JK

Roll No. _____

Question Booklet Number

O.M.R. Serial No. : | | | | | | | |

BCA II Semester Examination, 2025-26

Object Oriented Programming

Using C++

Paper Code							
B	C	A	2	0	0	1	T

Question Booklet Series
B

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 procee(D) Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replace(D)
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

रफ कार्य

1. Which of the following is an example of runtime polymorphism?
   (A) Function overloading
   (B) Operator overloading
   (C) Virtual functions
   (D) Templates
2. A virtual function is a function that:
   (A) Is declared with the virtual keyword in the base class and overridden in a derived class.
   (B) Cannot be overridden.
   (C) Is static by default.
   (D) Is always private.
3. Which of the following is used to resolve the ambiguity in multiple inheritance when a common base class is inherited through multiple paths?
   (A) Virtual function
   (B) Abstract class
   (C) Virtual base class
   (D) Friend function
4. If a class is derived from two base classes, it is called:
   (A) Single inheritance
   (B) Multilevel inheritance
   (C) Multiple inheritance
   (D) Hierarchical inheritance
5. When a derived class object is destroyed, what is the order of destructor calls?
   (A) Base class destructor first, then derived class destructor.
   (B) Derived class destructor first, then base class destructor.
   (C) Only derived class destructor is called
   (D) Only base class destructor is called
6. When a derived class object is created, what is the order of constructor calls?
   (A) Derived class constructor first, then base class constructor.
   (B) Base class constructor first, then derived class constructor.
   (C) Only base class constructor is called.
   (D) Only derived class constructor is called.
7. Which of the following cannot be inherited?
   (A) Public member functions
   (B) Protected data members
   (C) Private data members
   (D) Constructors and Destructors

8. A pure virtual function is declared by assigning:
   (A) 0
   (B) NULL
   (C) void
   (D) nullptr
9. Operator overloading is:
   (A) Defining a new operator.
   (B) Giving new meaning to an existing operator for user-defined types.
   (C) Deleting an operator's functionality.
   (D) Making all operators work for classes.
10. Which function cannot be overloaded?
   (A) + operator
   (B) = operator
   (C) :: operator
   (D) ++ operator
11. The feature in C++ that allows writing code that works with any data type is called:
   (A) Polymorphism
   (B) Inheritance
   (C) Encapsulation
   (D) Templates/Generic Programming
12. A class that is defined with placeholder types for its data members and member functions is called a:
   (A) Virtual class
   (B) Abstract class
   (C) Class template
   (D) Friend class
13. The keyword used to start a template is:
   (A) class
   (B) typename or class
   (C) generic
   (D) template
14. Which of the following correctly defines a class template with one parameter?
   (A) template <typename T> class MyClass {};
   (B) class template <T> MyClass {};
   (C) template <class T> class MyClass {};
   (D) Both (A) and (C)

15. A function template is also known as a:

(A) Macro function

(B) Generic function

(C) Virtual function

(D) Friend function

16. Which of the following is used for generic programming?

A) Virtual functions

(B) Modules

(C) Templates

(D) Abstract Classes

17. If a class template has multiple parameters, they are separated by:

(A) Semicolon (;)

(B) Colon (:)

(C) Comma (,)

(D) Period (.)

18. Creating a specific function from a function template is called:

(A) Overloading

(B) Instantiation

(C) Abstraction

(D) Derivation

19. Which of the following is a valid function template?

(A) template <typename T> T add(T a, T b) { return a+b; }

(B) T add(T a, T b) template <typename T> { return a+b; }

(C) template <typename T> T add(T a, b) { return a+b; }

(D) template <class T1, T2> T1 add(T1 a, T2 b) { return a+b; }

20. Which of the following is correct about templates?

(A) It is a type of compile time polymorphism

(B) It allows the programmer to write one code for all data types

(C) Helps in generic programming

(D) All of the mentioned

21. When you overload a template function, you are providing:

(A) Another template with different parameters.

(B) A non-template function with the same name.

(C) Both (A) and (B) are possible.

(D) None of the above.

