

Roll No.

2309000022

BCA-C-202

35
pm

50+
60

**B. C. A. (Second Semester)
EXAMINATION, 2023-24**

**OBJECT ORIENTED PROGRAMMING
USING C++**

Time : 2½ Hours

Maximum Marks : 60

Note : All questions have to be attempted.

Section—A

Multiple Choice Type Questions :

1 each

(a) What is the size of empty class ? (CO2, BL-1)

(i) 4

~~(ii) 1~~

(iii) 0

(iv) 2

(b) Which of the following is not a type of Constructor in C++ ? (CO2, BL-1)

(i) Default constructor

(ii) Copy constructor

~~(iii) Friend constructor~~

(iv) Parameterized constructor

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(c) Which of the following type do C++ but not C provide ? (CO1, BL-2)

- (i) double
- (ii) float
- ☒ (iii) bool
- (iv) long

☒ (d) What is used for dereferencing ? (CO3, BL-1)

- ☒ (i) pointer with asterisk
- (ii) pointer without asterisk
- (iii) value with asterisk
- (iv) value without asterisk

☒ (e) Evaluate the output for this program ?

```
#include <iostream>
```

```
int main()
```

```
{ int b,a,x = false + true + 0.4;
```

```
std::cout <<x;
```

```
return 0; }
```

(CO1, BL-5)

- (i) syntax error
- (ii) logical error
- (iii) 0
- ☒ (iv) 1

(f) Which of these values can a Boolean variable contain ? (CO1, BL-1)

- (i) True and False

- (ii) 0 and 1 ✓
- (iii) Any integer value
- (iv) Both (i) and (ii)
- (g) The keywords cannot be used as variable names.

(CO1, BL-3)

① ~~(i)~~ True ✓

(ii) False

- (h) Which among the following ^{best} but describe the inheritance ? (CO3, BL-2)

(i) Copying the code already written

X (ii) Using the code already written

(iii) Using already defined function in programming language

~~(iv)~~ Using the data and function into derived segment

- (i) The 'switch' selection structure must end with the default case. (CO1, BL-2)

① ~~(i)~~ True

(ii) False

- (j) Constructors do not return any value. (CO2, BL-3)

① ~~(i)~~ True ✓

(ii) False

(k) A class can contain another class in it.

(CO2, BL-1)

(i) True

~~(ii)~~ False

~~(1)~~ << is called as :

(CO2, BL-2)

~~(i)~~ Insertion operator

(ii) Add operator

(iii) Print operator

(iv) Send operator

2. Attempt any *four* of the following :

3 each

~~(a)~~ Describe namespaces. And design a program to explain the concept of scope resolution operator.

(CO1, BL-6)

(b) A friend function cannot be used to overload the assignment operator =. Explain why ?

(CO2, BL-6)

~~(c)~~ Create a function using reference variables as arguments to swap the values of a pair of integers.

(CO2, BL-2)

~~(d)~~ Can we use the same function name for the member function of a class and an outside function in the same program file ? If yes, how are they distinguished ? If no, give reasons.

(CO1, BL-2)

~~(e)~~ How does C++ differ with C ? Describe main characteristics of OOP's with example.

(CO1 ,BL-2)

Section—B

3. Attempt any *two* of the following : 6 each

6 (a) Compare and contrast between method overloading and method overriding with example.

(CO2, BL-5)

(b) Explain the concept of C++ file handling. Write a program to read and write the data from a binary file.

(CO4, BL-4)

4 5+ (c) Define Array. And design a program to explain the concept of Array of objects with example.

(CO2, BL-6)

4. Attempt any *two* of the following : 6 each

6 (a) Define the inline function ? What are its various features ? Write a program using inline function to find the cube of a number.

(CO2, BL-4)

6 (b) Explain the concept of Polymorphism. Write a program using Virtual Function.

(CO4, BL-5)

(c) We know that a private member of a class is not inheritable. Is it any way possible for the object of the derived class to access the private members of the base class ? If yes, how ?

(CO3, BL-6)

P. T. O.

P. T. O.

5. Attempt any *two* of the following :

6 each

6 ✓ (a) Explain the various types of inheritance supported by C++ with diagrams. Write a program to achieve Multiple Inheritance. (CO3, BL-6)

(b) Write class 'Rectangle' containing two data 'length' and 'breath' and four function (i) set data(), (ii) get data(), (iii) display data() and (iv) area(). To set the length and breadth; to get the user input; to display and to find the area of the rectangle respectively. Also, write a program, which declares the objects, and use the member ?

(CO2, BL-6)

6 ✓ (c) What do you understand by direct and indirect base class ? And design a program to explain the concept of private inheritance. (CO3, BL-6)