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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.