:

(i) Place the user in control

(ii) Reduce the user's memory load

(iii) Make the interface consistent are for

(A) User satisfaction

(B) Good interface design

(C) Saving system's resources

(D) None of these

Answer: B

193.   Software safety is a .... activity that focuses on the identification and assessment of potential hazards that may affect software negatively and cause an entire system to fail.

(A) Risk mitigation, monitoring and management

(B) Software quality assurance

(C) Software cost estimation

(D) Defect removal efficiency

Answer: B

Explanation:

Software Quality Assurance (SQA) consists of a means of monitoring the software engineering processes and methods used to ensure quality. SQA encompasses the entire software development process, which includes processes such as requirements definition, software design, coding, source code control, code reviews, change management, configuration management, testing, release management, and product integration.

194.   …………… establishes information about when, why and by whom changes are made in a software.

(A) Software Configuration Management.
(B) Change Control.
(C) Version Control.
(D) An Audit Trail.

Answer: D

195.   If dual has an unbounded solution, then its corresponding primal has

(A) no feasible solution
(B) unbounded solution
(C) feasible solution
(D) none of these

Answer: A

Unboundedness Property: If the primal (dual) problem has an unbounded solution, then the dual (primal) problem is infeasible

196.   To compute function points (FP), the following relationship is used

FP = Count – total × (0.65 + 0.01 × □ (Fi)) where Fi (i = 1 to n) are value adjustment factors (VAF) based on n questions. The value of n is

(A) 12   (B) 14
(C) 16   (D) 18

Answer: B

197.   Maximum possible value of reliability is

(A) 100   (B) 10
(C) 1   (D) 0

Answer: C

198.   'FAN IN' of a component A is defined as

(A) Count of the number of components that can call, or pass control, to a component A
(B) Number of components related to component A
(C) Number of components dependent on component A
(D) None of the above

Answer: A

199.   The optimal solution of the following assignment problem using Hungarian method is

	I	II	III	IV
A	8	26	17	11
B	13	28	4	26
C	38	19	18|	15
D	19	26	24	10

    (A) (B) (C) (D)
(A) (I) (II)   (III) (IV)
(B) (I) (III) (II) (IV)
(C) (I) (III) (IV) (II)
(D) (I) (IV) (II)   (III)
Answer: B

200.   Which of the following can be used for clustering of data?
(A) Single layer perception
(B) Multilayer perception
(C) Self organizing map
(D) Radial basis function
Answer: C

201.   While unit testing a module, it is found that for a set of test data, maximum 90% of the code alone were tested with a probability of success 0.9. The reliability of the module is
(A) atleast greater than 0.9
(B) equal to 0.9
(C) atmost 0.81
(D) atleast 1/0.81
Answer: C

202.   Which of the following can be used for clustering of data?
(A) Single layer perception
(B) Multilayer perception
(C) Self organizing map
(D) Radial basis function
Answer: C

203.   In any simplex table, if corresponding to any negative □j, all elements of the column are negative or zero, the solution under the test is
(A) degenerate solution
(B) unbounded solution
(C) alternative solution
(D) non-existing solution
Answer: B

204.   Which one of the following statements is incorrect ?
 (A) Pareto analysis is a statistical method used for analyzing causes, and is one of the primary tools for quality management.

(B) Reliability of a software specifies the probability of failure-free operation of that software for a given time duration.
(C) The reliability of a system can also be specified as the Mean Time To Failure (MTTF).
(D) In white-box testing, the test cases are decided from the specifications or the requirements.

Answer: D