SIXTH SEMESTER B.TECH DEGREE EXAMINATION

(2013 Scheme)

13.606 COMPUTER PROGRAMMING AND NUMERICAL METHODS (C)

MODEL QUESTION PAPER

Time: 3 hours   Maximum marks: 100

PART-A

*Answer **all** questions. **Each** question carries 4 marks*

1.   What are the different data types used in C++? Briefly explain their features.

2.   Distinguish between break and continue statement.

3.   Differentiate between call by value and call by reference

4.   Describe briefly any two functions used for file operations.

5.   What are transcendental equations?

PART-B

*Answer **one full** question from **each** module. **Each full** question carries **20** marks.*

MODULE-I

6. **a.** Explain in brief primary memory in computers   (5 marks)

    b. Give the general syntax of conditional operator.   (5 marks)

    c. Design and develop a C program to read a *year* as an input and find whether it is
    leap year or not.   (10 marks)

7. **a.** Draw neat block diagram of computer system & explain the parts   (5 marks)

    b. Explain the *switch* statement with syntax and example.   (5 marks)

    c. Given the coordinates of a point on a plane, prepare a C++ program to find the
    quadrant where the point lies.   (10 marks)

MODULE-II

8. **a.** Explain the *for* statement with syntax and example.   (5 marks)

    b. How are characters handled in C++ programming?   (5 marks)

    c. Write a program to print all prime numbers less than 1000.   (10 marks)

9. **a.** Compare and contrast the *while* and *do..while* statements. (6 marks)

b. Explain any three string functions in C++. (6 marks)

c. Write a C++ program to print transpose of matrix (8 marks)

MODULE-III

10. **a.** Write a C ++ program to calculate factorial of a given number using recursion.

(8 marks)

b. Prepare a C++ program to read a list of names from two different files named as list1.txt and list2.txt and print the combined list into a new file named as combinelist.txt.

(12 marks)

11. **a.** Write a C++ program to largest element of a matrix using a function. (8 marks)

b. Using the concept of structures within structures, prepare a C++ program to read the details of n students in a class like Roll no., name and date of birth. The program should output the student list in the ascending order of roll number. (12 marks)

MODULE-IV

12. **a.** Explain the concept of successive approximation method (5 marks)

b. Solve the following system of linear equations using Gauss elimination method.
$4x1+2x2-x3+x4=0$, $x1-2x2-4x3-x4=8$, $3x1+4x2-3x3+2x4=-6$,
$2x1-2x2+2x3+x4=5$ (15 marks)

13. Write a program to evaluate $\int_0^6 \frac{dx}{1+x^2}$ using Trapezoidal rule. (20 marks)