

**DMI-ST. EUGENE UNIVERSITY****ZAMBIA****DEGREE EXAMINATION – JUNE 2024****Semester: III 055 CS 35 OBJECT ORIENTED PROGRAMMING USING C++****Time: 3:00 Hours****Max. Marks: 100****Answer any FIVE Questions (5 x 20 = 100 Marks)**

1. a) Discuss different data types available in C++ and provide examples for each. (10 Marks)
b) Provide an overview of C++ programming basics and highlight its key features. (10 Marks)
2. a) Discuss the concept of protected members in inheritance. (10 Marks)
b) Write a c++ program to print fibonacci series without using recursion and using recursion
Input: 10
Output: 0 1 1 2 3 5 8 13 21 34 (10 Marks)
3. a) Explain the concept of virtual functions in C++. (10 Marks)
b) Explain the concept of function pointers in C++. (10 Marks)
4. a) Write a c++ program to check Armstrong number.
Input: 371
Output: Armstrong
Input: 342
Output: not Armstrong (10 Marks)
b) Describe the role of stream classes in C++. (10 Marks)
5. a) What does STL stand for, and what is its significance in C++ programming? (10 Marks)
b) Provide examples illustrating the usage of each type of Iterator with different containers. (10 Marks)
6. a) Describe constructors and destructors in C++. (10 Marks)
b) What is an inline function in C++? (10 Marks)
7. a) Explain the process of overloading function templates in C++. (10 Marks)
b) Explain the importance of the 'this' pointer in C++. (10 Marks)