22. A class template with one parameter class T can be instantiated with:
    (A) Only built-in data types like int, float.
    (B) Only user-defined types like Student
    (C) Any data type, built-in or user-defined.
    (D) Only pointer types.
23. Which parameter is legal for non-type template?
    (A) pointer to member
    (B) object
    (C) class
    (D) baseclass
24. What is meant by the template parameter?
    (A) It can be used to pass a type as an argument
    (B) It can be used to evaluate a type
    (C) It can of no return type
    (D) It can be used to delete a type
25. Template parameters can be:
    (A) Only data types
    (B) Only constants
    (C) Data types or constants
    (D) Only classes
26. Which header file is necessary for file I/O in C++?
    (A) <iostream>
    (B) <fstream>
    (C) <iomanip>
    (D) <cstdio>
27. The class that provides output file operations is:
    (A) ifstream
    (B) ofstream
    (C) fstream
    (D) iostream
28. The class that provides input file operations is:
    (A) ifstream
    (B) ofstream
    (C) fstream
    (D) iostream
29. Which class can be used for both input and output file operations?
    (A) ifstream
    (B) ofstream
    (C) fstream
    (D) iostr
30. To open a file for writing in C++, you typically create an object of type:
    (A) ifstream
    (B) ofstream
    (C) fstream with ios::out flag
    (D) Both (B) and (C)
31. The tellg() function is used to:
    (A) Get the current position of the get (input) pointer.
    (B) Get the current position of the put (output) pointer.
    (C) Move the input pointer to the end.
    (D) Move the output pointer to the beginning.

32. The seekp() function is used with:
    (A) if stream objects
    (B) of stream objects
    (C) Both if stream and of stream
    (D) cin object

33. The base class for all file stream classes is:
    (A) iostream
    (B) fstreambase
    (C) ios
    (D) stdio

34. Which of the following is a correct way to check if a file was opened successfully?
    (A) if (file.is_open())
    (B) if (file.good())
    (C) if (file)
    (D) All of the above

35. The mechanism to handle runtime anomalies like division by zero is called:
    (A) Error handling
    (B) Exception handling
    (C) Debugging
    (D) Signal handling

36. The keywords used in exception handling are:
    (A) try, catch, throw
    (B) try, except, finally
    (C) try, catch, finally
    (D) throw, catch, final

37. The block of code that monitors for exceptions is:
    (A) catch block
    (B) throw block
    (C) try block
    (D) except block

38. The block of code that handles a specific exception is:
    (A) try block
    (B) catch block
    (C) throw block
    (D) handle block

39. The keyword used to actually signal/ raise an exception is:
    (A) try
    (B) catch
    (C) raise
    (D) throw

40. What will a catch(...) block do?
    (A) Catch only integer exceptions.
    (B) Catch only character pointer exceptions.
    (C) Catch any type of exception.
    (D) It is a syntax error.

41. In a file, the ios::ate mode means:
    (A) Open file in append mode (data is written at the end).
    (B) Open file and go to the end, but you can write anywhere.
    (C) Truncate the file.
    (D) Open file for reading only.
42. In a file, the ios::ate mode means:
    (A) Open file in append mode (data is written at the end).
    (B) Open file and go to the end, but you can write anywhere.
    (C) Truncate the file.
    (D) Open file for reading only.
43. Which function is used to read a single character from a file?
    (A) >> operator
    (B) read()
    (C) get()
    (D) getline()
44. Which function is used to read a line of text from a file?
    (A) get()
    (B) getline()
    (C) read()
    (D) >> operator
45. If multiple catch statements are provided, they are checked in order, and the:
    (A) First matching catch block is executed
    (B) Last matching catch block is executed
    (C) All matching catch blocks are executed
    (D) Program will show an ambiguity error.
46. Which of the following is an example of an exception?
    (A) Syntax error
    (B) Logical error
    (C) Out-of-memory error during new
    (D) Compilation error
47. To perform error handling during file I/O, which member function can be used to check the state of the stream?
    (A) good()
    (B) bad()
    (C) fail()
    (D) All of the above
48. What is the purpose of the close() function for a file stream?
    (A) To delete the file.
    (B) To flush the buffer and close the file connection.
    (C) To clear the file contents.
    (D) To open another file.
49. In the stream class hierarchy, which class is at the very top (the root)?
    (A) iostream
    (B) istream
    (C) ios
    (D) fstream
50. What happens if you try to throw an exception that no catch block handles?
    (A) The program continues normally.
    (B) The program terminates abnormally.
    (C) The exception is ignored.
    (D) A default catch block is called.

