



**K. K. Wagh Institute of Engineering Education and Research,  
Nashik**

(An Autonomous Institute from A. Y. 2022-23)

Exam Seat No.:	
End-Sem Examination-II	
Wintyer Year - 2025	
Academic Year: 2025-26	Sem: II
Class: F.Y.	Program: B.Tech
Branch Code: ETC	Pattern: 2023
Name of Course: Programming in C++	Course Code: 2300109A
Max. Marks: 60	Duration: 2:30 Hrs.

**Marking Scheme**

Q. No.	Details	Max. Marks	CO No.	BT Level
Q.1	What is a Friend Function? Explain with suitable coding example. (2 marks for explanation and 4 marks for any suitable coding example) (6 marks)	[6]	CO1	L2
Q.2	What are different types of inheritance in C++, explain with suitable diagrams. (1 mark for types & 1 mark for each type with diagram ) (6 marks)	[6]	CO2	L3
Q.3	<b>a)</b> What is function overloading. Explain with suitable example. (8 marks) ( 4 marks for explanation & 4 marks for suitable coding) <b>OR</b> <b>b)</b> What is pointer in C++. List advantages of pointers. (8 marks) (4 mark for definition & 4 marks for advantages)  <b>c)</b> Write a C++ program to overload area() function to calculate area of shapes like triangle, square, circle. (8 marks) (2 marks for area function,3 each mark for triangle ,circle and square function and 3 for main function with correct calling functions..... any suitable correct code can be consider) <b>OR</b> <b>d)</b> Write a C++ program to maintain Employee database using virtual class (8 marks) (8 marks for any suitable code can be consider)	[16]	CO3	L3
Q.4	<b>a)</b> Explain Exception handling in C++. (8 marks) (4 marks for exception handling explanation and 4 for try, catch, throw keyword explanation) <b>OR</b> <b>b)</b> Develop a C++ program to Create a class of employees	[16]	CO4	L3



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	<p>(data members - name, DOB, mobile). Develop a function to accept the data and display the information. Use exception handling while accepting the data. e.g in DOB day value should be in between 1 to 31, month value should be in between 1 to 12. (8 marks)</p> <p><b>c)</b> What is a template? Explain use of a template with the help of suitable code. (8 marks) (4 marks for explanation 4 marks for coding example)</p> <p><b>OR</b></p> <p><b>d)</b> Write a C++ program to build simple calculator using class template. (8 marks) (8 marks for any suitable code can be consider)</p>			
<p><b>Q.5</b></p>	<p>a) Explain different file handling operations with a help of suitable code. (8 marks) (8 marks for anyone suitable operation with coding example)</p> <p><b>OR</b></p> <p><b>b)</b> Write a simple C++ program to write and read content in the file. (8 marks) (8 marks for any suitable code)</p> <p>c) Write a program to count the number of occurrences of a particular character in text file. (8 marks) (8 marks for any suitable code)</p> <p><b>OR</b></p> <p>d) Write a C++ program to find and replace a specific word in a text file. (8 marks) (8 marks for any suitable code)</p>	<p>[16]</p>	<p>CO5</p>	<p>L3</p>