GOVERNMENT POLLYTECHNIC, NAYAGARH
PREPARED BY :- TANMAY NATH MISHRA
SUB :- PROGRAMMING WITH C++

UNIT – I

2 Marks Questions

1. Define Data Abstraction.

2. Define Encapsulation.

3. What do you mean by `#include<iostream>`?

4. List down any four keywords in C++.

5. State the rules for naming an identifier. (Any two)

6. Compare global variable and local variable.

7. Differentiate between constant and variable.

8. Define unary operator. Name any two.

9. Define ternary operator. Write down its syntax.

10. Differentiate between increment and decrement operator. (Any two)

11. Define recursion.

12. What are variable declaration and variable initialization?

13. What do you mean by scope resolution operator?

14. Define Pointer.

15. Define structure.

16. Define Array.

5 Marks Questions

1. Explain decision control statements.

2. Write a program in C++ to check whether an input number is prime or not.

3. Write a program in C++ to check whether a given number is palindrome or not.

4. Define recursion. Write a program in C++ to find factorial of a given number using recursion.

5. Discuss arithmetic operator and logical operator.

10 Marks Questions

1. Define OOP. Describe various concepts of Object-Oriented Programming.

2. Define operator. Explain different types of operators in C++ program.

3. What is loop? Explain different types of loop. Write a program in C++ to find out the sum of digits of a given number using while loop.

UNIT – II

2 Marks Questions

1. Define class and object.

2. Define constructor.

3. Define destructor.

4. Define inline function.

5. Define static data member in a class. Give one example.

6. What is static member function in a class?

7. What is the role of virtual base class?

8. Define hybrid inheritance. Give one example.

9. What is the role of protected access specifier in inheritance?

10. Define pure virtual function.

5 Marks Questions

1. Explain outside the class definition of member function with an example.

2. Define friend function. Write a programming example.

3. Define inline function. Explain with one programming example.

4. Differentiate between constructor and destructor.

5. Write a C++ program to print the reverse of a number using class.

10 Marks Questions

1. Define inheritance. Explain different types of inheritance.

2. Define class. Explain how data member and member functions are defined in a class. Give one suitable programming example.

UNIT – III

2 Marks Questions

1. Define static binding and dynamic binding.

2. Define polymorphism. Mention its types.

3. Define function overloading.

4. What do you mean by dynamic polymorphism?

5. What is static polymorphism?

6. What do you mean by object slicing?

7. Define pure virtual function.

8. What is abstract class?

9. Write any two rules for virtual function.

10. What is virtual function?

5 Marks Questions

1. Define function overloading with a programming example.

2. Explain virtual function with an example.

3. Discuss method overriding in C++.

4. State the rules for virtual function.

5. Explain object slicing mechanism in C++.

10 Marks Questions

1. Define polymorphism. Explain function overloading. Write a C++ program to find area of circle, rectangle and square.

2. Define dynamic polymorphism. Explain method overriding using virtual function.

UNIT – IV

2 Marks Questions

1. Define this pointer.

2. State any two applications of this pointer.

3. Define operator overloading.

4. Define operator function.

5. Differentiate between a member operator function and non-member operator function.

6. Differentiate between operator function and normal function.

5 Marks Questions

State the rules for overloading operators.

Write a program to overload binary + operator using member operator function.

Write a program to overload unary minus (-) operator using member operator function.

Write a program to add two complex numbers using operator overloading.

Write a program to overload input & output operator.

10 Marks Questions

1. Define static polymorphism. Explain overloading of binary plus (+) operator using member function and friend function.

2. Write a program in C++ for overloading of unary minus operator using a member function and a friend function.

UNIT – V

2 Marks Questions

1. Define an exception.

2. What do you mean by 'try' and 'catch' keyword?

3. State function exception declaration.

4. State unexpected exception.

5. Write down the general form of try and catch block.

6. Write down any two situations where exception might occur.

7. Distinguish between bugs and exception.

5 Marks Questions

1. Write a program to illustrate the use of multiple catch statements.

2. Explain catching mechanism.

3. Explain throwing mechanism.

4. Explain exception handling mechanism in derived class.

10 Marks Questions

1. What is exception? Describe try, throw and catch keyword in exception. Write a program to handle the division by zero exception.

   OR

   Explain exception handling mechanism with suitable example.