

**B.Tech. - VIEP - COMPUTER SCIENCE AND
ENGINEERING (BTCSVI)**

00495

Term-End Examination

June, 2014

BICS-003 : OBJECT ORIENTED PROGRAMMING

Time : 3 hours

Maximum Marks : 70

*Note : Answer any **seven** questions. All questions carry equal marks.*

1. (a) What is the unique advantage of an object oriented programming paradigm ? 5
(b) Write a program in C++ to read two numbers from the keyboard and display the sum and average value on the screen ? 5
2. Distinguish between the following terms :
 - (a) Data abstraction and Data encapsulation. 5
 - (b) Inheritance and Polymorphism. 5
3. (a) What do you mean by class in C++ and what is the difference between public and private member of the class ? 5
(b) What is friend function ? What are the merits and demerits of using friend functions ? 5

4. (a) What is a constructor ? Explain the characteristics of a constructor ? 5
- (b) What is a copy constructor ? Explain with an example. 5
5. (a) What does polymorphism mean in C++ and how is it achieved at compile time and run time ? 5
- (b) What does inheritance mean in C++ ? What are the different forms of inheritance ? Give an example of each. 5
6. Create a class matrix and overload +, - operator to perform addition and subtraction of two matrices. 10
7. (a) What is a file mode ? Describe the various file mode options available. 5
- (b) Write a program that reads from two files simultaneously. 5
8. Create a class Inventory which has name code and cost of item. Include function read data () and write data. read data () takes input from the user and inserts it in the file inventory.dat and write data reads the same file to display the data of all the items in the file. 10
9. (a) Distinguish between overloaded functions and function templates. 5
- (b) What is an exception ? How is an exception handled in C++ ? 5

10. Discuss briefly about any *two* of the following : 5+5=10

- (a) Dynamic memory allocation
 - (b) C++ garbage collection
 - (c) Arrays and pointers
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