JK

Roll No. _____

Question Booklet Number

O.M.R. Serial No. :

BCA II Semester (NEP Back) Examination, 2025-26

Object Oriented Programming Using C++

Paper Code						
B	C	A	2	0	0	1

Question Booklet Series
C

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

रफ कार्य

1. Templates are useful for:

   (A) writing separate functions for each data type

   (B) writing generic code

   (C) avoiding functions

   (D) avoiding classes

2. Template arguments are specified using:

   (A) ()

   (B) {}

   (C) []

   (D) <>

3. Template supports which concept?

   (A) inheritance

   (B) polymorphism

   (C) generic programming

   (D) encapsulation

4. Templates are resolved at:

   (A) runtime

   (B) compile-time

   (C) execution time

   (D) linking time

5. Which feature allows extending existing code?

   (A) inheritance

   (B) encapsulation

   (C) abstraction

   (D) polymorphism

6. What happens when a template is used with different data types?

   (A) same function is reused

   (B) program checks

   (C) runtime conversion happens

   (D) separate functions are generated

7. What is a class template?

   (A) a class with generic data types

   (B) a class with fixed data types

   (C) a function

   (D) a pointer

8. Which of the following is true about template functions?

   (A) they are executed only once

   (B) they generate code for each data type used

   (C) they are interpreted at runtime

   (D) they cannot be reused

9. Which of the following syntax is used for class template?

(A) template <class T> class A

(B) class template <T> A

(C) template class A<T>

(D) class <T> template A

10. Which statement is used for decision making?

(A) if statement

(B) loop

(C) function

(D) class

11. Which is correct syntax of if-else?

(A) if condition then

(B) if(condition) { } else { }

(C) if { } else { }

(D) condition if else

12. Which operator is used in switch statement?

(A) ==

(B) =

(C) :

(D) none

13. Which keyword is optional in switch?

(A) case

(B) break

(C) default

(D) switch

14. Static data member is declared inside class but defined:

(A) inside constructor

(B) inside function

(C) inside main

(D) outside class

15. Which of the following is correct syntax?

(A) static int x = 10; (inside class only)

(B) x = 10;

(C) A.x = 10;

(D) int A::x = 10;

16. Which of the following is true?

(A) static member changes for each object

(B) static member is shared

(C) static member cannot be changed

(D) static member is constant

17. Static data members are created:

(A) when object is created

(B) when program ends

(C) when function is called

(D) when class is loaded

18. Which operator is used for dynamic memory allocation in C++?
    (A) malloc
    (B) new
    (C) alloc
    (D) create

19. Which function is used to deallocate memory in C++?
    (A) free()
    (B) clear()
    (C) remove()
    (D) delete

20. What is the correct syntax for allocating memory for single variable?
    (A) int *p = new int;
    (B) int p = new int;
    (C) new int p;
    (D) int new p;

21. Which of the following is correct syntax of constructor?
    (A) void A()
    (B) A()
    (C) int A()
    (D) class A()

22. How many constructors can a class have?
    (A) one
    (B) two
    (C) many
    (D) none

23. What is a copy constructor?
    (A) Constructor with no parameters
    (B) Constructor with one parameter of same class type
    (C) Constructor with two parameters
    (D) Destructor

24. Which constructor is called first?
    (A) base class constructor
    (B) derived class constructor
    (C) destructor
    (D) main function

25. What will be the output?

```
class A {
public:
A() { cout << "A"; }
};
int main() {
A a1, a2;
}
```

    (A) A
    (B) AA
    (C) error
    (D) no output

26. What will be the output?

```
class A {
public:
A() { cout << "A"; }
};
int main() {
A *p = new A;
delete p;
}
```

(A) A

(B) AA

(C) AB

(D) Error

27. What will be the output?

```
class A {
public:
A() { cout << "A"; }
};
class B : public A {
public:
B() { cout << "B"; }
};
int main() {
B obj;
}
```

