Model Questions Sets For Practice

MODEL SET 1

Course Title: Object Oriented Programming — Full Marks: 60
Course No: CSC161 — Pass Marks: 24
Level: B. Sc. CSIT First Year/ Second Semester — Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2×10=20]**

1. Explain the concept of constructor. Describe different types of constructor with suitable example.
2. Depict the difference between C structure and C++ structure. Write a complete program in C++ to find sum of any two numbers by using friend class in which first number assigned in class Alpha and second number assigned in class Beta.
3. Briefly explain the features if object oriented programming with suitable example.

Short answer questions

Group B

Attempt any eight questions **[8×5=40]**

4. What is data member? Write a program in C++ to find difference between two Time object with data members hour, minutes and seconds.
5. What is the principle reason for using default arguments in the function? Explain how missing arguments and default arguments are handled by the function simultaneously?
6. "An overloaded function appears to perform different activities depending the kind of data send to it". Justify the statement with appropriate example.
7. Explain the default action of the copy constructor. Write a suitable program that demonstrates the technique of overloading the constructor.
8. Briefly explain types of access specifiers used in object oriented programming.
9. Create a real scenario where static data members are useful. Explain with suitable example.
10. What is the use of inline function? Explain with suitable example.
11. What is the concept behind reference variable? Explain with suitable example.
12. Why manipulators used in C++? Explain use of various manipulators with suitable example.

MODEL SET 2

Course Title: Object Oriented Programming
Course No: CSC161
Level: B. Sc. CSIT First Year/ Second Semester

Full Marks: 60
Pass Marks: 24
Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2×10=20]**

1. What is inheritance? How inheritance differ from containership? Describe containership with suitable practical example.
2. How can you define operator overloading? Explain features of OOPs with suitable practical example.
3. What is virtual base class in C++? How can you eliminate ambiguity in hybrid inheritance? Explain with suitable example.

Section B

Short answer questions

Attempt any eight questions **[8×5=40]**

4. What is the use of reference variable? Explain with suitable example.
5. What is concept behind nesting of function? Write a program in C++ to find area of a circle by using inline function.
6. What is type conversion? Write a program in C++ to find sum of two objects by using plus operator overloading.
7. What is ambiguity in inheritance? Explain ambiguity in hybrid inheritance with suitable example.
8. How can you define explicit type conversion? Write a program in C++ to show the conversion of one object data type to another object type.
9. What is the use of insertion and extraction operator used in C++? Explain the concept of various manipulators used in C++ with suitable example.
10. What is template in C++? Explain function template with suitable example.
11. How object created in C++? Write a program in C++ to add two Distance objects and display resulting distance in Kilometer, Meter and Centimeter.
12. What is exception? Write a program in C++ to show the concept of multiple try catch statement.

MODEL SET 3

Course Title: Object Oriented Programming — Full Marks: 60
Course No: CSC161 — Pass Marks: 24
Level: B. Sc. CSIT First Year/ Second Semester — Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2×10=20]**

1. What is object oriented programming approach? How it is differ from structured approach? Describe inheritance and polymorphism with suitable practical example.
2. How C structures differ from C++ structure? Explain features of OOPs with suitable practical example.
3. What is virtual function and pure virtual function? How can you eliminate ambiguity in hybrid inheritance? Explain with suitable example.

Section B

Short answer questions

Attempt any eight questions **[8×5=40]**

4. What is function overloading? How it is differ from function overriding? Explain with suitable example.
5. What is concept behind macro? How it is differ from function? Write a program in C++ to find area of a circle by using macro.
6. What is a main advantage of using object oriented programming over structured programming? Write a program in C++ to find perimeter of a rectangle by using inline function.
7. What is exception? Write a program in C++ to show the concept of nested of try catch statement.
8. How class templates define in C++? Write a program in C++ to show the concept of class template.
9. What is the use of insertion and extraction operator used in C++? Explain the concept of various manipulators used in C++ with suitable example.
10. What do you mean by nesting of function in C++? Explain with suitable example.
11. How object created in C++? Write a program in C++ to add two Distance objects and display resulting distance in Kilometer, Meter and Centimeter.
12. What is default argument in C++? Differentiate between private, public and protected access specifiers used in C++ with suitable example.

