BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – Dip.CSE-2022
Course Name – OOP with C++
Course Code - DCSE-PC305
(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Choose the best option when a class is derived privately from a base class

a) no members of the base class is inherited
b) all members are accessible by the derived class
c) all the members are inherited by the class but are hidden and cannot be accessible
d) no derivation of the class gives an error

(ii) Locate the programming paradigm that involves writing instructions in a linear fashion, one after the other

a) Object-oriented programming
b) Procedural programming
c) Functional programming
d) Logical programming

(iii) Identify the part of a C++ program that contains the main() function

a) Header file
b) Source file
c) Class definition
d) Namespace

(iv) Select the definition of a variable in programming

a) A constant value that cannot be changed
b) A value that is used in an expression
c) A named location in memory that can hold a value
d) A function that returns a value

(v) Select correct option for data type a class

a) Fundamental data type
b) Derived data type
c) User defined derived data type
d) Atomic data type

(vi) Select correct option for inline functions

a) All the functions containing declared inside the class
b) All functions defined inside or with the inline keyword
c) All the functions accessing static members of the class
d) All the functions that are defined outside the class

(vii) Select correct option for abstract class

a) base class only
b) derived class

c) both a & b
d) None of the mentioned

(viii) Select the definition of a jump statement in programming

a) A statement that declares a variable
b) A statement that performs an action
c) A statement that causes the program to jump to another point in the program
d) A statement that controls the flow of a program

(ix) Choose the main difference between parametric polymorphism and inclusion polymorphism

a) Parametric polymorphism is achieved through function overloading while inclusion polymorphism is achieved through inheritance.
b) Parametric polymorphism is achieved through inheritance while inclusion polymorphism is achieved through function overloading.
c) Parametric polymorphism allows functions to work with a variety of data types while inclusion polymorphism allows objects of different classes to be treated as if they were of the same class.
d) There is no difference between parametric and inclusion polymorphism.

(x) Choose the type of polymorphism that is achieved through operator overloading

a) Coercion polymorphism
b) Parametric polymorphism
c) Inclusion polymorphism
d) None of the mentioned

(xi) Select the definition of continue statement in programming

a) A loop control statement that forces the program control to execute the next iteration of the loop
b) A loop control statement that forces the program control to execute the present iteration of the loop
c) A loop control statement that forces the program control to execute all iteration of the loop
d) Ends execution of the program.

(xii) Choose the keyword that is used to implement inheritance in C++

a) Extends
b) inherits
c) extends class
d) None of the mentioned

(xiii) Select the option that defines a constructor in C++

a) A member function that is called when an object of the class is created
b) A member function that is called when an object of the class is destroyed
c) A static function that is called when the program is started
d) A function that returns a value

(xiv) Select correct option for a copy constructor in C++

a) A constructor that takes an object of the same class as a parameter and initializes a new object with the same values
b) A constructor that takes a pointer to an object of the same class as a parameter and initializes a new object with the same values
c) A constructor that takes a reference to an object of the same class as a parameter and initializes a new object with the same values
d) A constructor that takes a value of the same data type as the class as a parameter and initializes a new object with that value

(xv) Choose the option that best defines single level inheritance

a) A class inheriting a base class
b) A class inheriting a nested clas
c) A class which gets inherited by 2 classes
d) A class inheriting a derived class

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain friend function with an example. (3)
3. State the function prototyping with the help of an example. (3)
4. List at least three C++ operators which cannot be overloaded. (3)

5. Write down the importance of namespace std in C++. (3)
6. Analyze the benefit of operator overloading. (3)

OR

Given class Confusion { }; Evaluate the difference between Confusion C; and Confusion C( ); (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Write a C++ program to describe return by reference. (5)
8. Write a program using function to show the cube of a given integer, float and double number. (5)
9. Write a program to show "Divide by Zero Exception" in C++. (5)
10. Explain data abstraction in C++ with the help of an example. (5)
11. Distinguish between unary and binary operator overloading. (5)
12. Distinguish compile time (early binding) and runtime (late binding) behavior of virtual Functions. (5)

OR

Compare virtual destructor and pure virtual destructor with the help of an example. (5)

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