(A) AB

(B) BA

(C) A

(D) B

28. Scope of a local class is:

(A) global

(B) inside a class

(C) entire program

(D) within the function

29. Which order is followed for global object destruction?

(A) reverse of creation

(B) same as creation

(C) random

(D) no destruction

30. Can a local class access non-static local variables of function?

(A) yes

(B) no

(C) only with pointer

(D) only public variables

31. What will be the output?

```
try {
throw 5;
}
catch(...) {
cout << "Caught";
}
```

(A) error

(B) Caught

(C) nothing

(D) 5

32. Objects are created:

(A) inside class

(B) outside class

(C) inside function only

(D) nowhere

33. What is a local class?
    (A) class defined globally
    (B) static class
    (C) class inside another class
    (D) class defined inside a function
34. Friend function is declared in:
    (A) public section only
    (B) private section only
    (C) any section of class
    (D) outside class only
35. Which is true about multiple catch blocks?
    (A) all execute
    (B) only matching executes
    (C) none executes
    (D) random execution
36. Which catch block catches all exceptions?
    (A) catch(int x)
    (B) catch()
    (C) catch(float x)
    (D) catch(...)
37. Virtual base class ensures:
    (A) multiple copies of base class
    (B) single shared copy of base class
    (C) no base class
    (D) dynamic allocation
38. Which feature allows same function name with different behavior?
    (A) inheritance
    (B) encapsulation
    (C) polymorphism
    (D) abstraction
39. Data hiding is achieved using:
    (A) private members
    (B) public members
    (C) global variables
    (D) static variables
40. What is a global object?
    (A) object declared inside function
    (B) object declared outside all functions
    (C) static object
    (D) constant object
41. How many times base class constructor is called in virtual inheritance?
    (A) once
    (B) twice
    (C) multiple times
    (D) zero
42. What is a virtual base class?
    (A) a class used for loops
    (B) a class used to avoid duplication in multiple inheritance
    (C) a class with only virtual functions
    (D) a static class

43. What is a static data member?

(A) a variable shared among all objects of a class

(B) a variable unique to each object

(C) a local variable

(D) a constant variable

44. What will be the output?

```
for(int i=1; i<=3; i++){
for(int j=i; j<=3; j++){
cout << j;
 }
}
```

(A) 12323 3

(B) 12333

(C) 123 23 3

(D) 123233

45. What will be the output?

```
for(int i=0; i<3; i++)
for(int j=0; j<2; j++)
cout << i << j << " ";
```

(A) 00 01 10 11 20 21

(B) 01 02 11 12 21 22

(C) 00 10 20 01 11 21

(D) infinite loop

46. Which of the following is NOT considered for function overloading?

(A) number of parameters

(B) type of parameters

(C) return type only

(D) order of parameters

47. Function overloading is an example of:

(A) runtime polymorphism

(B) compile-time polymorphism

(C) inheritance

(D) abstraction

48. What is function overloading?

(A) defining multiple functions with same name but different parameters

(B) defining multiple functions with different names

(C) defining functions inside functions

(D) defining functions without parameters

49. Which of the following is correct syntax of inheritance?

(A) class A : public B

(B) class A inherits B

(C) class A -> B

(D) class A = B

50. How many static member functions can a class have?

(A) one

(B) two

(C) multiple

(D) none

51. What is the main advantage of operator overloading?

(A) improves readability

(B) increases code complexity

(C) reduces memory

(D) avoids classes

52. Static member functions do not have access to:

(A) static variables

(B) global variables

(C) non-static data members directly

(D) constant variables

53. What is a static member function?

(A) a function that works on individual objects

(B) a function that belongs to the class rather than objects

(C) a constructor

(D) a friend function

54. Which inheritance forms a chain of classes?

(A) single

(B) hierarchical

(C) multilevel

(D) hybrid

55. Which operator is used for pointer access and can be overloaded?

(A) .

(B) ::

(C) ->

(D) sizeof

56. Which of the following is true about destructor?

(A) it can return values

B) it can take arguments

(C) it cannot be overloaded

(D) it is static

57. When overloading a binary operator using member function, number of arguments required is:

(A) 0

(B) 1

(C) 2

(D) 3

58. Which of the following is true about unary operator overloading?

(A) takes two operands

(B) takes one operand

(C) takes no operand

(D) takes multiple operands

59. Which operator is used to access members and cannot be overloaded?

(A) .

(B) ->

(C) +

(D) []

60. Operator overloading can be implemented using:

(A) member functions

(B) friend functions

(C) both (A) and (B)

(D) none

61. Which operator cannot be overloaded?

(A) +

(B) -

(C) ::

