B. N. Bandodkar College of Science, Thane

S. Y. B. Sc. Semester I Examination, October 2014

Course Code: USCS302

Duration: 2 ½ Hrs. **Total Marks: 75**

Note: **i. All questions are compulsory.**
ii. Figures on right indicate maximum marks.

Q. 1 Answer the following

a Write a friend function for adding two different distances and display sum using two classes? 8

OR

a Design a class complex for adding the two complex numbers. Show the use of constructor and constructor overloading 8

b Explain relational and logical operators? 7

OR

b Explain constructor and destructor? Illustrate with proper example? 7

c Write a short note on object oriented programming? 5

OR

c Explain basic concepts of OOPs? 5

Q. 2 Answer the following

a Explain pure virtual functions in details? Illustrate with proper example? 8

OR

a Design class BC containing method: void show() which will display the value of object call b, design derive class DC containing method: voidshow1() which will display the value of b as well as d (make use of pointers to derived objects. 8

b Overload the operator unary (-) for demonstrating operator overloading? 7

OR

b Write a C++ program to overload the '+' for concatenating the two strings? 7

c Write short note on Pointers 5

OR

c Write a short mote on formatted I/O functions? Illustrate any one based program? 5

Q. 3 Answer the following

a Explain the concept of specifying exceptions in brief? 8

OR

a Design the template class library for concatenating two strings? 8

b Explain the concept of multiple catch mechanism? Illustrate with proper example? 7

OR

b Write a C++ program using container called list 7

i) Add the elements in list ii) Merge the two list
iii) Add the two elements one at the front of the list and other at back

c Explain any five member function s of the list container? 5

OR

c Explain getline () and write () function with proper example? 5

Q. 4 Attempt *any three* of the following 15

a Write short a note on constructor and destructor?

b Explain inline functions and function overloading?

c Explain function templates with multiple parameters?

d Explain any member functions of map class?

e Explain any five operators of sorting algorithms?

f Write a short note on single and Hybrid inheritance? Illustrate with proper diagram?

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