

Roll No.

O. M. R. Serial No.

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Question Booklet Number

409762

B. C. A. (Fourth Semester) EXAMINATION, 2022-23

SOFTWARE ENGINEERING

Paper Code

B	C	A	4	0	0	3
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Time : 1:30 Hours]

Questions Booklet
Series

B

[Maximum Marks : 75

Instructions to the Examinee :

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. All questions carry equal marks.
3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.

परीक्षार्थियों के लिए निर्देश :

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।
3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

(Remaining instructions on the last page)

(शेष निर्देश अन्तिम पृष्ठ पर)

1. Which of the following white box testing technique is to set up test cases which covers all statements and branch conditions ?
 (A) Data-flow testing
 (B) Boundary testing
 (C) Control-flow testing
 (D) Pair-wise testing
2. Which of the following is not used in measuring the size of the software ?
 (A) Size of module
 (B) Function Points
 (C) KLOC
 (D) None of the above
3. is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not.
 (A) Software Design
 (B) Software Implementation
 (C) Software Testing
 (D) Software Requirement
4. SDLC stands for :
 (A) Software Deployment Life Cycle
 (B) Software Design Life Cycle
 (C) Software Developer Life Cycle
 (D) Software Development Life Cycle
5. Verification has :
 (A) dynamic activities
 (B) subjective activities
 (C) static activities
 (D) objective activities
6. 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 above
7. Alpha testing is done at :
 (A) Developer's end
 (B) User's end
 (C) Developer's and User's end
 (D) None of the above
8. Upper CASE tools are used in stages of SDLC.
 (A) planning
 (B) analysis
 (C) design
 (D) All of the above
9. Which of the following is not a type of CASE tool ?
 (A) Diagram tools
 (B) Process modeling tools
 (C) Documentation tools
 (D) Testing tool

10. Which tool is used to assist in designing web pages ?
- (A) Web Development Tools
 - (B) Prototyping Tools
 - (C) Programming Tools
 - (D) All of the above
11. Where is CASE tool used ?
- (A) Project management
 - (B) Schema generation
 - (C) Data modeling
 - (D) All of the above
12. What stores all changes and info related to the project from development through maintenance in CASE tools ?
- (A) Database
 - (B) Repository
 - (C) Register
 - (D) Files
13. Which testing includes testing a software manually, i.e. without using any automated tool or any script ?
- (A) Automation Testing
 - (B) Client Testing
 - (C) Manual Testing
 - (D) All of the above
14. Automation testing, which is also known as :
- (A) Test Design
 - (B) Test Automation
 - (C) Test Process
 - (D) Automation Testing
15. In which of the following type of testing, testing is done without planning and documentation ?
- (A) Unit testing
 - (B) Retesting
 - (C) Ad hoc testing
 - (D) Regression testing
16. model also called phased development models that share the common objective of reducing the cycle time for development.
- (A) Evolutionary Development Model
 - (B) Incremental and Iterative Model
 - (C) Prototyping Model
 - (D) Spiral Model

17. Automation testing is also used to test the application from load, performance, and stress point of view :
- (A) True
 - (B) False
 - (C) Can be true or false
 - (D) Cannot say
18. How many levels of software testing are there ?
- (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
19. Unit Testing cannot catch each and every bug in an application.
- (A) Yes
 - (B) No
 - (C) Can be yes or no
 - (D) Cannot say
20. Which testing has the highest-level modules are tested first and progressively, lower-level modules are tested there after ?
- (A) Bottom-up integration
 - (B) Top-down integration
 - (C) Both (A) and (B)
 - (D) Up-down integration
21. Which of the following is type of Non-Functional Testing :
- (A) Performance Testing
 - (B) Load Testing
 - (C) Stress Testing
 - (D) All of the above
22. Unit testing, integration testing and system testing when combined together is known as alpha testing :
- (A) True
 - (B) False
 - (C) Can be true or false
 - (D) Cannot say
23. A software bug is an :
- (A) error
 - (B) fault
 - (C) flaw
 - (D) All of the above
24. Issue in software is raised by :
- (A) Developer
 - (B) Test Engineer
 - (C) Customer
 - (D) User
25. Software testers are people whose primary task is to find bugs, or write code to support testing :
- (A) True
 - (B) False
 - (C) Can be true or false
 - (D) Cannot say

