# BCA (Sixth Semester) Examination, July-2022

# BCA-602(N)

## Information System: Analysis Design & Implementation

**Time : 1:30 Hours**  **Maximum Marks-100**

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

**K-378**

निर्देश : —

1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही— सही भरें, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।

2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमे से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने है। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET) में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वांइट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा किसी प्रश्न का एक से अधिक उत्तर दिया जाता है, तो उसे गलत उत्तर माना जायेगा।

3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।

4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।

5. ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।

6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी ओ०एम०आर० शीट उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।

7. निगेटिव मार्किंग नहीं है।

महत्वपूर्ण : —

प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।

**Rough Work / रफ कार्य**

1. Which one is not related to an Entity?
   (A) Action
   (B) Teacher
   (C) Person
   (D) Student

2. Dashed ellipses represent in E-R diagram:
   (A) Multivalued Attribute
   (B) Derived Attribute
   (C) Weak Entity set
   (D) None of the above

3. In E-R Diagram Double ellipse represents in E-R diagram:
   (A) Derived Attribute
   (B) Multivalued Attribute
   (C) Weak Entity set
   (D) None of the above

4. In E-R Diagram Weak entity set is represented as:
   (A) Underline
   (B) Double line
   (C) Double rectangle
   (D) Double diamond

5. Requirement gathering techniques are:
   (A) Interviews
   (B) Brainstorming
   (C) Questionnaires
   (D) All of the above

6. Which is not type of system design?
   (A) Logical
   (B) Physical
   (C) Architectural
   (D) Quality

7. The Lower CASE tools are:
   (A) Planning, Analysis, Design
   (B) Implementation, Testing, Maintenance
   (C) Both (A) & (B)
   (D) None of the above

8. The Upper CASE tools are:
   (A) Planning, Analysis, Design
   (B) Implementation, Testing, Maintenance
   (C) Both (A) & (B)
   (D) None of the above

9. CASE is:
   (A) Computer Application System Engineering
   (B) Computer Aided Software Engineering
   (C) Computer Advance System Existence
   (D) None of the above

10. In the context of dynamic Modeling, "The change in state is called":
    (A) Transition
    (B) Event
    (C) Action
    (D) None of the above

11. The component of the DFD is Known as a …….. common synonyms are a bubble, a function or a transformation.
    (A) Process
    (B) Entity
    (C) Level
    (D) Flow

12. A ……. is represented graphically by an arrow into or out of a process.
    (A) Process
    (B) Entity
    (C) Level
    (D) Flow

13. Which of the following are types of code review?

(A) Code walkthrough

(B) Code inspection

(C) Both (A) & (B)

(D) None of the above

14. The primary tool used in structured design is a:

(A) Structure Chart

(B) Data-flow diagram

(C) Module

(D) None of the above

15. When different combination of input requires different combination of actions, which of the following technique is used in such situation?

(A) Boundary Value Analysis

(B) Equivalence Partition

(C) Decision Table

(D) None of the above

16. A decision table is:

(A) A truth table

(B) A table which facilitates taking decisions

(C) A table listing conditions and actions stub taken based on the testing of conditions

(D) A table in a database

17. UML diagrams are:

(A) Structural diagram

(B) Behavioural diagram

(C) Interaction diagram

(D) All of the above

18. Which of the following is not considered as an option for achieving reliable cost and effort estimation?
    (A) The ability to translate the size estimate into human effort, calendar time, and dollars
    (B) Use relatively simple decomposition techniques to generate project cost and effort estimates
    (C) Base estimates on similar projects that have already been completed
    (D) Use one or more empirical models for software cost and effort estimation

19. Which of the following software paradigms involve product delivery on a short cycle of iterations?
    (A) Waterfall
    (B) Spiral
    (C) Rapid Application Development
    (D) None of the above

20. Requirement specification is carried out:
    (A) After requirement are determined
    (B) Before requirement are determined
    (C) Simultaneously with requirement determination
    (D) Independent of requirement are determination

21. Interaction diagram is a combined term for:
    (A) Sequence + collaboration diagram
    (B) Activity diagram + state chart diagram
    (C) Deployment + collaboration diagram
    (D) None of the above mentioned

22. Which of the following word correctly summarized the importance of software design?
    (A) Quality
    (B) Complexity
    (C) Efficiency
    (D) Accuracy

23. Arrange the following activates for making a software product:

   1. Design strategy

   2. Transformation into product

   3. Implementation

   4. Requirement Gathering

   (A) 4,1,3,2

   (B) 4,3,2,1

   (C) 1,2,3,4

   (D) 1,4,2,3

24. CASE tools are:

   (A) Software Design tool

   (B) Code generation tool

   (C) Document production tool

   (D) All of the above

25. Which of the following automate project management activities, manage all work product produced throughout the process?

