

Roll No.-----

Paper Code

3 7 8

(To be filled in the
OMR Sheet)

प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No.

--	--	--	--	--	--	--	--

प्रश्नपुस्तिका सीरीज
Question Booklet Series

B

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 भरे, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
 2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमें से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने हैं। 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 प्वाइंट 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 of the following is the most important feature of the spiral model?
 - (A) Efficiency management
 - (B) Risk management
 - (C) Time management
 - (D) Quality management
2. 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
3. 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
4. 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
5. How is generalization implemented in Object Oriented programming languages?
 - (A) Polymorphism
 - (B) Abstract Classes
 - (C) Inheritance
 - (D) Encapsulation

6. Why is software difficult to build?
- (A) Controlled Changes
 - (B) Lack of reusability
 - (C) Lack of monitoring
 - (D) All of the above
7. Which of the following is a people-intensive activity?
- (A) Problem solving
 - (B) Organization
 - (C) Motivation
 - (D) Project management
8. 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
9. Which of the following is not a project manager's activity?
- (A) Project control
 - (B) Project management
 - (C) Project planning
 - (D) Project design
10. CMM is:
- (A) Capability Maturity Model
 - (B) Capacity Module Model
 - (C) Code Maturity Model
 - (D) None of the above

11. How many levels in CMM?
- (A) 1
 - (B) 2
 - (C) 4
 - (D) 5
12. 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
13. ISO stand as:
- (A) Indian Science Operation
 - (B) International Standard Organization
 - (C) Initial Service Operation
 - (D) None of the above
14. An UML diagram which has a static view?
- (A) Use Case
 - (B) Class diagram
 - (C) List
 - (D) None of the above
15. Sequence diagram is oriented.
- (A) Class
 - (B) Time
 - (C) Activity
 - (D) None of the above

16. 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
17. 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
18. 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
19. Which is not process model?
- (A) Spiral Model
 - (B) Waterfall Model
 - (C) Capability Maturity Model
 - (D) None of the above

20. 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
21. The context diagram is also known as:
- (A) Level-0 DFD
 - (B) Level-1 DFD
 - (C) Level-2 DFD
 - (D) All of the above
22. 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
23. 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
24. In Data Base Management System DDL is:
- (A) Data Duplication Line
 - (B) Data Definition Language
 - (C) Data Direction Line
 - (D) None of the above

25. SQL is:
- (A) Sequence Query Language
 - (B) Structured Query Language
 - (C) Sub Query Language
 - (D) None of the above
26. Which of the following does not affect the software quality and organizational performance?
- (A) Market
 - (B) Product
 - (C) Technology
 - (D) People
27. 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
28. 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
29. Grouping of all functionally related element is known as:
- (A) Cohesion
 - (B) Coupling
 - (C) Both (A) and (B)
 - (D) None of the above

30. 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
31. A software might allow a user to interact via:
- (A) Keyboard command
 - (B) Mouse movement
 - (C) Voice recognition command
 - (D) All of the above
32. 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
33. In which part does the form validation occur?
- (A) Client
 - (B) User side
 - (C) Server
 - (D) Both client & server
34. 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

35. Relational schemas and other metadata about relations are stored in a structure called the
- (A) Metadata
 - (B) Catalog
 - (C) Log
 - (D) Data Dictionary
36. A data dictionary is created when a _____ created.
- (A) Instance
 - (B) Segment
 - (C) Database
 - (D) Dictionary
37. Which are information engineering stages?
- (A) Information Strategy Planning
 - (B) Business Area Analysis
 - (C) System Design
 - (D) All of the above
38. 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
39. 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

40. The full form 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
41. _____ 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
42. _____ is a measure of the degree of interdependence between modules.
- (A) Cohesion
 - (B) Coupling
 - (C) Array
 - (D) Validation
43. 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
44. 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

45. Type of feasibility study are:
- (A) Technical
 - (B) Economical
 - (C) Operational
 - (D) All of the above
46. 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
47. 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
48. Disadvantage of CASE tool 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

49. SQA is:
- (A) Software Quality Assurance
 - (B) System Quality Audit
 - (C) Software Queue Analysis
 - (D) None of the above
50. 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
51. 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
52. Which is type of information?
- (A) Strategic Information
 - (B) Operational Information
 - (C) Both (A) & (B)
 - (D) None of these
53. What is system analysis?
- (A) Collecting facts and information
 - (B) Interpreting facts
 - (C) Identifying the problems
 - (D) All of the mentioned above

54. What of the following is an operational component of the system?
- (A) Input device
 - (B) RAM
 - (C) Processor
 - (D) None of the above
55. The full form of JAD is:
- (A) Joint Application Development
 - (B) Junior Approval Design
 - (C) Joint Approval Data
 - (D) None of the above
56. 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
57. COCOMO stands:
- (A) Calculated Cost Model
 - (B) Constructive Cost Model
 - (C) Computer Cost Model
 - (D) None of the above mentioned
58. Which feature of OOP indicates code reusability?
- (A) Encapsulation
 - (B) Inheritance
 - (C) Polymorphism
 - (D) Abstraction

