Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER – II • EXAMINATION – WINTER 2016

Subject Code: 2620002 **Date:03/01/2017**

Subject Name: Object-Oriented Programming Concepts & Programming

Time:02.30 pm to 5.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Select most appropriate answer(s) : **07**

i. Which operator is used to signify the namespace?
   a) conditional operator
   b) ternary operator
   c) scope operator
   d) none of the mentioned

ii. What does your class can hold?
   a) data
   b) functions
   c) both a & b
   d) none of the mentioned

iii. Which exception is thrown by dynamic_cast?
   a) bad_cast
   b) bad_typeid
   c) bad_exception
   d) bad_alloc

iv. By using which of the following the elements in the associate container can be efficiently accessed?
   a) Key
   b) Position
   c) Both a & b
   d) None of the mentioned

v. Which header file is used for reading and writing to a file?
   a) #include<iostream>
   b) #include<fstream>
   c) #include<file>
   d) None of the mentioned

vi. Which of the following concepts means determining at runtime what method to invoke?
   a) Data hiding
   b) Dynamic Typing
   c) Dynamic loading
   d) Dynamic binding

vii. Which of the following concept of oops allows compiler to insert arguments in a function call if it is not specified?
   a) Call by value
   b) Call by reference
   c) Default arguments
   d) Call by pointer

	(b)	State whether following statements are TRUE or FALSE. i. Protected variables are only available to the class. ii. Exceptions can be caught and re-thrown. iii. The iostream header file is useful when your program needs to receive key input and print text on the screen. iv. Structure members are private by default. v. A static member function can access only static data members of a class. vi. Virtual function is used to implement late binding. vii. RTTI is also available for non polymorphic classes.	**07**
Q.2	**(a)**	i. What is a void pointer? Explain void pointer with suitable example.	**05**
		ii. Give just general syntax of mutable data member.	**02**
	(b)	i. Write a sort note on data types available in C++.	**04**
		ii. Give general syntax of local class and Explain The rules considered while using local class.	**03**
		OR	
	(b)	i. What is a Destructor? Explain Destructor with suitable example.	**04**
		ii. Write a sort note on Koenig Lookup.	**03**
Q.3	**(a)**	What is a Wrapper Class? Explain Wrapper Class with suitable example.	**07**
	(b)	i. Differentiate Virtual Function and Pure Virtual Function.	**03**
		ii. Explain Reference Variables as a Return Type with suitable example.	**04**
		OR	
Q.3	**(a)**	What is a Template Class? Explain Template Class with suitable example.	**07**
	(b)	i. Explain Dynamic Binding with suitable example.	**03**
		ii. What is a namespace? Explain namespace alias with suitable example.	**04**
Q.4	**(a)**	Explain type_info object and typeid operator with suitable example.	**07**
	(b)	List various file modes available in C++. Explain Text and Binary Stream.	**07**
		OR	
Q.4	**(a)**	Explain C++ Object Model with suitable example.	**07**
	(b)	What is a Static Function? Explain Static Function with suitable example.	**07**
Q.5	**(a)**	Explain Drawbacks of Exception Handling Approach.	**07**

	(b)	Write a C++ Program in which Design classes such that they support the following statements:
		Feet f1(10.0f),f2;
		Inch i1;
		i1 = f1; // converts feet to inches
		f2 = i1; // converts inches to feet
		NOTE: Assume 1 Feet = 12 Inches
			07

		OR	
Q.5	**(a)**	List Stream classes and its meaning. Compare Old C++ IO vs ANSI C++ IO.	**07**
	(b)	Explain Principles Behind Design of STL.	**07**

****