K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:II
Class:FY IT	Program:B.Tech
Branch Code:FYE	Pattern:2023
Name of Course:Object Oriented Programming	Course Code:2300118F
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper
and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains TWO pages.
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

1 a) What is an inline function? Explain with suitable sample code in C++.   (3)   CO1

1 b)   What is Constructor overloading? Explain with suitable sample code in C++.   (3)   CO1

Question No. 2 Attempt following Question

2 a) Explain abstract class concept along with example.   (3)   CO2

2 b) Explain friend class with help of sample code in C++.   (3)   CO2

Question No. 3 Attempt following Question

3 a) What is the need of virtual function? Explain in brief with sample code in C++.   (4)   CO3

<div align="center">OR</div>

3 b) What is operator overloading and why is it useful? Which Operators cannot be overloaded ?   (4)   CO3

3 c) What is a pointer in programming? Explain with suitable code in C++. What are its advantages?   (6)   CO3

<div align="center">OR</div>

3 d) How do you declare and define a pure virtual function in C++? Explain with help of a program.   (6)   CO3

3 e) Write a C++ program that will calculate the perimeter of rectangle, square and circle using function   (6)   CO3
      overloading.

<div align="center">OR</div>

3 f) Write a C++ program to implement a class Complex which represents the Complex Number data   (6)   CO3
       type. Implement Overload operator + using friend function to add two complex numbers.

Question No. 4 Attempt following Question

4 a) What is the power of templates in C++?   (4)   CO4

<div align="center">**OR**</div>

4 b) Discuss exception handling mechanism in C++ with syntax   (4)   CO4

4 c) Write a C++ program with a function which can add numbers with data types like integer, double,   (6)   CO4
       float using function template.

<div align="center">**OR**</div>

4 d) Write a C++ program with a function which can find the maximum of numbers with data types like   (6)   CO4
       integer, double, float, char using function template.

4 e) Write a C++ program to Create a class for employee. Develop functions to accept employee data.   (6)   CO4
       Use exception handling for age<18.

<div align="center">**OR**</div>

4 f) Write a C++ program to Create a class for arithmetic operations (multiply and divide). Develop   (6)   CO4
       functions to accept the numbers and do the operations. Use exception handling for division
       operation.

Question No. 5 Attempt following Question

5 a) What are different file opening modes?   (4)   CO5

<div align="center">**OR**</div>

5 b) What is a stream ? Draw the hierarchy of stream classes in C++.   (4)   CO5

5 c) What is a file pointer? What are its types? Explain pointer manipulations functions with suitable   (6)   CO5
       syntax.

<div align="center">**OR**</div>

5 d) Explain error handling functions used during file operations with suitable code in C++.   (6)   CO5

5 e)   Write a program in C++ to create any file using constructor and write content inside the file   (6)   CO5
       "Welcome to File handling".

<div align="center">**OR**</div>

5 f) Develop a C++ program to create a file with teacher data with name and subject. Read the file data   (6)   CO5
       and print the same.

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