Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code:2142005 **Date:08/06/2016**

Subject Name:Programming Methodology using 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

Q.1 **Short Questions** **14**

1 What is data encapsulation?

2 What is dynamic binding?

3 What are class and object?

4 What are base and derived classes?

5 What is abstract class?

6 Is it valid or not?

7 Write the syntax of class template?

8 Conversion from basic data type to class type requires

a) Operator function b) constructor in class

c) all of above d) none of above

9 Which special function is invoked automatically when an object goes out of scope?

a) Constructor b) Destructor

c) Both a and b d) none of above

10 When struct is used instead of the keyword class, access in program will be?

a) public by default b) private by default

c) protected by default d) none of above

11 Which prototypeof main() function is used for command line arguments.

a) main() b)main(int c, char* v[])

c) both a and b d) none of above

12 Which function prints variable value on the screen followed by new line on the screen?

a) printf() b) scanf()

c) putchar() d)puts()

13 What is the default return type of main in C++?

a) void b)int

c) char d) none of above

14 Which is an example of Polymorphism in C++?

a) Function overloading b) Operator overloading

c) Dynamic Binding d) All of above

Q.2 **(a)** What are pure virtual destructors? How they different from normal destructors? **03**

(b) what are the values of m and n after the following two statements are **04**

executed:

a) int m = 5;
int n = m++ * ++m;

b) int m = 1, n = 0;
n = m++;

	(c)	Define Object-oriented programming and Explain feature of Object oriented programming.	**07**
		OR	
	(c)	Explain Operator overloading with example.	**07**
Q.3	**(a)**	What is inline function .	**03**
	(b)	Define Constructor. Explain copy constructor.	**04**
	(c)	Define polymorphism and Explain Virtual functions with example.	**07**
		OR	
Q.3	**(a)**	Explain scope resolution operator with example	**03**
	(b)	Explain difference between structure and classes in c++.	**04**
	(c)	Explain Inheritance in C++ with example.	**07**
Q.4	**(a)**	Explain new operator with example. Also mention the advantages of new operator over malloc.	**03**
	(b)	What is class hierarchy? Explain with example.	**04**
	(c)	Declare a class called time having hours, minutes and seconds as member variables. Define a member function called add_time that accepts two objects of type time class, performs addition of time in hours, minutes and seconds format and returns an object of type time class. Write appropriate functions for initialization and display of member functions.	**07**
		OR	
Q.4	**(a)**	Explain “this” pointer.	**03**
	(b)	Explain call by reference function with suitable example.	**04**
	(c)	Write a program in C++ to check whether the given no is prime or not.	**07**
Q.5	**(a)**	Explain type conversion.	**03**
	(b)	Explain function overloading	**04**
	(c)	Explain Abstract class and static keyword with example.	**07**
		OR	
Q.5	**(a)**	What is Standard Template Library? How is it different from the C++ Standard Library?	**03**
	(b)	Write short notes on: 1) Exception handling. 2) Dynamic cast.	**04**
	(c)	What is friend function? Explain it with example.	**07**

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