

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER IV EXAMINATION – SUMMER 2015

Subject code: 140704

Date: 08/06/2015

Subject Name: Object Oriented Concepts and Programming

Time: 10.30am-01.00pm

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) i)** What is model? What are the purposes of modeling? **03**
iii) Define following terms: **04**
Abstraction, encapsulation, inheritance, polymorphism
- (b) i)** List and categories the operators used in C++. **03**
ii) Define the following terms with respect to C++: **04**
class, function, constructor, pointer
- Q.2 (a) i)** Define a class named student with attributes like name, roll number, age etc. **03**
Create two different objects of this class with different values of their attributes in C++ program.
ii) Define the following terms with respect to OO concepts: **04**
association, generalization, event, transition
- (b)** What do you mean by function over loading? Why it required? Explain it with example. **07**
- OR**
- (b)** What do you mean by function over ridding? Why it required? Explain it with example. **07**
- Q.3 (a) i)** What is default constructor? What is the purpose of parameterized constructor? **03**
ii) Define the following terms and explain their use: copy constructor, destructor **04**
(b) What do you mean by functional model? Explain it with example. **07**
- OR**
- Q.3 (a) i)** Define the following terms and state their use: inline function, friend function **03**
ii) Write a C++ program that demonstrates use of parameterized constructors. **04**
(b) What do you mean by object model? Explain it with example. **07**
- Q.4 (a)** Write a C++ program to find an average value of n integers stored in array. **07**
(b) Explain the conditional structures used in C++ program with example. **07**
- OR**
- Q.4 (a)** Write a C++ program to check that the given integer number is prime or not. **07**
(b) Explain the looping structures used in C++ program with example. **07**
- Q.5 (a)** What is the purpose of operator overloading? List the C++ operators which cannot be over ridden. Write a function to overload any binary operator and show that how it can be used. **07**
(b) What is virtual function? What is its need? Explain with example. **07**
- OR**
- Q.5 (a)** What do you mean by type conversion? Write a C++ program to explain basic to user defined data type conversion. **07**
(b) What is pure virtual function? What is its need? Explain with example. **07**
