Student's Copy

Professional Course Examination, May 2024

(CBCS)

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

(Object-Oriented Programming in C++)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(PART : A—OBJECTIVE)

(*Marks* : 25)

SECTION—I

(*Marks* : 15)

A. Tick (✓) the correct answer in the brackets provided : 1×10=10

1. Which of the following is not valid C++ data type?

   (a) Boolean ( )

   (b) String ( )

   (c) Char ( )

   (d) Bool ( )

2. Which of the following is valid variable name in C++?

(a) 3var ( )

(b) my variable ( )

(c) _myvariable ( )

(d) my-variable ( )

3. What is the purpose of using inline function?

(a) To reduce program execution time ( )

(b) To allow function to be called from multiple files ( )

(c) To make function private to a class ( )

(d) To enable recursion ( )

4. Which type of argument passing creates a copy of the arguments?

(a) Pass by array ( )

(b) Pass by pointer ( )

(c) Pass by reference ( )

(d) Pass by value ( )

5. How many types of constructors are there in C++?

(a) 1 ( )

(b) 2 ( )

(c) 3 ( )

(d) 4 ( )

6. How many destructors can a class have in C++?

(a) As many as the programmer wants ( )

(b) As many as the constructor ( )

(c) Only one ( )

(d) Two : one for base class and one for derived class ( )

7. Which of the following is true about virtual function?

(a) It can be called from anywhere in the program ( )

(b) It can be overridden ( )

(c) It cannot be overridden ( )

(d) It is automatically called when object is created ( )

8. How is pointer declared in C++?

(a) int ptr; ( )

(b) int* ptr; ( )

(c) ptr* int; ( )

(d) pointer int; ( )

9. What is the keyword to re-throw exception?

(a) Throw ( )

(b) Rethrow ( )

(c) Retry ( )

(d) throw_exception ( )

10. Which STL container provides constant-time insertion and deletion at both ends?

(a) Stack ( )

(b) Queue ( )

(c) List ( )

(d) Deque ( )

B. Indicate True or False : 1×5=5

1. Copy construction is used to create a copy of existing object.

(True / False)

2. Data members in class are private by default.

(True / False)

3. Constructor cannot have default argument.

(True / False)

4. Pointers store actual value of the variables.

(True / False)

5. File pointer can point to binary files.

(True / False)

SECTION—II

(*Marks* : 10)

C. Answer the following questions in short : 2×5=10

1. *(a)* Explain dynamic binding in brief.

OR

(b) What is the function and syntax of 'setw'?

2. *(a)* Explain default arguments in brief.

OR

(b) How do you return objects from function?

3. *(a)* What is operator overloading?

OR

(b) Explain destructor in brief.

4. *(a)* Explain access control method in inheritance.

OR

(b) What is a friend function?

5. *(a)* What is ios flag?

OR

(b) What do you mean by generic function?

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

D. Answer the following questions : 10×5=50

1. *(a)* What are the basic concepts of OOP? 6

(b) Give the comparison of OOP and procedural programming. 4

OR

(c) Explain console I/O operations in C++. 6

(d) Explain class and objects. 4

2. *(a)* What is function overloading? Write a program to demonstrate function overloading. 2+4=6

(b) Write a program to demonstrate arrays of objects. 4

OR

(c) Write a program to demonstrate pass by value and pass by reference. 6

(d) Write a program to demonstrate passing object as a function argument. 4

3. *(a)* What is a constructor and copy constructor in OOP? 4

(b) Write a program to demonstrate default constructor and parameterized constructor. 6

OR

(c) Write a program to demonstrate unary operator overloading. 5

(d) Describe dynamic initialization of objects giving example. 5

4. *(a)* Explain the different types of inheritance in detail. 6

(b) What is virtual function? Explain giving example. 4

OR

(c) What do you mean by dynamic memory allocation? 3

(d) Describe the role of 'new' and 'delete' operators using example. 7

5. *(a)* Explain file stream operation in C++. 6

(b) What do you mean by command line argument? 4

OR

(c) Explain exception handling mechanism. Write a program to illustrate exception handling. 2+3=5

(d) Describe the major categories of a container. 5

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