51. Which of the following is the fundamental unit of Object-Oriented Programming?
    (A) Function
    (B) Structure
    (C) Class
    (D) Variable
52. Which paradigm focuses on the steps or procedures to solve a problem?
    (A) Object-Oriented
    (B) Functional
    (C) Procedural/Decomposition
    (D) Logic
53. Wrapping up of data and functions into a single unit is known as:
    (A) Abstraction
    (B) Polymorphism
    (C) Inheritance
    (D) Encapsulation
54. The ability of a function or operator to act in different ways on different data types is called:
    (A) Inheritance
    (B) Polymorphism
    (C) Abstraction
    (D) Encapsulation
55. Which of the following is not a feature of OOP?
    (A) Encapsulation
    (B) Polymorphism
    (C) Global Variables
    (D) Inheritance
56. C++ was developed by:
    (A) Dennis Ritchie
    (B) Ken Thompson
    (C) Bjarne Stroustrup
    (D) James Gosling
57. Which of the following is a valid difference between C and C++?
    (A) C supports functions, C++ does not.
    (B) C is a procedural language, C++ supports both procedural and OOP.
    (C) C++ supports structures, C does not.
    (D) C uses pointers, C++ does not.
58. The standard output stream in C++ is:
    (A) cin
    (B) std::input
    (C) cout
    (D) printf

59. The operator used with cin to read input from the keyboard is:

(A) <<

(B) >>

(C) &

(D) ->

60. Which operator is used to dynamically allocate memory in C++?

(A) alloc

(B) malloc

(C) new

(D) free

61. Which operator is used to deallocate memory allocated by new?

(A) dealloc

(B) free

(C) delete

(D) remove

62. The concept of hiding unnecessary details from the user is called:

(A) Encapsulation

(B) Polymorphism

(C) Inheritance

(D) Abstraction

63. C++ is a superset of which language?

(A) Java

(B) C#

(C) C

(D) Python

64. To use cout and cin, which header file is primarily included?

(A) <stdio.h>

(B) <conio.h>

(C) <iostream> or <iostream.h>

(D) <fstream.h>

65. The << operator, when used with cout, is known as the:

(A) Extraction operator

(B) Insertion operator

(C) Redirection operator

(D) Left shift operator

66. Which paradigm decomposes the problem into functions?

(A) Object-Oriented

(B) Data Decomposition

(C) Functional Decomposition

(D) Logic Decomposition

67. An instance of a class is called a(n):

(A) Object

(B) Method

(C) Attribute

(D) Blueprint

68. Which of the following is not a basic concept of OOP?

(A) Class

(B) Polymorphism

(C) Inheritance

(D) Compilation

69. In C++, if we want to use new and delete, which header file is required?

(A) <new.h>

(B) <memory>

(C) <stdlib.h>

(D) They are keywords and don't require a header.