MODEL SET 4

Course Title: Object Oriented Programming — Full Marks: 60
Course No: CSC161 — Pass Marks: 24
Level: B. Sc. CSIT First Year/ Second Semester — Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2×10=20]**

1. How inheritance differ from containership? Describe types of inheritance used in C++ with suitable practical example.
2. How can you define object oriented programming? Explain features of OOPs with example.
3. What is virtual base class in C++? How can you eliminate ambiguity in hybrid inheritance? Explain with suitable example.

Section B

Short answer questions

Attempt any eight questions **[8×5=40]**

4. What is the use of reference variable? Explain with suitable example.
5. What is concept behind inline function? Write a program in C++ to find area of a circle by using inline function.
6. What are main advantages of using inline function over normal function? Write a program in C++ to find perimeter of a rectangle by using inline function.
7. What is inheritance? Explain use of multilevel inheritance with suitable example.
8. How can you define member function outside the class? Explain with suitable example.
9. What is the use of insertion and extraction operator used in C++? Explain the concept of various manipulators used in C++ with suitable example.
10. What do you mean by nesting of function in C++? Explain with suitable example.
11. How object created in C++? Write a program in C++ to add two Distance objects and display resulting distance in Kilometer, Meter and Centimeter.
12. Differentiate between private, public and protected access specifiers used in C++ with suitable example.

MODEL SET 5

Course Title: Object Oriented Programming
Course No: CSC161
Level: B. Sc. CSIT First Year/ Second Semester

Full Marks: 60
Pass Marks: 24
Time: 3 Hrs.

Section A

Long Answer Questions
Attempt any two questions. **[2×10=20]**

1. Define a student class (with necessary constructors and member functions) in Object Oriented Programming (abstract necessary attributes and their types). Write a complete code in C++ programming language.
   - Derive a Computer Science and Mathematics class from student class adding necessary attributes (at least three subjects).
   - Use these classes in a main function and display the average marks of computer science and mathematics students.
2. Define function overriding. Describe multiple inheritance and hierarchical inheritance with suitable example.
3. What is operator function? Write a program in C++ to find difference between two time objects by using minus - operator overloading.

Section B

Short answer questions
Attempt any eight questions **[8×5=40]**

4. What is the use of scope resolution operator in C++? Explain with suitable example.
5. What is concept behind macro? Write a program in C++ to find area of a circle by using macro.
6. Create a class called Length that has data members meter and centimeter. Overload + operator to add two objects of class Length. (For example L3 = L1 + L2). Also facilitate the operations like L4 = L1 + 5 and L5 = 5 + L4 where L1, L2, L3, L4 and L5 are objects of class Length. Use constructors and member functions to initialize and display values.
7. What is inheritance? Explain use of multilevel inheritance with suitable example.
8. How can you define member function inside and outside the class? Explain with suitable example.
9. What is the use of insertion and extraction operator used in C++? Explain the concept of various manipulators used in C++ with suitable example.
10. What do you mean by nesting of function in C++? Explain with suitable example.

11. How object created in C++? Write a program in C++ to add two Time objects and display resulting time in Hr, Min and Sec.
12. Differentiate between private, public and protected access specifiers used in C++ with suitable example.

MODEL SET 6

Course Title: Object Oriented Programming — Full Marks: 60
Course No: CSC161 — Pass Marks: 24
Level: B. Sc. CSIT First Year/ Second Semester — Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2×10=20]**

1. Explain briefly characteristics of OOPS language and mention advantages of OOPS approach over functional/procedural programming.
2. Describe what do you mean by nesting of classes? Also explain briefly how friend function is important in C++?
3. Explain class and function template using suitable example in C++ programming. Define a class bank account with current and saving bank account as inherited classes. Class bank account should have following data members: Account number, name, balance amount and member functions: To initialize the value, to deposit and withdraw amount ager checking the minimum balance.

