

**BTECH**  
**(SEM V) THEORY EXAMINATION 2018-19**  
**OBJECT ORIENTED TECHNIQUES**

Time: 3 Hours

Notes: Assume any Missing Data.

Total Marks: 70

**SECTION A**

1. Attempt all questions in brief.

- a. Define Dynamic Binding
- b. Differentiate synchronous and asynchronous messages
- c. What will be the output of the program? Justify
 

```
#include<iostream>
using namespace std;
main() {
int const a = 5;
a++;
cout<<a;
}
```
- d. Differentiate Call by reference and return by reference
- e. What is the significance of access specifiers in a class?
- f. What is the use of typedef?
- g. List the four kinds of relationship in UML.

2 x 7 = 14

**SECTION B**

Attempt any three of the following:

- a. What do you mean by an object? Discuss the various characteristics of object with examples?
- b. Explain UML. Why we use UML and draw architecture of UML.
- c. What do you understand by Modeling? Explain the principles of modeling.
- d. Discuss array in c++. Write a program of bubble sort in c++.
- e. Explain Type Casting in C++ and determine its types.

7 x 3 = 21

**SECTION C**

Attempt any one part of the following:

7 x 1 = 7

- (a) Discuss JSD and its approach comparing with object modeling techniques.
- (b) Show the difference between reference and pointers. Demonstrate pointer constant and pointer to constant using example.

Attempt any one part of the following:

7 x 1 = 7

- (a) What do you mean by operator overloading? What are the pitfalls of operator overloading? Explain in brief.
- (b) What are the three models in OMT? How object oriented analysis and design attached with OMT. Explain with example.

5. **Attempt any *one* part of the following:** **7 x 1 = 7**

- (a) Describe the concept of inheritance and its types with example in c++.
- (b) Illustrate Polymorphism in c++ with suitable example

5. **Attempt any *one* part of the following:** **7 x 1 = 7**

- (a) Design a program of swapping in c++ using friend function and describe friend function in detail.
- (b) Explain the concept of Virtual function and Pure Virtual function.

**Attempt any *one* part of the following:** **7 x 1 = 7**

- (a) Draw UML Timing Diagram for ATM machine
- (b) Draw UML Class Diagram for Library Management System