JK

Roll No. _____

Question Booklet Number

O.M.R. Serial No. :

BCA IV Semester (NEP Back Paper) Examination, 2025-26

SOFTWARE ENGINEERING

Paper Code						
B	C	A	4	0	0	3

Question Booklet Series
A

Time : 1 : 30 Hours] **[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.
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 :

(Remaining instructions on the last page)

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 गये हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।
4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर- A, B, C तथा D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छाँटना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

(शेष निर्देश अन्तिम पृष्ठ पर)

Rough Work

1. Software Engineering is defined as:
   (A) Writing programs only
   (B) Application of engineering principles to software development
   (C) Debugging software
   (D) Using hardware efficiently
2. Which of the following best describes a "paradigm" in software engineering?
   (A) Programming language
   (B) Development model or approach
   (C) Hardware configuration
   (D) Testing technique
3. The term "software engineering" was first introduced in:
   (A) 1968 NATO Conference
   (B) 1975 IEEE Meeting
   (C) 1985 UNIX Summit
   (D) 1990 ACM Conference
4. Which of the following is NOT a software engineering paradigm?
   (A) Waterfall Model
   (B) Object-Oriented Model
   (C) Spiral Model
   (D) Binary Tree Model
5. A generic view of software engineering includes:
   (A) Only coding
   (B) Only testing
   (C) A framework of activities
   (D) Only maintenance
6. Which of the following is a framework activity in software engineering?
   (A) Painting
   (B) Communication
   (C) Marketing
   (D) Packaging
7. The "planning" activity in software engineering involves:
   (A) Writing code
   (B) Scheduling and resource allocation
   (C) Testing software
   (D) Debugging
8. The "construction" phase includes:
   (A) Coding and testing
   (B) Planning and designing
   (C) Requirement gathering
   (D) Deployment only

9. Software engineering aims to produce:
   (A) Low-cost hardware
   (B) High-quality software
   (C) Only documentation
   (D) Only programs
10. Which paradigm emphasizes iterative development?
   (A) Waterfall
   (B) Spiral
   (C) Linear
   (D) Assembly
11. Object-Oriented paradigm focuses on:
   (A) Functions
   (B) Objects and classes
   (C) Hardware
   (D) Algorithms only
12. The primary goal of software engineering is:
   (A) Fast coding
   (B) Reliable and efficient software
   (C) Cheap hardware
   (D) Simple UI
13. Which of the following is a key characteristic of software?
   (A) It wears out
   (B) It is manufactured
   (C) It is developed
   (D) It is assembled
14. Software does not "wear out" but:
   (A) Gets rusted
   (B) Becomes obsolete
   (C) Gets damaged physically
   (D) Breaks down mechanically
15. 15. A software process is:
   (A) A coding technique
   (B) A structured set of activities for development
   (C) A programming language
   (D) A testing method
16. Which activity ensures software meets customer requirements?
   (A) Planning
   (B) Communication
   (C) Deployment
   (D) Maintenance
17. Deployment activity includes:
   (A) Coding
   (B) Delivering software to users
   (C) Requirement gathering
   (D) Design

18. Requirements analysis primarily deals with:
    (A) Coding
    (B) Understanding user needs
    (C) Testing software
    (D) Maintenance
19. The first step in requirements analysis is:
    (A) Design
    (B) Coding
    (C) Statement of system scope
    (D) Testing
20. System scope defines:
    (A) Coding standards
    (B) Boundaries and limitations of the system
    (C) Testing strategies
    (D) Maintenance plans
21. Identifying top-level processes is part of:
    (A) Design
    (B) Requirements analysis
    (C) Coding
    (D) Maintenance
22. Entities in requirements analysis refer to:
    (A) Programming languages
    (B) Real-world objects or data
    (C) Hardware devices
    (D) Testing tools
23. Requirement refinement means:
    (A) Removing requirements
    (B) Detailing and clarifying requirements
    (C) Coding requirements
    (D) Ignoring requirements
24. Requirement review ensures:
    (A) Code efficiency
    (B) Requirement correctness and completeness
    (C) Hardware compatibility
    (D) Database performance
25. Which model is commonly used to represent system processes?
    (A) DFD (Data Flow Diagram)
    (B) ER Diagram
    (C) Flowchart
    (D) Gantt Chart

