7437

C20-CM-WD–404

7437

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2024

DCM – FOURTH SEMESTER EXAMINATION

OOP THROUGH C++

Time : 3 Hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define data encapsulation and data abstraction.

2. List the advantages of OOPs.

3. Define function and write its prototype.

4. Differentiate between class and structure.

5. Define constructor and list the types of constructors.

6. Write any three rules for overloading of operator.

7. What is inheritance?

8. Write the syntax to define virtual function.

9. Define input and output streams.

10. Define template. What is the need for templates?

PART—B

8×5=40

Instructions : (1) Answer **all** questions.

(2) Each question carries **eight** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. *(a)* Draw flowchart and explain how to create, compile, link and execute a C++ program.

(OR)

(b) Explain C++ I/O operations with examples.

12. *(a)* What is a friend function? Explain with a C++ program.

(OR)

(b) Write a C++ program to overload functions by changing arguments and data types.

13. *(a)* Define copy constructor and write an example program using copy constructor.

(OR)

(b) Write a C++ program for unary operator overloading.

14. *(a)* Explain three types of access controls : Public derivation, Private derivation and Protected derivation.

(OR)

(b) Explain multi level and hierarchical types of inheritance and write syntax for each type.

15. *(a)* Write a C++ program to swap data using function templates.

(OR)

(b) List and explain any four I/O manipulators each with an example.

PART—C

10×1=10

Instructions : (1) Answer the following question.

(2) The question carries **ten** marks.

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. In accessing similarly named member functions of the base classes in multiple inheritance, what is the ambiguity the compiler face? If possible, give the solution to the ambiguity with an example program.

★★★