   (A) Software Development Cycle

   (B) Project Estimation Cycle

   (C) CASE tool

   (D) Spiral Model

26. Choose the correct-

   Statement 1. Users can be representing as Actors in Use case diagram

   Statement 2. Use case description consist number and use case name

   (A) Only Statement 1 is correct

   (B) Only Statement 2 is correct

   (C) Statement 1& 2 both are correct

   (D) Statement 1 & 2 both are incorrect

27. Choose the correct-

   Statement 1. A system is a collection of interrelated components that function together to achieve some outcome

   Statement 2. Risk management is consider in Spiral model

   (A) Only Statement 1 is correct

   (B) Only Statement 2 is correct

   (C) Statement 1& 2 both are correct

   (D) Statement 1 & 2 both are incorrect

28. One of the Characteristics of UML:

   (A) It is a generalized modelling language

   (B) It is distinct from other programming languages like C++, Python, etc

   (C) It is used to visualize the workflow of the system

   (D) All of the above

29. An UML is:

   (A) Universal Machine Language

   (B) Unique Modular Language

   (C) Unified Modeling Language

   (D) Unit Machine Learning

30. What is related to the overall functionality of the delivered software?

   (A) Function- related metrics

   (B) Product-related metrics

   (C) Size-related metrics

   (D) None of the above mentioned

31. Which of the following costs is not part of the total effort cost?

(A) Costs of networking and communications

(B) Costs of providing heating and lighting office space

(C) Costs of lunch time food

(D) Costs of support staff

32. Which of the following are parameters involved in computing the total cost of a software development project?

(A) Effort costs

(B) Hardware and software costs

(C) Travel and training costs

(D) All of the above

33. Which is not object oriented programming language?

(A) C

(B) C++

(C) JAVA

(D) All of the above

34. SDLC stands:

(A) Sequence Development Life Cycle

(B) Serial Data Life Cycle

(C) Software Development Life Cycle

(D) Standard Dynamic Life Cycle

35. System Study involves:

(A) Study of an existing System

(B) Documenting the existing System

(C) Identifying current deficiencies and establishing new goals

(D) All of the mentioned above

36. A feasibility study:

(A) Includes a statement of the problems

(B) Considers coding of systems

(C) Use for maintenance

(D) None of the above

37. A cost benefit analysis is performed as part of:

(A) System design

(B) System specification

(C) System performance assessment

(D) Feasibility analysis

38. "Consider a system where, a heat sensor detects an intrusion and alerts the security company." What king of a requirement the system is providing?

(A) Functional

(B) Non-Functional

(C) Known Requirement

(D) None of the above

39. Which one of the following is a functional requirement?

(A) Maintainability

(B) Portability

(C) Robustness

(D) None of the above

40. Which of the following prototypes does not associated with Prototyping Model?

(A) Domain Prototype

(B) Vertical Prototype

(C) Horizontal Prototype

(D) Diagonal Prototype

41. What does RAD stand for?

   (A) Relative Application Development

   (B) Rapid Application Development

   (C) Ready Approval Development

   (D) None of the above mentioned

42. What is the first step in the software development lifecycle?

   (A) System Design

   (B) Coding

   (C) Testing

   (D) Primary Investigation and Analysis

43. Which feature of OOP indicates code reusability?

   (A) Encapsulation

   (B) Inheritance

   (C) Polymorphism

   (D) Abstraction

44. COCOMO stands:

   (A) Calculated Cost Model

   (B) Constructive Cost Model

   (C) Computer Cost Model

   (D) None of the above mentioned

45. Which of the following are system design and its types?

   (A) Logical design

   (B) Physical design

   (C) Both Logical & Physical design

   (D) None of the mentioned above

46. The full form of JAD is:

    (A) Joint Application Development

    (B) Junior Approval Design

    (C) Joint Approval Data

    (D) None of the above

47. What of the following is an operational component of the system?

    (A) Input device

    (B) RAM

    (C) Processor

    (D) None of the above

48. What is system analysis?

    (A) Collecting facts and information

    (B) Interpreting facts

    (C) Identifying the problems

    (D) All of the mentioned above

49. Which is type of information?

    (A) Strategic Information

    (B) Operational Information

    (C) Both (A) & (B)