70. The main difference between C and C++ is that C++ is _____ while C is _____ .

(A) Procedural, Object-Oriented

(B) Object-Oriented, Procedural

(C) Low-level, High-level

(D) Interpreted, Compiled

71. A class is a/an:

(A) Object

(B) Instance

(C) Blueprint for creating objects

(D) Function

72. Data hiding in C++ is achieved through:

(A) Public access specifier

(B) Private access specifier

(C) Protected access specifier

(D) Global variables

73. Which of the following is not a valid access specifier in C++?

(A) Public

(B) Private

(C) Protected

(D) Default

74. A constructor is called automatically when:

(A) A program starts

(B) An object is created

(C) A function is called

(D) An object goes out of scope

75. A destructor is called automatically when:

(A) An object is created

(B) A program ends

(C) An object goes out of scope

(D) A function is called

76. What is the name of a constructor?
    (A) Any valid function name
    (B) init
    (C) Same as the class name
    (D) ~ followed by the class name
77. What is the name of a destructor?
    (A) Same as the class name
    (B) destroy
    (C) ~ followed by the class name
    (D) exit
78. A constructor that does not accept any parameters is called a:
    (A) Parameterized constructor
    (B) Copy constructor
    (C) Default constructor
    (D) Empty constructor
79. The process of creating an object from a class is called:
    (A) Initialization
    (B) Instantiation
    (C) Declaration
    (D) Encapsulation
80. If a class has no constructors defined, what happens?
    (A) The program will not compile.
    (B) The compiler provides a default constructor.
    (C) Objects cannot be created.
    (D) A runtime error will occur.
81. A constructor that initializes an object using another object of the same class is called:
    (A) Default constructor
    (B) Parameterized constructor
    (C) Copy constructor
    (D) Dynamic constructor
82. Abstract classes are also known as:
    (A) Concrete classes
    (B) Base classes
    (C) Meta classes
    (D) Derived classes
83. A class that contains at least one pure virtual function is called a/an:
    (A) Virtual class
    (B) Abstract class
    (C) Friend class
    (D) Base class
84. Which function cannot be overridden because it is defined at compile time?
    (A) Virtual function
    (B) Static function
    (C) Friend function
    (D) Inline function

85. Which of the following is not a type of constructor?
    (A) Copy constructor
    (B) Friend constructor
    (C) Default constructor
    (D) Parameterized constructor

86. The members of a class that define the characteristics of an object are called:
    (A) Methods
    (B) Attributes / Data Members
    (C) Behaviors
    (D) Messages

87. The functions of a class that define the operations on an object are called:
    (A) Attributes
    (B) Data Members
    (C) Methods / Member Functions
    (D) Properties

88. Memory for a local object is allocated on:
    (A) Heap
    (B) Free store
    (C) Stack
    (D) Disk

89. Memory allocated using new is located on:
    (A) Stack
    (B) Heap
    (C) Code segment
    (D) Data segment

90. "Garbage Collection" in C++ refers to:
    (A) Automatic de-allocation of unused memory by the compiler.
    (B) Manual de-allocation using delete.
    (C) The process of creating objects.
    (D) It is not a feature of C++.

91. The capability of a class to derive properties from another class is called:
    (A) Polymorphism
    (B) Abstraction
    (C) Inheritance
    (D) Encapsulation

92. The base class is also known as:
    (A) Derived class
    (B) Child class
    (C) Super class
    (D) Sub class

93. The derived class is also known as:
    (A) Parent class
    (B) Base class
    (C) Super class
    (D) Sub class
94. Which type of derivation makes public members of the base class become private members of the derived class?
    (A) public
    (B) protected
    (C) private
    (D) friend
95. In protected derivation, the public and protected members of the base class become _____ in the derived class
    (A) Public
    (B) Private
    (C) Protected
    (D) Static
96. The "has-a" relationship between classes is known as:
    (A) Inheritance
    (B) Aggregation/Composition
    (C) Polymorphism
    (D) Encapsulation
97. A "part-of" or "containership" relationship where the part cannot exist without the whole is called:
    (A) Aggregation
    (B) Inheritance
    (C) Composition
    (D) Generalization
98. The "is-a" relationship is represented by:
    (A) Aggregation
    (B) Composition
    (C) Inheritance
    (D) Association
99. The ability of a message/function to be processed in more than one form is called:
    (A) Inheritance
    (B) Polymorphism
    (C) Encapsulation
    (D) Abstraction
100. Overloading an operator falls under which category of polymorphism?
    (A) Runtime polymorphism
    (B) Compile-time polymorphism
    (C) Inclusion polymorphism
    (D) Parametric polymorphism

Rough Work

रफ कार्य

Example :

Question :

Q. 1 (A) ● (C) (D)

Q. 2 (A) (B) ● (D)

Q. 3 (A) ● (C) (D)

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 vali(D)
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 prohibite(D)
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authenti(C)

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 :

प्रश्न 1 (A) ● (C) (D)

प्रश्न 2 (A) (B) ● (D)

प्रश्न 3 (A) ● (C) (D)

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।