26. The spiral model was originally proposed by :
 (A) IBM
 (B) Barry Boehm
 (C) Royce
 (D) Pressman
27. Selection of a model is based on :
 (A) Requirements
 (B) Development team
 (C) Users
 (D) All of the above
28. Which one of the following is not a software process quality ?
 (A) Portability
 (B) Productivity
 (C) Timeliness
 (D) Visibility
29. Efficiency in a software product does not include
 (A) Processing time
 (B) Responsiveness
 (C) Licensing
 (D) Memory utilization
30. What is the first step in the software development lifecycle ?
 (A) Preliminary Investigation and Analysis
 (B) System Testing
 (C) System Design
 (D) Coding
31. The reason for software bugs and failures is due to
 (A) Software Developers
 (B) Software companies
 (C) Both (A) and (B)
 (D) None of the above
32. Software Engineering is a :
 (A) Complicated way to develop software
 (B) Systematic way to develop software
 (C) Cost-effective way to develop software
 (D) Both (B) and (C)
33. Which of the items listed below is not one of the software engineering layers ?
 (A) Process
 (B) Manufacturing
 (C) Methods
 (D) Tools

34. Which of the following is involved in the system planning and designing phase of the Software Development Life Cycle (SDLC) ?

- (A) Specification freeze
- (B) Sizing
- (C) Parallel run
- (D) All of the above

35. Which model is also known as Verification and validation model ?

- (A) V-model
- (B) Waterfall model
- (C) Big Bang model
- (D) Spiral model

36. The spiral model has two dimensions namely and

- (A) diagonal, angular
- (B) radial, perpendicular
- (C) radial, angular
- (D) diagonal, perpendicular

37. Spiral Model has user involvement in all its phases.

- (A) True
- (B) False
- (C) All of the above
- (D) None of the above

38. One can choose Waterfall Model if the project development schedule is tight.

- (A) True
- (B) False
- (C) All of the above
- (D) None of the above

39. RAD Model has high reliability requirements.

- (A) True
- (B) False
- (C) All of the above
- (D) None of the above

40. Which of the following life cycle model can be chosen if the development team has less experience on similar projects ?

- (A) Spiral
- (B) Waterfall
- (C) RAD
- (D) Iterative Enhancement Model

41. A model that is the demo implementation of the system :

- (A) waterfall
- (B) prototype
- (C) incremental
- (D) agile

42. A stage in which individual components are integrated and ensured that they are error-free to meet customer requirements.

- (A) Coding
- (B) Testing
- (C) Design
- (D) Implementation

43. ER diagram is a

- (A) Design
- (B) Coding
- (C) Testing
- (D) None of above

44. is an object into real world that is distinguishable from all other objects.

- (A) Entity
- (B) Attribute
- (C) Both of the above
- (D) None of the above

45. Each entity has a set of

- (A) Entity
- (B) Attribute
- (C) Row
- (D) None of the above

46. attributes can be divided into subparts.

- (A) Simple
- (B) Composite
- (C) Single valued
- (D) Multivalued

47. represent entity set.

- (A) Ellipses
- (B) Rectangles
- (C) Diamonds
- (D) Lines

48. represent relationship set.

- (A) Ellipses
- (B) Rectangles
- (C) Diamonds
- (D) Lines

49. represent derived attribute.

- (A) Double ellipse
- (B) Dashed ellipse
- (C) Diamonds
- (D) Lines

50. is a graphic representation of system that shows data flows to from and within system, processing functions that change the data in some manner and storage of its data.

- (A) DFD
- (B) ER model
- (C) Decision table
- (D) Decision tree

51. software resides only in read only memory and is used to control products and systems for the consumer and industrial markets.

- (A) Business
- (B) Embedded
- (C) System
- (D) Personal

52. The cost of software engineering includes approximately of development costs and of testing costs.

- (A) 50%, 50%
- (B) 40%, 60%
- (C) 80%, 20%
- (D) 60%, 40%

53. The model stipulates that the requirements be completely specified before the rest of the development can be processed.

- (A) Waterfall
- (B) Rapid Application Development (RAD)
- (C) Iterative Development
- (D) Incremental Development

54. model couples the iterative nature of the prototyping with the controlled and systematic aspects of the linear sequential model.

- (A) Spiral
- (B) Rapid Application Development (RAD)
- (C) Iterative Development
- (D) Incremental Development

55. results in modification to the software to accommodate changes to its external environment.

- (A) Adaptive maintenance
- (B) Perfective maintenance
- (C) Corrective maintenance
- (D) Standard maintenance

56. Which of the following activities includes in linear sequential model for software development :

- (i) analysis
- (ii) design
- (iii) coding
- (iv) correction
- (v) test

- (A) (i), (ii), (iii) and (iv) only
- (B) (ii), (iii), (iv) and (v) only
- (C) (i), (ii), (iii) and (v) only
- (D) (i), (iii), (iv) and (v) only

57. The assumes the requirement of a system which can be baseline before the design begins.

- (A) linear sequential model
- (B) rapid application model
- (C) incremental model
- (D) iterative enhancement model

58. is an incremental software development process model that emphasizes an extremely short development cycle.

