**SATYAWATI SECONDARY SCHOOL**

**VYAS-2 DAMAULI TANAHUN**

**Learning Achievement Examination 2081**

**Class: 10 Technial Time: 2hrs F.M:50**

**Subject: Data Structure And OOP concept using C++**

**GROUP “A” (9\*1=9)**

**Multiple choice questions:**

***1. Which of the following is a non-linear data structure?***

*a) Stack*

*b) Binary Tree*

*c) Queue*

*d) Array*

***2. What is a collection of related data items treated as a single unit?***

*a) File*

*b) Record*

*c) Attribute*

*d) Entity*

***3. Which of the following correctly creates an object of the class Person in C++?***

*a) Person obj = new Person();*

*b) Person obj = Person();*

*c) Person person = newPerson();*

*d) Person obj;*

***4****.* ***Which of the following comes under OOP concepts?***

*a) Data Hiding*

*b) Data Binding*

*c) Dynamic Memory Allocation*

*d) File Handling*

***5. The A class inherits some or all the properties of the B class. What are A and B?***

*a) Parent class and Child class*

*b) Child class and Parent class*

*c) Child class and Initial class*

*d) Parent class and Final class*

***6. Which of the following options is a function of inheritance in C++??***

*a) Class reusability and extensibility*

*b) Creating a hierarchy of classes*

*c) Code maintainability*

*d) All of the above*

***7. Which inheritance type allows a class to inherit from multiple base classes?***

*a) Single Inheritance*

*b) Multiple Inheritance*

*c) Multilevel Inheritance*

*d) Hierarchical Inheritance*

***8.Which keyword is used to declare virtual functions in C++?***

*a) virt*

*b) virtually*

*c) virtual*

*d) anonymous*

***9.What is the output of the following code in Jav***

***#include <iostream>***

***using namespace std;***

***class Person {***

***public:***

***string name = "mokshada";***

***string address = "pokhara";***

***}***

***int main()***

***{***

***Person person;***

***cout << person.name << "," << person.address;***

***return 0;***

***}***

*a) mokshada,pokhara*

*b) pokhara,mokshada*

*c) compilation error*

*d) Runtime error*

**GROUP “B” (5\*5=25)**

**Attempt short answers for the following questions.**

1. Define data structure. Describe different operations performed on data structures.
2. Explain the concept of Object-Oriented Programming (OOP) and list its features.
3. Explain access specifiers with code examples in C++.
4. Explain types of polymorphism (Compile-time and Run-time) with examples..
5. Explain multiple inheritance with a code example.

**GROUP “C” (2\*8=16)**

**Attempt very long answers for the following questions.**

1. Explain different types of non-linear data structures with examples.
2. a) Write a C++ program to check whether the given number is even or odd. (3 marks)

b) Write a C++ program to take age as an input from the user and check whether the entered age of a person corresponds to a baby, young man or old man.(5 marks)

The program should classify the person based on the following age criteria:

* **Baby**: Age less than 12 years
* **Young Man**: Age between 12 and 40 years
* **Old Man**: Age greater than 40 years

**☺ GOOD LUCK ☺**