

**S.No. 5257**

**16 SCCCS 2**

(For candidates admitted from 2016–2017 onwards)

**B.Sc. DEGREE EXAMINATION, APRIL 2022 .**

**Part III — Computer Science – Major**

**PROGRAMMING IN C++**

**Time : Three hours**

**Maximum : 75 marks**

**PART A — (10 × 2 = 20)**

**Answer ALL questions.**

1. Define inheritance.
2. List out memory management operators.
3. What is constructors?
4. Define static member function.
5. What is multiple Inheritance?
6. What is the use of virtual function?
7. Define Class Template.
8. List out the classes for file stream operations.

9. What are the key components in standard template library?

10. List out the various steps in object oriented design.

PART B — ( $5 \times 5 = 25$ )

Answer ALL questions, choosing either (a) or (b).

11. (a) What are the benefits of OOP? Explain.

Or

(b) Explain function overloading with example.

12. (a) What is friend function? Explain with example.

Or

(b) Define Copy constructor. Explain.

13. (a) Explain virtual function with example.

Or

(b) Write short notes on

(i) Pointers to objects

(ii) This Pointers

14. (a) Explain how a file can be open for reading and writing in C++.

Or

(b) Explain Class Templates with example.

15. (a) Write short notes on comparing and swapping strings in C++.

Or

(b) Explain the various steps in object oriented analysis.

PART C — ( $3 \times 10 = 30$ )

Answer any THREE questions.

16. Give the syntax and illustrate with examples of various control structures.

17. Explain operator overloading with suitable example.

18. Describe the following with examples.

(a) Multilevel Inheritance

(b) Multiple Inheritance

19. How is an exception handled in C++? Explain.

20. Explain the various components of STL.