NOVEMBER 2021 **50410/SAE3A/SAZ3A**

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer any TEN questions.

1. What is a class?

2. Differentiate between Data Hiding and Encapsulation.

3. What do you mean by function overloading?

4. List the operators that cannot be overloaded.

5. What are derived and base classes?

6. Define: “File”.

7. Give the general form of inline function.

8. Define: Data structure.

9. How is a string stored in an array?

10. What is singly linked list?

11. How is a pointer variable declared?

12. Define the term “Directed Graph”.

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions.

13. Explain the need for Friend functions.

14. Write the general form of a class declaration and how to create objects for a class.

15. What do you understand by constructor and destructor functions used in classes? How are these functions different from other member functions?

16. What is polymorphism? How is polymorphism achieved at compile time and run time?

17. Describe the type conversions with simple examples.

18. Write a procedure to convert infix expression into prefix expression.

19. What are the ways to represent a binary tree? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

20. Discuss the control structures in C++ with suitable examples.

21. Illustrate the operator overloading with an example program.

22. Explain how to open and close files in C++.

23. What is a queue? What are the basic operations on a queue? Describe.

24. What are binary tree traversals? Explain.