59. What is the first step in the software development lifecycle?
- (A) System Design
 - (B) Coding
 - (C) Testing
 - (D) Primary Investigation and Analysis
60. What does RAD stand for?
- (A) Relative Application Development
 - (B) Rapid Application Development
 - (C) Ready Approval Development
 - (D) None of the above mentioned
61. Which of the following prototypes does not associated with Prototyping Model?
- (A) Domain Prototype
 - (B) Vertical Prototype
 - (C) Horizontal Prototype
 - (D) Diagonal Prototype
62. Which one of the following is a functional requirement?
- (A) Maintainability
 - (B) Portability
 - (C) Robustness
 - (D) None of the above
63. “Consider a system where, a heat sensor detects an intrusion and alerts the security company.” What kind of a requirement the system is providing?
- (A) Functional
 - (B) Non-Functional
 - (C) Known Requirement
 - (D) None of the above

64. A cost benefit analysis is performed as part of:
- (A) System design
 - (B) System specification
 - (C) System performance assessment
 - (D) Feasibility analysis
65. A feasibility study:
- (A) Includes a statement of the problems
 - (B) Considers coding of systems
 - (C) Use for maintenance
 - (D) None of the above
66. 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
67. SDLC stands:
- (A) Sequence Development Life Cycle
 - (B) Serial Data Life Cycle
 - (C) Software Development Life Cycle
 - (D) Standard Dynamic Life Cycle
68. Which is not object oriented programming language?
- (A) C
 - (B) C++
 - (C) JAVA
 - (D) All of the above

69. 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
70. 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
71. 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
72. An UML is:
- (A) Universal Machine Language
 - (B) Unique Modular Language
 - (C) Unified Modeling Language
 - (D) Unit Machine Learning
73. 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

74. 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

75. 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

76. 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

77. CASE tools are:

- (A) Software Design tool
- (B) Code generation tool
- (C) Document production tool
- (D) All of the above

78. 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
79. Which of the following word correctly summarized the importance of software design?
- (A) Quality
(B) Complexity
(C) Efficiency
(D) Accuracy
80. 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
81. 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

82. 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
83. 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
84. UML diagrams are:
- (A) Structural diagram
 - (B) Behavioural diagram
 - (C) Interaction diagram
 - (D) All of the above
85. 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
86. 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

87. The primary tool used in structured design is a:
- (A) Structure Chart
 - (B) Data-flow diagram
 - (C) Module
 - (D) None of the above
88. Which of the following are types of code review?
- (A) Code walkthrough
 - (B) Code inspection
 - (C) Both (A) & (B)
 - (D) None of the above
89. A is represented graphically by an arrow into or out of a process.
- (A) Process
 - (B) Entity
 - (C) Level
 - (D) Flow
90. 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
91. In the context of dynamic Modeling, “The change in state is called”:
- (A) Transition
 - (B) Event
 - (C) Action
 - (D) None of the above

92. CASE is:
- (A) Computer Application System Engineering
 - (B) Computer Aided Software Engineering
 - (C) Computer Advance System Existence
 - (D) None of the above
93. The Upper CASE tools are:
- (A) Planning, Analysis, Design
 - (B) Implementation, Testing, Maintenance
 - (C) Both (A) & (B)
 - (D) None of the above
94. The Lower CASE tools are:
- (A) Planning, Analysis, Design
 - (B) Implementation, Testing, Maintenance
 - (C) Both (A) & (B)
 - (D) None of the above
95. Which is not type of system design?
- (A) Logical
 - (B) Physical
 - (C) Architectural
 - (D) Quality
96. Requirement gathering techniques are:
- (A) Interviews
 - (B) Brainstorming
 - (C) Questionnaires
 - (D) All of the above
97. In E-R Diagram Weak entity set is represented as:
- (A) Underline
 - (B) Double line
 - (C) Double rectangle
 - (D) Double diamond

98. 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
99. Dashed ellipses represent in E-R diagram:
- (A) Multivalued Attribute
 - (B) Derived Attribute
 - (C) Weak Entity set
 - (D) None of the above
100. Which one is not related to an Entity?
- (A) Action
 - (B) Teacher
 - (C) Person
 - (D) Student

DO NOT OPEN THE QUESTION BOOKLET UNTIL ASKED TO DO SO

1. Examinee should enter his / her roll number, subject and Question Booklet Series correctly in the O.M.R. sheet, the examinee will be responsible for the error he / she has made.
 2. **This Question Booklet contains 100 questions, out of which only 75 Question are to be Answered by the examinee. Every question has 4 options and only one of them is correct. The answer which seems correct to you, darken that option number in your Answer Booklet (O.M.R ANSWER SHEET) completely with black or blue ball point pen. If any examinee will mark more than one answer of a particular question, then the answer will be marked as wrong.**
 3. Every question has same marks. Every question you attempt correctly, marks will be given according to that.
 4. Every answer should be marked only on Answer Booklet (O.M.R ANSWER SHEET). Answer marked anywhere else other than the determined place will not be considered valid.
 5. Please read all the instructions carefully before attempting anything on Answer Booklet **(O.M.R ANSWER SHEET)**.
 6. After completion of examination, please hand over the **O.M.R. SHEET** to the Examiner before leaving the examination room.
 7. There is no negative marking.
- Note:** On opening the question booklet, first check that all the pages of the question booklet are printed properly in case there is an issue please ask the examiner to change the booklet of same series and get another one.