26. Requirement analysis helps to:

(A) Reduce development cost

(B) Increase coding time

(C) Delay testing

(D) Avoid design

27. A well-defined requirement should be:

(A) Ambiguous

(B) Incomplete

(C) Clear and precise

(D) Complex

28. Which of the following is a functional requirement?

(A) System speed

(B) User authentication

(C) Reliability

(D) Maintainability

29. Non-functional requirements include:

(A) Data processing

(B) Performance constraints

(C) Input validation

(D) Output generation

30. Requirement analysis bridges the gap between:

(A) User and developer

(B) Hardware and software

(C) Testing and maintenance

(D) Design and coding

31. Which activity validates requirements with stakeholders?

(A) Coding

(B) Review

(C) Deployment

(D) Debugging

32. Ambiguous requirements lead to:

(A) Better design

(B) Misinterpretation

(C) Faster coding

(D) Reduced cost

33. Requirement specification document is also known as:

(A) SRS

(B) DFD

(C) ERD

(D) UML

34. The main goal of requirements analysis is to:
    (A) Write code
    (B) Define "what" the system should do
    (C) Define "how" to code
    (D) Perform testing
35. Software design primarily focuses on:
    (A) Coding
    (B) Testing
    (C) Transforming requirements into design
    (D) Maintenance
36. Refining the software specification is part of:
    (A) Implementation
    (B) Design
    (C) Testing
    (D) Maintenance
37. Which of the following is NOT a type of software design?
    (A) Data design
    (B) Architectural design
    (C) Procedural design
    (D) Compilation design
38. Data design deals with:
    (A) Control flow
    (B) Data structures and organization
    (C) Coding standards
    (D) Testing methods
39. Architectural design defines:
    (A) Algorithms
    (B) System structure and components
    (C) Variables
    (D) Loops
40. Procedural design focuses on:
    (A) Data storage
    (B) Sequence of operations and logic
    (C) Hardware configuration
    (D) Documentation
41. A software blueprint refers to:
    (A) Source code
    (B) Design representation of the system
    (C) Test cases
    (D) User manual
42. Object-Oriented Design is based on:
    (A) Functions
    (B) Objects and classes
    (C) Flowcharts
    (D) Hardware modules

43. Which concept is central to Object-Oriented Design?

(A) Compilation

(B) Encapsulation

(C) Debugging

(D) Scheduling

44. In software design, abstraction means:

(A) Ignoring details

(B) Hiding unnecessary details and focusing on essentials

(C) Writing code

(D) Testing modules

45. Modularity in design helps in:

(A) Increasing complexity

(B) Dividing system into smaller components

(C) Reducing testing

(D) Avoiding documentation

46. Coupling refers to:

(A) Independence of modules

(B) Interdependence between modules

(C) Code length

(D) Testing coverage

47. Cohesion refers to:

(A) Relationship between modules

(B) Strength of module functionality

(C) Code errors

(D) Compilation

48. High cohesion and low coupling are:

(A) Undesirable

(B) Ideal for good design

(C) Not related

(D) Only for testing

49. Software design acts as a bridge between:

(A) Coding and testing

(B) Requirements and implementation

(C) Hardware and software

(D) Testing and maintenance

50. Which design approach starts from high-level and moves to detail?

(A) Bottom-up

(B) Top-down

(C) Object-oriented

(D) Functional

51. In Object-Oriented Design, inheritance allows:
    (A) Code deletion
    (B) Code reuse
    (C) Code duplication
    (D) Code testing
52. Software implementation primarily involves:
    (A) Requirement gathering
    (B) Coding and translating design into programs
    (C) Testing only
    (D) Maintenance
53. Implementation is directly related to:
    (A) Requirements
    (B) Design
    (C) Testing
    (D) Maintenance
54. The main goal of implementation is to:
    (A) Analyze requirements
    (B) Convert design into executable code
    (C) Test the system
    (D) Maintain software
55. Which of the following is part of implementation issues?
    (A) Coding standards
    (B) User interface design
    (C) Requirement analysis
    (D) System scope
56. Programming support environment includes:
    (A) Only hardware
    (B) Tools like compilers, editors, debuggers
    (C) Only operating system
    (D) Only database
57. Which tool translates high-level language into machine code?
    (A) Editor
    (B) Compiler
    (C) Debugger
    (D) Loader
58. Debugging is the process of:
    (A) Writing code
    (B) Finding and fixing errors
    (C) Designing system
    (D) Documenting code

59. Which of the following is NOT a feature of good coding style?

(A) Meaningful variable names

(B) Proper indentation

(C) Unstructured code

(D) Comments

60. Coding the procedural design means:

(A) Designing algorithms

(B) Implementing logic into code

(C) Testing modules

(D) Reviewing requirements

61. Which of the following helps detect syntax errors?

(A) Debugger

(B) Compiler

(C) Editor

(D) Loader

62. A debugger is used to:

(A) Write code

(B) Execute code line-by-line and find logical errors

(C) Compile code

(D) Store code

63. Which environment helps programmers write and manage code efficiently?

(A) IDE (Integrated Development Environment)

