

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
S.Y.B.SC. (INFORMATION TECHNOLOGY) SEMESTER – III EXAMINATION; OCTOBER  
2014  
COURSE CODE– USIT304

**Duration: 2½ Hrs**

**Marks: 75**

**Total**

- N.B. 1. All questions are compulsory.**
- Q. 1 Answer any two out of following 10**
- a Explain the any three basic concepts of Object Oriented Programming (OOPs)?
  - b Write a note on polymorphism?
  - c Explain the needs of object oriented programming.
  - d Explain the application of OOPs in detail.
- Q. 2 Answer any two out of following 10**
- a Write a note on copy constructor.
  - b Explain the access function with proper example.
  - c Explain the concept of member function in detail.
  - d Design employee class for reading and displaying employee information using getInfo() and display Info() methods respectively, where getInfo() will be private method.
- Q. 3 Answer any two out of following 10**
- a Write a C++ program to overload using increment operator.
  - b Explain the overloading arithmetic operators.
  - c Explain the operator overloading in detail.
  - d Write a C++ program to Overload the operator + for adding the timings of two distances
- Q. 4 Answer any two out of following 10**
- a Explain different types of inheritance with proper diagram.
  - b Explain the error handling relate to file in detail.
  - c Explain multilevel inheritance with proper example.
  - d Design a class to handle multiple files and file operations.
- Q. 5 Answer any two out of following 10**
- a Explain any three formatted console I/O operations.
  - b Write a program in C++ for specifying filed size and precision formatted.
  - c Explain the use of iostream console operations in details.
  - d Write a note on comparison operator.
- Q. 6 Answer any two out of following 10**
- a Discuss iterators and their characteristic in detail.
  - b Write on algorithm and their relational algorithms.
  - c Explain the use of function template? Illustrate with an example.
  - d Design the template class library for concatenating two strings.

**Q.7**      **Answer any three out of following**

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- a** Design the class student containing get Data () and display Data () as two of its methods which will be used for reading and displaying the student information respectively where get Data () will be private method.
- b** Write a note on data encapsulation and abstraction.
- c** Define template. Explain the use of function template with multiple parameters.
- d** Write a note on virtual functions.
- e** Explain hierarchical inheritance with proper example.
- f** Show the implementation of template class library for swap function.

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