

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2140705****Date: 12/06/2017****Subject Name: Object Oriented Programming With 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.

		MARKS
<b>Q.1</b>	<b>Short Questions</b>	<b>14</b>
	1 What is the full form of OOPS?	1
	2 What is an object?	1
	3 Define Data Abstraction.	1
	4 What is a constructor?	1
	5 What is the purpose of 'delete' operator?	1
	6 Why do we need the preprocessor directive #include<iostream>?	1
	7 Define Reusability.	1
	8 What does this pointer point do?	1
	9 Define std::cout and use it in a C++ statement.	1
	10 What is the difference between an array and a simple variable?	1
	11 How does a C++ Structure differ from a C++ Class?	1
	12 Can We have more than one constructor in a Class?	1
	13 Enlist Derived data types in C++.	1
	14 How is a member function of a class defined?	1
<b>Q.2</b>	(a) Describe, with examples, the uses of enumeration data types.	<b>3</b>
	(b) Explain the basic concepts of Object Oriented Programming.	<b>4</b>
	(c) What is a User Defined Data type? What is the scope and life time of variable? Explain using C++ program	<b>07</b>
	<b>OR</b>	
	(c) Define a class complex with real and imaginary as two data member, add necessary constructors and member function to initialize and display data of class. Class should overload the + operator to add two complex objects and return the results. Invoke the statements like C3=C1+C2 in main ().	<b>07</b>
<b>Q.3</b>	(a) When do we declare a member of a class static?	<b>03</b>
	(b) Describe the importance of destructors.	<b>04</b>
	(c) Explain the type conversion from basic type to class type and from class type to basic type with proper example.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) How many arguments are required in the definition of and overloaded unary operator?	<b>03</b>
	(b) When will you make a function inline? Why?	<b>04</b>
	(c) By giving an example, illustrate use and working of nested try blocks and re -throwing of an exception.	<b>07</b>
<b>Q.4</b>	(a) Describe the syntax of the single inheritance in C++.	<b>03</b>
	(b) What is an abstract class? What is virtual base class?	<b>04</b>
	(c) Explain Runtime polymorphism. Explain and demonstrate, how virtual function to achieve runtime polymorphism?	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) How do the I/O facilities in C++ differ from that in C?	<b>03</b>
	(b) Explain reference variables.	<b>04</b>
	(c) Declare a class called book having members like book_title, publisher and author_name. Overload extractor and inserter	<b>07</b>

operators ( >> and << ) for class book.

- Q.5** (a) Compare structured programming with object oriented programming.. **03**  
(b) Discuss the different ways by which we can access public member functions of an Object. **04**  
(c) Explain various file mode parameters in C++. Write a program to copy the contents of a source file student1.txt to a destination file student2.txt character by character. **07**

**OR**

- Q.5** (a) Describe the major parts of a C++ Program. **03**  
(b) Explain friend function with the help of an example **04**  
(c) What is an exception? What are the advantages of using exception handling in a program? Illustrate C++ exception handling mechanism **07**

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