(B) Database

(C) Operating system

(D) Network

64. Which of the following is a good coding practice?

(A) Using global variables excessively

(B) Writing lengthy functions

(C) Modular programming

(D) Avoiding comments

65. Indentation in coding helps:

(A) Reduce execution time

(B) Improve readability

(C) Reduce memory

(D) Increase errors

66. Which phase follows implementation?

(A) Design

(B) Testing

(C) Requirement analysis

(D) Planning

67. Programming languages used in implementation are:
    (A) Natural languages
    (B) High-level languages
    (C) Assembly only
    (D) Machine only
68. Software maintenance refers to:
    (A) Writing new software
    (B) Modifying software after delivery
    (C) Testing software
    (D) Designing software
69. Maintenance is a part of:
    (A) Software design
    (B) Software evaluation
    (C) Coding
    (D) Testing only
70. Which of the following is NOT a type of software maintenance?
    (A) Corrective
    (B) Adaptive
    (C) Perfective
    (D) Predictive
71. Corrective maintenance is performed to:
    (A) Add new features
    (B) Fix errors
    (C) Improve performance
    (D) Change environment
72. Adaptive maintenance is required when:
    (A) Bugs are found
    (B) Environment changes
    (C) Performance issues occur
    (D) New features are added
73. Perfective maintenance is done to:
    (A) Fix bugs
    (B) Improve performance or usability
    (C) Change hardware
    (D) Remove code
74. Which type of maintenance focuses on improving efficiency?
    (A) Corrective
    (B) Adaptive
    (C) Perfective
    (D) Preventive
75. Which of the following is a reason for software maintenance?
    (A) Changing user needs
    (B) Technological advancement
    (C) Error correction
    (D) All of the above

76. Designing for maintainability means:
    (A) Making code complex
    (B) Making software easy to modify
    (C) Avoiding documentation
    (D) Reducing features
77. Maintenance cost is usually:
    (A) Low
    (B) Medium
    (C) High
    (D) Zero
78. Software maintenance includes:
    (A) Only debugging
    (B) Modifying and updating software
    (C) Only testing
    (D) Only coding
79. Preventive maintenance aims to:
    (A) Fix current errors
    (B) Prevent future problems
    (C) Improve UI
    (D) Add features
80. Which of the following is a maintenance technique?
    (A) Code restructuring
    (B) Data flow diagram
    (C) Requirement analysis
    (D) Flowchart
81. Reverse engineering is used in:
    (A) Coding
    (B) Maintenance
    (C) Testing
    (D) Design
82. Re-engineering involves:
    (A) Writing new software
    (B) Improving existing software
    (C) Deleting software
    (D) Testing only
83. Maintenance is performed:
    (A) Before development
    (B) During development only
    (C) After deployment
    (D) Only during testing
84. CASE tools stand for:
    (A) Computer Aided Software Engineering
    (B) Computer Algorithm Software Engineering
    (C) Code Analysis System Engine
    (D) Computer Application System Environment

85. CASE tools are used to:

(A) Replace programmers

(B) Automate software development activities

(C) Only test software

(D) Only design hardware

86. Which of the following is a benefit of CASE tools?

(A) Increased errors

(B) Reduced productivity

(C) Improved development efficiency

(D) No documentation

87. Upper CASE tools are used in:

(A) Coding phase

(B) Early stages like analysis and design

(C) Maintenance only

(D) Testing only

88. Lower CASE tools are used in:

(A) Requirement analysis

(B) Design

(C) Implementation and testing

(D) Planning

89. Integrated CASE tools support:

(A) Only coding

(B) Only testing

(C) Entire software lifecycle

(D) Only design

90. Configuration management deals with:

(A) Coding standards

(B) Managing changes in software

(C) Designing systems

(D) Testing modules

91. Software configuration includes:

(A) Only code

(B) Code, documents, and data

(C) Only hardware

(D) Only testing tools

92. Version control is part of:

(A) Testing

(B) Configuration management

(C) Design

(D) Requirement analysis

93. Baseline in configuration management refers to:

(A) Initial version of software

(B) Final product

(C) Testing phase

(D) Coding standard

94. Change control ensures:

(A) Random changes

(B) Controlled and approved changes

(C) No changes allowed

(D) Only testing changes

95. Configuration management helps in:

(A) Increasing errors

(B) Managing software evolution

(C) Avoiding documentation

(D) Reducing coding

96. Which of the following is NOT a CASE tool function?

(A) Code generation

(B) Documentation support

(C) Requirement analysis support

(D) Hardware manufacturing

97. Repository in CASE tools stores:

(A) Hardware components

(B) Software project data and documents

(C) Only code

(D) Only test cases

98. Configuration audit is used to:

(A) Write code

(B) Verify correctness of configuration items

(C) Design system

(D) Test modules

99. Which activity tracks changes in software?

(A) Debugging

(B) Version control

(C) Coding

(D) Testing

100. Reverse engineering refers to:

(A) Developing new software

(B) Extracting design from existing software

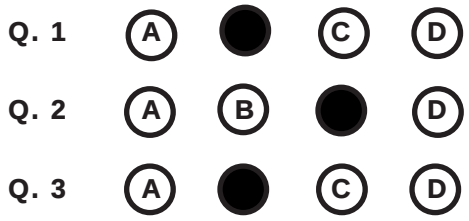
(C) Testing

(D) Coding

Rough Work

Example :

Question :

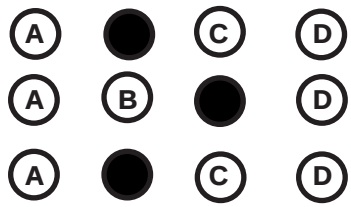


5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer Sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything 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 & 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.

उदाहरण :

प्रश्न :



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 में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा कक्ष में लॉग-बुक, कैल्कुलेटर, 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 : प्रश्न-पुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्न-पुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।