- (A) Linear Sequential Development
- (B) Rapid Application Development
- (C) Incremental Development
- (D) Iterative Enhancement

59. Reliability in a software system can be achieved using which of the following strategies ?

- (A) Fault avoidance
- (B) Fault tolerance
- (C) Fault detection
- (D) All the above

60. involves modifying the system so that the fault does not recur.

- (A) Failure detection
- (B) Damage assessment
- (C) Fault recovery
- (D) Fault repair

61. is a list of names used by the systems, arranged alphabetically.

- (A) Data Library
- (B) Data Dictionary
- (C) Name Dictionary
- (D) System Dictionary

62. is the process, which controls the changes made to a system, and manages the different versions of the evolving software product.

- (A) Software management
- (B) Configuration management
- (C) Version management
- (D) Release management

63. requires developers and customers who are committed to the rapid-fire activities necessary to get a system complete in a much-abbreviated time frame.

- (A) Waterfall
- (B) Rapid Application Development (RAD)
- (C) Iterative Development
- (D) Incremental Development

64. The iterative enhancement model in software development encompasses which of the following phases :

- (i) Analysis
- (ii) Design
- (iii) Coding
- (iv) Implementation
- (A) (i), (ii) and (iii) only
- (B) (ii), (iii) and (iv) only
- (C) (i), (ii) and (iv) only
- (D) All (i), (ii), (iii) and (iv)

65. model is particularly useful when staffing is unavailable for a complete implementation by the business deadline that has been established for the project.

- (A) Linear Sequential Development
- (B) Rapid Application Development
- (C) Incremental Development
- (D) Iterative Enhancement

66. Which of the following is NOT the phase consisting on spiral model of software development ?

- (A) Planning
- (B) Design
- (C) Engineering
- (D) Risk-Analysis

67. Rapid Application Development (RAD) model in software development encompasses which of the following phases ?

- (i) Business modeling
- (ii) Data modeling
- (iii) Process modeling
- (iv) Application generation
- (A) (i), (ii) and (iii) only
- (B) (ii), (iii) and (iv) only
- (C) (i), (iii) and (iv) only
- (D) All (i), (ii), (iii) and (iv)

68. Which of the following is/are the different types of system model, which might be produced as part of the analysis process ?

- (i) Data-processing model
- (ii) Composition model
- (iii) Classification model
- (iv) Process model
- (A) (i), (ii) and (iii) only
- (B) (ii), iii and iv only
- (C) (i), (iii) and (iv) only
- (D) All (i), (ii), (iii) and iv

69. may be used to show how the system reacts to internal and external events.

- (A) Entity-relation diagram
- (B) Data flow diagram
- (C) Objects class diagram
- (D) State transaction diagram

70. is a way of showing how data is processed by a system.

- (A) Data flow models
- (B) System models
- (C) Semantic data models
- (D) Objects models

71. State whether the following statements about data flow model are True or False :

(i) Data flow model shows how the order for the goods moves from process to process.

(ii) Data flow diagrams are good way to describe sub-system with complex interfaces.

- (A) True, False
- (B) False, True
- (C) False, False
- (D) True, True

72. have the advantage that unlike some other modeling notations, they are simple and intuitive.

- (A) Entity-relation diagram
- (B) Data flow diagram
- (C) Objects class diagram
- (D) State transaction diagram

73. A/An is one of the structured methods of software design, where the system is modeled using the data transformations, which take place as it, is processed.

- (A) data-flow model
- (B) structured model
- (C) classification model
- (D) entity-relation model

74. In models, the system is decomposed into functional models, which accept, input data, and transform it in some way, to output data :

- (A) object-oriented model
- (B) domain specific model
- (C) control model
- (D) data-flow model

75. A strategy relies on decomposing the system into a set of interacting functions with a centralized system state shared by these functions :

- (A) architectural design
- (B) object-oriented design
- (C) function oriented design
- (D) interface design

76. Which of the following is NOT the notation used in design documents ?

- (A) Graphical notations
- (B) Visual notations
- (C) Program description language (PDLS)
- (D) Informal text