(D) *

62. What is the return type of destructor?

(A) int

(B) void

(C) float

(D) no return type

63. How many destructors can a class have?

(A) one

(B) two

(C) multiple

(D) none

64. Destructor name is same as class name with:

(A) # symbol

(B) * symbol

(C) @ symbol

(D) ~ symbol

65. Can a class have multiple objects?

(A) yes

(B) no

(C) only one

(D) only two

66. Which keyword is used to access class members outside the class?

(A) this

(B) dot operator

(C) scope resolution

(D) pointer

67. Which of the following correctly defines an object?
    (A) a function inside class
    (B) a loop
    (C) a data type
    (D) an instance of class
68. Which of the following is not a member of a class?
    (A) data member
    (B) member function
    (C) local variable of main()
    (D) constructor
69. Which access specifier makes members accessible only inside the class?
    (A) private
    (B) protected
    (C) public
    (D) friend
70. Private members of base class are:
    (A) directly accessible in derived class
    (B) not accessible directly in derived class
    (C) always public
    (D) always protected
71. Which access specifier makes members accessible everywhere?
    (A) private
    (B) protected
    (C) public
    (D) static
72. By default, members of a class in C++ are:
    (A) public
    (B) private
    (C) protected
    (D) static
73. What does 'this' pointer contain?
    (A) address of class
    (B) address of variable
    (C) address of function
    (D) address of current object
74. Which of the following supports runtime polymorphism?
    (A) pointers
    (B) references
    (C) virtual functions
    (D) all of the above
75. Which of the following is correct usage of 'this'?
    (A) this->x = x;
    (B) this.x = x;
    (C) this = x;
    (D) x = this;

76. Which of the following is NOT true about exception handling?
    (A) it handles runtime errors
    (B) it improves program reliability
    (C) it removes syntax errors
    (D) it uses try-catch blocks
77. What will happen if no exception occurs in try block?
    (A) catch block executes
    (B) catch block is skipped
    (C) program stops
    (D) error occurs
78. What is 'this' pointer in C++?
    (A) a pointer to the previous object
    (B) a pointer to the current object
    (C) a pointer to class
    (D) a pointer to function
79. Which type of polymorphism is resolved at compile time?
    (A) runtime polymorphism
    (B) dynamic polymorphism
    (C) compile-time polymorphism
    (D) hybrid polymorphism
80. Multiple catch blocks are used to:
    (A) handle different types of exceptions
    (B) increase speed
    (C) reduce memory
    (D) avoid try block
81. Which block is used to write code that may generate exception?
    (A) catch
    (B) throw
    (C) try
    (D) error
82. What will happen if file does not exist and opened in ios::in mode?
    (A) file is created
    (B) program crashes
    (C) file will not open
    (D) file is deleted
83. Which function is used to read a line from file?
    (A) getline()
    (B) read()
    (C) input()
    (D) scan()
84. Which mode is used to open a file for writing?
    (A) ios::in
    (B) ios::out
    (C) ios::app
    (D) ios::binary

85. Which class is used to write data into a file?

(A) ifstream

(B) iostream

(C) fstream

(D) ofstream

86. Can a try block have multiple throw statements?

(A) yes

(B) no

(C) only one allowed

(D) only in loops

87. Which type of inheritance can cause ambiguity?

(A) single

(B) multilevel

(C) hierarchical

(D) multiple

88. What happens to private members of a base class in inheritance?

(A) they are inherited and directly accessible

(B) they are not inherited at all

(C) they are inherited but not directly accessible

(D) they become protected

89. Which symbol is used for inheritance in C++?

(A) .

(B) :

(C) #

(D) ->

90. Which access specifier makes members accessible in derived class only?

(A) public

(B) private

(C) protected

(D) static

91. What is inheritance in OOP?

(A) a way to create loops

(B) a data type

(C) a method of input/output

(D) a mechanism to acquire properties of another class

92. Friend function can be declared in:

(A) one class only

(B) multiple classes

(C) only global scope

(D) only main function

93. Which of the following is user-defined data type?

(A) int

(B) float

(C) struct

(D) char

94. Which data type is used to store true or false?

(A) int

(B) bool

(C) char

(D) float

95. Which of the following is a primitive data type?

(A) array

(B) structure

(C) int

(D) class

96. How are arguments passed to a friend function?

(A) through objects

(B) through pointers only

(C) through arrays

(D) through files

97. What is a friend function in C++?

(A) a member function of a class

(B) a constructor

(C) a static function

(D) a function that can access private and protected members of a class

98. If no constructor is defined, what happens?

(A) Program gives error

(B) Compiler provides default constructor

(C) Object cannot be created

(D) Program stops

99. Can constructors be overloaded?

(A) Yes

(B) No

(C) Only in C++

(D) Only in Java

100. Constructors are called:

(A) Explicitly by user

(B) Automatically when object is created

(C) Only once in program

(D) By main function

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 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 :

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।