    (D) None of these

50. What is the major goal of a System Analysis and Design?

    (A) Instructions

    (B) Improve organization systems

    (C) Communication

    (D) None of the above mentioned

51. A common reason for changing an information system is:

(A) New requirements

(B) New technology

(C) Problems in the existing system

(D) All of the above

52. SQA is:

(A) Software Quality Assurance

(B) System Quality Audit

(C) Software Queue Analysis

(D) None of the above

53. Disadvantage of CASE toil is:

(A) CASE tool have a limited scope

(B) Using case tool is a very costly

(C) Both (A) & (B) are correct

(D) None of the above

54. Choose the correct-

Statement 1. Software quality assurance consists of the auditing and reporting functions of management

Statement 2. Software quality is measured as a foundation of requirement

(A) Only Statement 1 is correct

(B) Only Statement 2 is correct

(C) Statement 1 & 2 both are correct

(D) Statement 1 & 2 both are incorrect

55. Amongst which of the following is/are the Verification and validation activities:

(A) Technical reviews, quality and configuration audits

(B) Algorithm analysis, development testing, usability testing

(C) Qualification testing, acceptance testing and installation testing

(D) All of the above

56. Type of feasibility study are:

(A) Technical

(B) Economical

(C) Operational

(D) All of the above

57. The use of traceability table helps to:

(A) Debug programs following the detection of run-time errors

(B) Determine the performance of algorithm implementation

(C) Identify, control and track requirements changes

(D) None of the above

58. In software engineering the method of CMM is used to:

(A) Improve the testing process

(B) Improve the software process

(C) Develop the software

(D) Maintain the software

59. _____is a measure of the degree of interdependence between modules.

(A) Cohesion

(B) Coupling

(C) Array

(D) Validation

60. _____ refers to the set of tasks that ensure that software correctly implements a specific function.

   (A) Verification

   (B) Validation

   (C) Array

   (D) All of the above

61. The full for of SSADM:

   (A) Structured Systems Analysis & Design Method

   (B) Sequential Systems Analysis & Data Method

   (C) Short System Analysis & Data Method

   (D) Systematic Static  Analysis & Data Method

62. To determine project schedule is:

   (A) Identify tasks needed to complete the project

   (B) Determine dependency among different tasks

   (C) Plan the starting and ending dates for various tasks

   (D) All of the above

63. The disadvantage of structured System Analysis and Design Methodology is:

   (A) Usability

   (B) Time Consuming

   (C) Effective use of skill

   (D) None of the above

64. Which are information engineering stages?

   (A) Information Strategy Planning

   (B) Business Area Analysis

   (C) System Design

   (D) All of the above

65. A data dictionary is created when a _____ created.

(A) Instance

(B) Segment

(C) Database

(D) Dictionary

66. Relational schemas and other metadata about relations are stored in a structure called the ……..

(A) Metadata

(B) Catalog

(C) Log

(D) Data Dictionary

67. What is the purpose of data format validation?

(A) Data correctness

(B) Mere data existence

(C) Data modification

(D) Both Data correctness and Mere data existence

68. In which part does the form validation occur?

(A) Client

(B) User side

(C) Server

(D) Both client & server

69. Which type of user interface provides input by typing text in the keyboard?

(A) Natural language interface

(B) Command Line interface

(C) Graphical User interface

(D) None of the above

70. A software might allow a user to interact via:

(A) Keyboard command

(B) Mouse movement

(C) Voice recognition command

(D) All of the above

71. Which of the following is not user interface design process?

(A) Interface validation

(B) Interface design

(C) User, task and environment analysis and modeling

(D) Knowledgeable, frequent user

72. Grouping of all functionally related element is known as:

(A) Cohesion

(B) Coupling

(C) Both (A) and (B)

(D) None of the above

73. The primary objective of system design is to:

(A) Implementation of system

(B) Coding of system

(C) Find out how the system will perform

(D) Design the programs, databases and test plan

74. To run the old system and the new system at same time for a specified period, the system implementation approach used is:

