C++ Important Questions by AMAN TIWARI

Notes 1

1. (a) Why did people change over from structured programming to object- oriented programming? Explain it in brief with the help of an example.
(b) Write C++ program to find factorial of a given number using copy constructor.
(c) What do you mean by inline function? What is its importance in object- oriented programming languages? Write C++ program to clarify the concept of inline function.
(d) Differentiate class template and function template with the help of an example.
(e) Write C++ program to implement multilevel inheritance. Provide the necessary comments to clarify the availability of data members and member functions in different classes.
(f) What is an object in C++? Explain how an object can be passed as an argument to a function with the help of an example.

2. (a) What do you mean by constructors? Write the characteristics of constructors. Write a program to illustrate the use of constructor in C++ programming.
(b) What happens if we don't use the virtual function in the inheritance? Explain the importance of virtual function in the reference of the above, with the help of an example.

3. (a) What are the needs of operator overloading in the program? Why can't some operators
Be overloaded? Write C++ program to add two complex numbers using plus (+) operator overloading.
(b) Why does abstract class play an important role in object-oriented programming?
? Write C++ program of abstract class which uses the concept of pure virtual function.

(a) What do you mean by polymorphism? How is run time polymorphism different from compile time polymorphism? Give example(s) to support the
Above differentiation.
(b) What do you mean by the file stream operations? Write C++ program
To demonstrate the reading from disk file and writing the result to the disk file.
(c) What is friend function? Explain its concept with the help of a suitable example.

4. (a) Describe all types of containers that are available in C++ with their importance, in detail.
(b) Explain a situation when you will use multiple catch statements in a C++ program for exception handling.
(c) Write a C++ program to find the area of a circle.

Notes-2

1. (a) Explain object oriented concepts. How is object oriented language different from structured programming language?
(b) What is inheritance? Explain different types of inheritance supported by C++.
(c) Differentiate between default constructor and parameterized constructor with the help of an example.
(d) What is an abstract class? How do you create an abstract class? What is The purpose of creating an abstract class in object oriented programming paradigm ? Explain with the help of an example.
(e) Write a C++ program to add two complex numbers. In this program you need to create complex class and define proper constructor for object initialization.

2. (a) What do you understand by friend function? Write a C++ program to find out the sum of n given numbers using friend function.
(b) Explain the difference between private, protected and public access specifier with respect to class and its object. Write a program in this support.

3. (a) What do you mean by operator-overloading? List the operators which cannot be overloaded. Write a C++ program for unary minus (-) operator overloading.
(b) Explain the concept of virtual function with its important characteristics. Write a C++ program to illustrate the importance of pure virtual function.

4. (a) What do you mean by this pointer? Explain the use of this pointer with the help of an
Example.
(b) Write a C++ program to display the price-list of five vegetables. Use precision ( ) function to set precision 2 for display price.
(c) What is function template? Write a function template to swap two given numbers.

5. (a) What is containership? Write the important containers available in C++ with their importance.
(b) What do you mean by exception handling? Write the syntax of try, throw and catch expressions. Write a program to catch all the exceptions in C++ programs.

Notes-3

1. (a) What is structured programming? Write the disadvantages of structured programming.
(b) How do you input non-graphic characters in the C++ programming language? What do these escape sequences represent?
(i) \n
(ii) \a
(iii) \v
(c) Write a C++ program to demonstrate the use of switch statement.
(d) Write the appropriate statements to create a function template print array that can display the values contained in array passed as parameter to the function. The function must be able to accept integer, float and character arrays as arguments.
(e) Describe the concept of classes and objects through examples.
(f) What are Container Classes? List the different types of containers and give three examples of each.
(g) List any five common examples of exceptions.

2. (a) Consider an example of declaring the examination result of BCA students of IGNOU. Design three classes: Student, Exam and Result. The Student class Has data members such as those representing roll no., name, etc. Create the class Exam by inheriting Student class. The Exam class adds fields representing the marks scored in 6 subjects. Derive the Result from the Exam class, and It has its own fields such as total marks. Write an interactive program to model this relationship by showing the three classes. Also, show how you can print out the values of each member of these classes.
(b) Define member function. Explain the purpose of member function.

3. (a) Define friend function. Discuss memory requirements for classes, objects, data members and member functions with an example.

4. (b) Write a C++ program to print Student details: Student Name, Father's Name, Mother's Name, Student Address, Zip code, Student Roll No. using constructor and destructor. (a) Explain briefly the importance of pure virtual function in the Software development paradigm. Write a C++ program with abstract class having pure virtual function.
(b) Explain exceptions in C++ program through an example.

5. (a) Explain Inheritance and Multi-Inheritance with an example. Write a C++ program which has Inheritance and Multi-Inheritance.
(b) Define Operator Overloading. Write the general rules for Operator Overloadin