**Object Oriented Programming Assignment 1**

1. Explain the following principles of object oriented programming in detail.
2. What is namespace in C++? Illustrate its uses with an example.
3. What is reference variable in C++. Illustrate the use of it with suitable example.
4. What is the principle reason for passing arguments by reference? Explain with a suitable example.
5. What is the principle use of constructors and destructors in a program? What are different types of constructors? Explain with example.
6. Discuss the use of inline function with example.
7. Explain about accessing a member function and member data outside a class with example.
8. Explain the dynamic memory allocation with new and delete in C++.
9. What is static data member? Explain the access mechanism for private and public static data members with examples.
10. Explain the concept of friend function in C++. Illustrate the use of fried function in C++ with suitable example.
11. What is operator overloading? Illustrate Unary operator overloading with suitable program.
12. **ORCHID INTERNATIONAL COLLEGE**

**Bijayachowk, Gaushala-9, Kathmandu**

**SET B**

**Pre-Board Examination - 2076**

**Full Marks: 60**

**Time: 3 hrs.**

Bachelor Level / First Year/ Second Semester/ Science

(Computer Science and Information Technology CSC. 161**)**

**(Object Oriented Programming)**

***Candidates are required to give their answer in their own words as far as practicable.***

**Group "A"**

**Long Answer Question: [2×10=20]**

1. Describe in detail the following principles of object oriented programming along with relevant examples: [5+5]

(a) Polymorphism (b) Data Abstraction

1. What is the use of abstract base class? Write a program taking a real world scenario that makes use of abstract base class. [2+8]
2. How is data conversion from a basic type to another basic type achieved in C++? Write a program that demonstrates data conversion between user-defined objects which has the conversion routine in source object. [2+8]

**Group "B"**

**Short Answer Questions: [8×5=40]**

1. Explain the purpose of a namespace with suitable example.
2. Write a program that reads an object from a file.
3. What are static data members and static member functions? Explain.
4. Write a program that overloads a binary operator.
5. Explain about the ambiguities associated with multiple inheritance.
6. When is copy constructor used? Explain along with an example program.
7. Describe about class templates.
8. Write a program for exception handling where a class is thrown when exception occurs.
9. What do you mean by opening and closing a file? Write a program that demonstrates the use of **open()**, **close()**, **read()** and **write()** in file handling.
10. Explain about friend functions and friend classes.