Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 18

B.Tech. (CSE/ECE/IT) (2012 to 2017) (Sem.–3)

OBJECT ORIENTED PROGRAMMING USING C++

Subject Code : BTCS-305

M.Code : 56595

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1) What is data abstraction?

2) What do you mean by dynamic initialization of objects?

3) List down at least 3 differences between Static and Dynamic Memory Allocation.

4) "*Inheritance supports the concept of reusability*". Comment.

5) What is a friend function and friend class?

6) Explain control structures.

7) What is a reference variable? What is its major use?

8) Define Constructor and Destructor.

9) How is polymorphism achieved at compile time and runtime?

10) Differentiate between static and dynamic binding.

SECTION-B

11) What is the use of default & copy constructors? Is a constructor mandatory for a Class? Explain by giving examples in each case.

12) Explain how base class member functions can be invoked in a derived class if the derived class also has a member function with the same name.

13) What is a virtual function? Explain its usage with example.

14) Explain what is overloaded operator & how does a compiler proceed to execute an overloaded operator.

15) Write a program to exchange values between two classes using the concept of friend functions.

SECTION-C

16) Write a class to represent a vector (a series of float values). Include member functions to perform the following tasks :

    a) To create the vector

    b) To modify the value of a given element

    c) To multiply by a scalar value

    d) To display the vector in the form (10, 20, 30,...)

    e) Write a program to test your class

17) Write a program to overload the plus operator to add two complex numbers.

18) What is the use of class templates? Explain the different ways to instantiate a template functions.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.