77. Software is considered to be a collection of
- (A) programming code
 - (B) associated libraries
 - (C) documentations
 - (D) All of the above
78. Which of the following is the characteristic of good software ?
- (A) Transitional
 - (B) Operational
 - (C) Maintenance
 - (D) All of the above
79. The reason for software bugs and failures is due to
- (A) Software developers
 - (B) Software companies
 - (C) Both (A) and (B)
 - (D) None of the above
80. What are attributes of good software ?
- (A) Software functionality
 - (B) Software development
 - (C) Software maintainability
 - (D) Both (A) and (C)
81. Which of the following are valid step in SDLC framework ?
- (A) Requirement Gathering
 - (B) System Analysis
 - (C) Software Design
 - (D) All of the above
82. Which of the following is not correct model in Software Development Paradigm ?
- (A) Waterfall Model
 - (B) P model
 - (C) Spiral Model
 - (D) V model
83. Waterfall model is not suitable for :
- (A) Small projects
 - (B) Complex projects
 - (C) Accommodating changes
 - (D) Maintenance projects
84. Which type of integration testing uses stubs ?
- (A) Top-down testing
 - (B) Bottom-up testing
 - (C) Both in top down and bottom-up testing
 - (D) System testing
85. The process to gather the software requirements from client, analyze and document them is known as
- (A) Feasibility Study
 - (B) Requirement Gathering
 - (C) Requirement Engineering
 - (D) System Requirements Specification

86. It is the process in which developers discuss with the client and end users and know their expectations from the software :

- (A) Requirements gathering
- (B) Organizing requirements
- (C) Negotiation and discussion
- (D) Documentation

87. Size Metrics denoted by :

- (A) LOC
- (B) KLOC
- (C) GLOC
- (D) ZLOC

88. How many phases are there in Brainstorming ?

- (A) 2
- (B) 3
- (C) 4
- (D) 5

89. Which of the following is not an Advantage of modularization ?

- (A) Smaller components are easier to maintain
- (B) Concurrent execution can be made possible
- (C) Program cannot be divided based on functional aspects
- (D) Desired level of abstraction can be brought in the program

90. Which of the following defines the degree of intra-dependability within elements of a module ?

- (A) Cohesion
- (B) Coupling
- (C) Design Verification
- (D) None of the above

91. Which tool is use for structured designing ?

- (A) Program Chart
- (B) Structure chart
- (C) Module Chart
- (D) All of the above

92. Which of the following is the best type of module cohesion ?

- (A) Functional Cohesion
- (B) Temporal Cohesion
- (C) Functional Cohesion
- (D) Sequential Cohesion

93. Choose the option that does not define Function Oriented Software Design :

- (A) It consists of module definitions
- (B) Modules represent data abstraction
- (C) Modules support functional abstraction
- (D) None of the above

94. What is DFD stands for ?

- (A) Data Flowchart Diagram
- (B) Data Flow Diagram
- (C) Depict Flow Diagram
- (D) Data Flow Depicts

95. How many levels of DFD are there ?

- (A) 2
- (B) 3
- (C) 4
- (D) 5

96. The context diagram is also known as

- (A) Level-0 DFD
- (B) Level-1 DFD
- (C) Level-2 DFD
- (D) All of the above

97. Which of the following is a function of CASE Tool ?

- (A) Supporting Structured analysis and design (SA/SD)
- (B) Maintaining the data dictionary
- (C) Checking whether DFDs are balanced or not
- (D) None of the above

98. Which of the following is not true about Software Validation ?

- (A) Validation ensures the product under development is as per the user requirements.
- (B) Validation do not emphasize on user requirements.
- (C) Validation emphasizes on user requirements.
- (D) Validation is carried out at the end of the SDL(C)

99. How many types of software testing exist ?

- (A) 1
- (B) 2
- (C) 3
- (D) 4

100. SRS stands for :

- (A) System requirements specification
- (B) System responds software
- (C) Software respond system
- (D) Software requirements specification

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

Example :

Question :

Q.1 (A) ☒ (C) ☐ (D)

Q.2 (A) ☐ (B) ☒ (D)

Q.3 (A) ☒ (C) ☐ (D)

Illegible answers with cutting and over-writing or half filled circle will be cancelled.

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
9. There will be no negative marking.
10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
11. To bring and use of log-book, calculator, pager and cellular phone in examination hall is prohibited.
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

Impt. : On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर—A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छँटना है। उत्तर को OMR आन्तर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

उदाहरण :

प्रश्न :

प्रश्न 1 (A) ☒ (C) ☐ (D)

प्रश्न 2 (A) ☐ (B) ☒ (D)

प्रश्न 3 (A) ☒ (C) ☐ (D)

अपठनीय उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उन्हें निरस्त कर दिया जाएगा।

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
7. ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
9. निगेटिव मार्किंग नहीं है।
10. कोई भी रफ कार्य, प्रश्न-पुस्तिका के अन्त में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा-कक्ष में लॉग-बुक, कैलकुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

महत्वपूर्ण : प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।