

Roll No.

2309000022

BCA-C-202

35
PM

50+

60

B. C. A. (Second Semester)

EXAMINATION, 2023-24

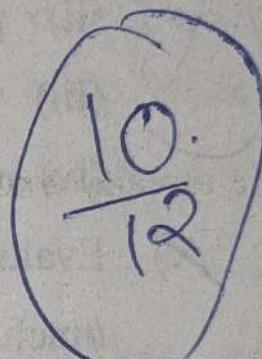
OBJECT ORIENTED PROGRAMMING

USING C++

Time : 2 $\frac{1}{2}$ Hours

Maximum Marks : 60

Note : All questions have to be attempted.



1 each

Section—A

Multiple Choice Type Questions :

(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

(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)

- (i) True ✓
- (ii) False
- (h) Which among the following ~~but~~ best describe the inheritance ?

(CO3, BL-2)

- (i) Copying the code already written
- (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)

- (i) True ✓
- (ii) False
- (j) Constructors do not return any value.

- (i) True ✓
- (ii) False

(k) A class can contain another class in it. (CO2, BL-I)

(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)

- ~~(c)~~ Define Array. And design a program to explain the concept of Array of objects with example.

~~4~~
~~5+~~

(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

- (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 'breadth' 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)

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