

- N.B. 1) All questions are compulsory and mixing of sub-questions is not allowed.
2) Figures to the right indicate marks.

Q.1 Attempt any three.

15 Marks

- What are the characteristics of OOPs?
- Write short note on Object Oriented Design.
- What is Token? Explain different categories of Tokens.
- Explain different types of expressions in C++.
- Write a program in C++ to take input from user for value of n and compute given number is odd or even.
- Differentiate between new and malloc in C++.

Q.2 Attempt any three.

15 Marks

- What is Recursion? Find factorial of a number using recursion.
- Explain Call By Reference and Call By Address.
- Write down rules for defining friend function.
- How to create copy constructor in C++?
- Implement Assignment Operator "=" Overloading.
- Differentiate between classes and structures.

Q.3 Attempt any three.

15 Marks

- What is Inheritance? Explain different types of Inheritance.
- Implement Multilevel Inheritance with suitable example.
- What is use of this pointer? Explain it with example.
- How to create Pure Virtual function?
- Explain stream classes in C++.
- Explain any five ios format functions.

Q.4 Attempt any three.

15 Marks

- What is difference between opening file using Constructor and using Open() method?
- What are possible errors can be come during file handling?
- Explain concept of template with its advantages.
- Explain function Template with multiple parameters.
- How exceptions are handled in C++?
- Write a program for handling exception using try with multiple catch.

Q.5 Attempt any three.

15 Marks

- What are the components of STL?
- What is Container? What are different categories of Container?
- Explain class implementation in ANSI C++.
- What is Namespace? Implement a function within namespace in ANSI C++.
- How many different ways of creating a String in C++?
- Explain following String function
 - insert
 - erase
 - append
 - replace
 - compare