

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M.SC (IT)- INTEGRATED– SEMESTER II- EXAMINATION –WINTER-2023**

**Subject Code:1320504****Date: 28/12/2023****Subject Name: Object oriented Programming in C++****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** (a) Difference between procedural oriented programming languages and object oriented programming. **03**  
(b) Explain the basic principle of object oriented programming. **04**  
(c) Distinguish between call by value and call by address with an example. **07**
- Q.2** (a) Write about reference variable. **03**  
(b) Explain different data types in C++. **04**  
(c) Explain about types of array in C++. **07**
- OR**
- (c) Explain about friend function and friend classes. **07**
- Q.3** (a) How to create classes and objects in C++ with example. **03**  
(b) Explain the concept of Data abstraction. **04**  
(c) What is operator overloading? Explain unary and relational operator overloading. **07**
- OR**
- Q.3** (a) Define constant function. **03**  
(b) Explain about static keyword? **04**  
(c) Write about **07**  
i) Method overriding and  
ii) Virtual functions.
- Q.4** (a) Write about command – line arguments in C++. **03**  
(b) Explain about error handling in C++. **04**  
(c) What is polymorphism in C++. Explain about its types with example. **07**
- OR**
- Q.4** (a) Explain different types of files and file functions. **03**  
(b) Write about unformatted i/o operations (cin and cout objects). **04**  
(c) Write a program to find a number is even or not using conditional operator. **07**
- Q.5** (a) Discuss the benefits of exception handling. **03**  
(b) Define the Base and Derived classes. **04**  
(c) Write a program to swap two numbers using reference variables. **07**
- OR**
- Q.5** (a) What do you mean by exception handling? **03**  
(b) What is copy constructor, explain with example. **04**  
(c) Write a program for factorial of given number. **07**

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