

Code No: 153BK**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech II Year I Semester Examinations, December – 2024/January -2025****OBJECT ORIENTED PROGRAMMING USING C++****(Common to CSE, IT, ECM)****Time: 3 Hours****Max. Marks: 75**

- Note:** i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A**(25 Marks)**

- 1.a) Difference between object oriented programming and procedure oriented programming. [2]
- b) Explain the method of passing simple data types to functions by reference. [3]
- c) What is the difference between Class and Structure? [2]
- d) What is this pointer? Write the importance of it. [3]
- e) What is Pure Virtual Function? [2]
- f) What is Dynamic binding? How to implement in C++? [3]
- g) Does stringstream ignore whitespace? [2]
- h) Write a C++ program to append new data to an existing text file. [3]
- i) How to Rethrow an exception in C++? [2]
- j) Write a C++ program to handle ArithmeticException?. [3]

PART – B**(50 Marks)**

- 2.a) Write a C++ program to capitalize the first letter of each word in a given string. Words must be separated by only one space.
 - b) Write the syntaxes for any 3 String handling functions in C++. [7+3]
- OR**
- 3.a) How do you declare and initialize Single and Two-dimensional arrays in C++? Give examples.
 - b) Write a C++ program to update every array element by multiplication of the next and previous values of a given array of integers. [4+6]
- 4.a) What are Constant member functions? Explain with a suitable example.
 - b) Write a C++ program to demonstrate all types of Constructors. [4+6]
- OR**
- 5.a) Explain Data abstraction and Data hiding.
 - b) Write a C++ program to illustrate the usage of Friend classes and functions. [4+6]
- 6.a) Explain various forms of Inheritance with a neat diagram and examples.
 - b) Explain about how access specifiers work during inheritance and how class members are visible if they are inherited as protected, private, or public. [5+5]

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OR

7.a) What is Static Binding? How to implement it in C++? Explain with a suitable example.
b) What is an abstract Class? Write its usage. [7+3]

8.a) What are the file streams in C++? Explain.
b) Write a C++ program to count the number of lines in a text file. [4+6]

OR

9.a) Explain operator overloading?
b) Write a C++ program to overload unary and binary - operator? [4+6]

10.a) How do you implement exception handling in C++ using try and catch blocks? Explain with an example.

b) Write a C++ code to handle "Not Eligible" user defined exception for a person that is raised when a user enters the age <10 for complex roller coaster in an amusement park. [4+6]

OR

11.a) Discuss about various kinds of exceptions in C++?
b) What is stack unwinding in C++? How to detect it? Explain in detail. [6+4]

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