

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
F.Y.B.Sc. (INFORMATION TECHNOLOGY) SEMESTER – I EXAMINATION; OCTOBER  
2014  
COURSE CODE– USIT105

**Duration: 2½ Hrs**

**Marks: 75**

**Total**

**N.B. 1. All questions are compulsory.**

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|-------------|---|-----------|
| <b>Q. 1</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> Write an algorithm to add the digits of a number.<br>(E.g. if number is 123 then algorithm should calculate 1+2+3=06).                               |           |
|             | <b>b</b> Write an algorithm to calculate reverse of a number.   |           |
|             | <b>c</b> Draw the flowchart to find greatest of three numbers.  |           |
|             | <b>d</b> Draw the flowchart to calculate area of a circle.  |           |
| <b>Q. 2</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What is real constant? Explain rules for constructing the real constant.   |           |
|             | <b>b</b> Explain arithmetic operators in C++ with example.  |           |
|             | <b>c</b> What are variables and keywords? Explain with example.   |           |
|             | <b>d</b> Write a C++ program to check whether a given number is even or odd.  |           |
| <b>Q. 3</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> Explain while loop with example.   |           |
|             | <b>b</b> What is a break statement? Explain with example.   |           |
|             | <b>c</b> Explain conditional operator with example.   |           |
|             | <b>d</b> Write a C++ program to check whether a given number is prime or not.   |           |
| <b>Q. 4</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What is a function? Explain call by value method with example.   |           |
|             | <b>b</b> What is a pointer? How pointers are used in call by reference method.  |           |
|             | <b>c</b> Write a function in C++ to calculate area of a square.   |           |
|             | <b>d</b> Write a function that receives float and an integer from main (), find the product of these two and returns the product which is printed in main (). |           |
| <b>Q. 5</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What are arrays? Explain with example how to initialize an array and how array elements are stored in memory.  |           |
|             | <b>b</b> What is 2 dimensional array? Explain with example.   |           |
|             | <b>c</b> Write a C++ program to sort elements of an array in descending order using selection sort method.  |           |
|             | <b>d</b> Write a C++ program to copy the content of one array into another.   |           |
| <b>Q. 6</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What is character array? Explain with example how to access character array elements using pointers.   |           |
|             | <b>b</b> What is a structure? How to create structure variables? Explain how structure variables are stored in memory.  |           |
|             | <b>c</b> Write your own user defined function to reverse a given string.  |           |

- d Create a structure to specify data of a customer in a bank: acct\_no, name and balance. Write a program to print account number and name of each customer with balance below Rs.1000.

**Q.7**      **Answer any three out of following** **15**

- a With an example, explain function call, function definition & function prototype.
- b Explain strcmp () function with example.
- c Write an algorithm to find LCD (Least Common Devisor) of two numbers.
- d If cost price and selling price of an item is input through the keyboard, Write a program to determine whether the seller has made profit or incurred loss.
- e Is it possible to do nesting of loops in C++? How?
- f Write a C++ program for matrix multiplication.

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