Government Degree College, Baramulla (Autonomous)

Term End External Examination 4th Semester (Session- July 2024)
Subject: Information Technology
Course No and Title: BITC2422M/Object Oriented Programming with C++
<u>**Time: 2.15 hours**</u>   **Max Marks:100**   <u>**Min. Marks:40**</u>

<u>**Section A: Objective Type Questions**</u>

Q1. Choose the appropriate Answer: **(8x1.5=12)**

i.   Which of the following is used for comments in C++?

   A   // comment */   **B**   /* comment */

   C   // comment   **D**   both // comment or /* comment */

ii.   Which of the following is not a type of Constructor in C++?

   A   Default constructor   **B**   Default constructor

   C   Friend constructor   **D**   Copy constructor

iii.   What is virtual inheritance in C++?

   A   C++ technique to ensure that a private member of the base class can be accessed somehow   **B**   C++ technique to avoid multiple copies of the base class into children/derived class

   C   C++ technique to avoid multiple inheritances of classes   **D**   C++ technique to enhance multiple inheritance

iv.   Which of the following is correct about this pointer in C++?

   A   this pointer is passed as a hidden argument in all static variables of a class   **B**   this pointer is passed as a hidden argument in all the functions of a class

   C   this pointer is passed as a hidden argument in all non-static functions of a class   **D**   this pointer is passed as a hidden argument in all static functions of a class

v.   What should be put in a try block?
1. Statements that might cause exceptions
2. Statements that should be skipped in case of an exception

   A   Only 1   **B**   Only 2

   C   Both 1 & 2   **D**   None of the above

vi.   What happens in C++ when an exception is thrown and not caught anywhere like following program.

   A   Compile time error   **B**   Program terminates abnormally

   C   Program runs smoothly   **D**   None of the above.

vii.   What is dynamic Polymorphism

   A   Achieved through function overloading   **B**   Achieved using pointers and references to base class objects

   C   Achieved through function overriding   **D**   Achieved through template class

viii.   Which keyword is used to achieve runtime polymorphism

   A   Override   **B**   Polymorphic

   C   Final   **D**   Virtual

Section-B: Descriptive Type Questions (Short Type)

Q2: Answer all the Questions   **(8 x 4 =32)**

i.   What are the advantages of object oriented programming?

ii.   What is a loop in programming language? Write syntax of do-while loop.

iii.   What is a friend class? How friend class differs from friend function.

iv.   Write a short note on array of objects used in C++.

v.   What is a virtual base class? What purpose does it serve in inheritance?

vi. What is a pointer? What is the difference between Call by Value and call by reference method?

vii. How exception handling is dealt in C++.

viii. List some of the important differences between Generic functions and Generic classes.

Section – C: Descriptive Type Questions (Medium Type)

Answer all the questions: (4 x 7=28)

Q3. What is the significance of object in object oriented programming language? How object oriented languages differ from procedural oriented programming languages.

OR

What is an operator in a programming language? Write a program showcasing decision making statements.

Q4. What is a class in C++? What is the difference between public, private, and protected access specifiers in a class?

OR

Write a program to show use of a friend function.

Q5. What is virtual base class? List out main difference between virtual function and pure virtual functions.

OR

Why do we use access modifiers in C++? Write a short note on dynamic allocation operators.

Q6. What are the advantages of Generic programming?

OR

Write a program to show use of try, catch and throw keywords in c++.

Section – D: Descriptive Type Questions (Long Type)

Answer any two of the following: (2 x 14=28)

Q7. What is an object in object oriented programming paradigm? Discuss in detail main features of object oriented programming with examples.

Q8. What is an inline function? Write a program to show use of NEW and DELETE operators in C++.

Q9. Does C++ support code reusability, support your argument with an example. Explain briefly different inheritance types supported by C++ programming language.

Q10. Write a program to show use of multiple catch statements.