17626

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – Dip.CSE-2024
Course Name – OOP with C++
Course Code - DCS30104
(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 correct type of translator that converts high-level code to machine code.
a) Compiler b) Assembler
c) Interpreter d) Loader

(ii) Identify the first function executed in a C++ program.
a) start() b) main()
c) init() d) execute()

(iii) Select the principle that hides internal details and shows only functionality.
a) Polymorphism b) Inheritance
c) Abstraction d) Encapsulation

(iv) Choose the keyword used to derive a new class from an existing one.
a) class b) public
c) extends d) inherits

(v) Select the operator with the highest precedence.
a) + b) *
c) = d) &&

(vi) Select the control structure that repeats a block of code multiple times.
a) if b) switch
c) loop d) return

(vii) Select the type of function binding used in function overloading.
a) Static b) Dynamic
c) Virtual d) Abstract

(viii) Identify the type of inheritance where one class is derived from two base classes.
a) Single b) Multiple
c) Multilevel d) Hybrid

(ix) Select the correct way to declare a pointer to an integer.

a) int ptr | b) int &ptr
c) int *ptr | d) pointer int

(x) Identify the scope of a local variable.

a) File | b) Block
c) Class | d) Global

(xi) Identify which is not a valid array index.

a) 0 | b) 1
c) -1 | d) 2

(xii) Identify which operator can be overloaded.

a) sizeof | b) .
c) + | d) ::

(xiii) Identify what cannot be overloaded.

a) new | b) delete
c) -> | d) ::

(xiv) Choose how a non-member operator function is declared.

a) As a class method | b) As a friend function
c) Inside main() | d) Using virtual keyword

(xv) Identify which operator cannot be overloaded.

a) ++ | b) +
c) [] | d) ?:

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Describe the structure of a C++ program with an example. (3)
3. Differentiate between class and object in C++. (3)
4. Explain inheritance in C++ and its types. (3)
5. Describe pointer to a function and the way of declaring it. (3)
6. Differentiate between malloc/free and new/delete. (3)

OR

Describe the scope of class names and how variable scope is managed in C++. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain different programming paradigms with examples. (5)
8. Describe the role of a language translator and differentiate between compiler, interpreter, and assembler. (5)
9. Explain compile-time and run-time polymorphism in C++ with examples. (5)
10. Explain the difference between overriding and hiding with suitable examples. (5)
11. Describe function templates in C++ and differentiate them from function overloading. (5)
12. Illustrate member function inclusion in class templates with an example. (5)

OR

Describe exception handling in C++ and also explain catch blocks and multiple catch blocks. (5)

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