Section B

Short answer questions

Attempt any eight questions **[8×5=40]**

4. Explain in detail the following principles of Object-Oriented Programming.
   - Data encapsulation and data hiding.
   - Inheritance and polymorphism.
   - Abstraction
5. Why constructor and destructor are required on Object Oriented Programming? Explain with suitable example.
6. Write a program to compute subtraction of two complex numbers using operator overloading.
7. Why exception handling is required? Explain with suitable example.
8. Write a program in C++ to count a number of words in a line of text.
9. Differentiate between function overriding and function overloading. Explain with suitable examples.

10. Explain the role of polymorphism in Object Oriented Programming.
11. Explain the different type of class access specifiers.
12. Write a C++ program containing a possible exception. Use a try block to throw it and a catch block to handle it properly.

MODEL SET 7

Course Title: Object Oriented Programming — Full Marks: 60
Course No: CSC161 — Pass Marks: 24
Level: B. Sc. CSIT First Year/ Second Semester — Time: 3 Hrs.

Section A

Long Answer Questions
Attempt any two questions. **[2×10=20]**

1. Define a shape class (with necessary constructors and member functions) in Object Oriented Programming (abstract necessary attributes and their types). Write a complete code in C++ programming language. Derive triangle and rectangle classes from shape class adding necessary attributes. Use these classes in main function and display the area of triangle and rectangle.
2. Define virtual function. Discuss the difference between virtual and pure virtual functions with suitable example.
3. Define text file. How it is differ from binary file. Explain the steps involved in reading and writing a file in a C++ program.

Section B

Short answer questions
Attempt any eight questions **[8×5=40]**

4. Write down use of destructors in C++ with suitable example.
5. Write a program to find the cube of given integer using inline function.
6. Why dynamic object is needed? Explain with suitable example.
7. What is friend function? Why it is used in OOP? Explain with an example.
8. What is container class? Differentiate container class from inheritance.
9. Explain about "this" pointer with suitable example
10. Write a program to overload ++ operator using friend function.
11. Write a conversion routine in C++ that can convert user-defined data distance to basic data float. Assume that the class distance contains two data members (feet (integer type) and inch (floating point type). NOTE 1-meter = 3.33 feet and 1 feet = 12 inches)
12. What is template class? Define template function to find sum of any two integer numbers and sum of floating point numbers.

MODEL SET 8

Course Title: Object Oriented Programming
Course No: CSC161
Level: B. Sc. CSIT First Year/ Second Semester

Full Marks: 60
Pass Marks: 24
Time: 3 Hrs.

Section A

Long Answer Questions

Attempt any two questions. **[2*10=20]**

1. Explain the concept of constructor. Describe different types of constructor with suitable example.
2. Depict the difference between C structure and C++ structure. Write a complete program in C++ to find sum of any two numbers by using friend class in which first number assigned in class Alpha and second number assigned in class Beta.
3. Briefly explain the features if object oriented programming with suitable example.

Group B

Short answer questions

Attempt any eight questions **[8*5=40]**

4. Write a program to overload + operator to concatenate two strings.
5. What is data member? Write a program in C++ to find difference between two Time object with data members hour, minutes and seconds.
6. What is the principle reason for using default arguments in the function? Explain how missing arguments and default arguments are handled by the function simultaneously?
7. "An overloaded function appears to perform different activities depending the kind of data send to it". Justify the statement with appropriate example.
8. Explain the default action of the copy constructor. Write a suitable program that demonstrates the technique of overloading the constructor.
9. Briefly explain types of access specifiers used in object oriented programming.
10. Create a real scenario where static data members are useful. Explain with suitable example.
11. What is the use of inline function? Explain with suitable example.
12. What is the concept behind reference variable? Explain with suitable example.

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