(A) Sequential

(B) Rapid

(C) Parallel

(D) None of the above

75. Which of the following does not affect the software quality and organizational performance?

(A) Market

(B) Product

(C) Technology

(D) People

76. SQL is:

(A) Sequence Query Language

(B) Structured Query Language

(C) Sub Query Language

(D) None of the above

77. In Data Base Management System DDL is:

(A) Data Duplication Line

(B) Data Definition Language

(C) Data Direction Line

(D) None of the above

78. In size oriented metrics, metrics are developed based on the following:

(A) Number of user inputs

(B) Number of variables

(C) Number of lines of code

(D) Amount of memory usage

79. Which of the following is not an effective project manager trait?

(A) Managerial identity

(B) Problem solving

(C) Manage the people

(D) None of the above

80. The context diagram is also known as:

(A) Level-0 DFD

(B) Level-1 DFD

(C) Level-2 DFD

(D) All of the above

81. The step-by-step instructions that solve a problem are called ……….

(A) An Algorithm

(B) A Plan

(C) A List

(D) None of the above

82. Which is not process model?

(A) Spiral Model

(B) Waterfall Model

(C) Capability Maturity Model

(D) None of the above

83. Choose the Correct-

Statement 1. UML is standard way to visualize the design of a system

Statement 2. UML is coding process

(A) Only Statement 1 is correct

(B) Only Statement 2 is correct

(C) Statement 1 & 2 both are correct

(D) Statement 1 & 2 both are incorrect

84. Choose the Correct-

Statement 1. Functional requirements capture the intended behaviour of the system

Statement 2. Maintainability is non-functional requirement

(A) Only Statement 1 is correct

(B) Only Statement 2 is correct

(C) Statement 1 & 2 both are correct

(D) Statement 1 & 2 both are incorrect

85. The Data Flow Diagram (DFD) shows:

(A) The flow of data

(B) The Processes

(C) The areas where they are stored

(D) All of the above

86. Sequence diagram is …..... oriented.

(A) Class

(B) Time

(C) Activity

(D) None of the above

87. An UML diagram which has a static view?

(A) Use Case

(B) Class diagram

(C) List

(D) None of the above

88. ISO stand as:

(A) Indian Science Operation

(B) International Standard Organization

(C) Initial Service Operation

(D) None of the above

89. Which of the following sets represent levels defined by CMM in increasing order of maturity?

(A) Initial, Repeatable, Defined, Managed, Optimized

(B) Initial, Defined, Managed, Optimized, Repeatable

(C) Initial, Defined, Managed, Repeatable, Optimized

(D) Defined, Initial, Repeatable, , Managed, Optimized

90. How many levels in CMM?

(A) 1

(B) 2

(C) 4

(D) 5

91. CMM is:

(A) Capability Maturity Model

(B) Capacity Module Model

(C) Code Maturity Model

(D) None of the above

92. Which of the following is not a project manager's activity?

(A) Project control

(B) Project management

(C) Project planning

(D) Project design

93. Software _____ provides the framework from which comprehensive plan for software development can be established.

(A) People

(B) Product

(C) Process

(D) None of the above

94. Which of the following is a people-intensive activity?

   (A) Problem solving

   (B) Organization

   (C) Motivation

   (D) Project management

95. Why is software difficult to build?

   (A) Controlled Changes

   (B) Lack of reusability

   (C) Lack of monitoring

   (D) All of the above

96. How is generalization implemented in Object Oriented programming languages?
   (A) Polymorphism
   (B) Abstract Classes
   (C) Inheritance
   (D) Encapsulation

97. Choose the incorrect statement in terms of Objects:
   (A) Objects are abstractions of real- world
   (B) Objects can't manage themselves
   (C) Objects encapsulate state and representation information
   (D) All of the above

98. Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name?

   (A) Aggregation

   (B) Polymorphism

   (C) Inheritance

   (D) None of the above

99. Identify which of the following life cycle contains the phases: test case design, test execution, defect tracking, maintenance?

(A) SDLC

(B) SQLC

(C) STLC

(D) None of the above

100. Which is the following is the most important feature of the spiral model?

(A) Efficiency management

(B) Risk management

(C) Time management

(D) Quality management

******

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