First Semester B. Sc. (IT) Examination
COMPUTER   SCIENCE
Paper – II
Programming Methodology in C

Time : Three Hours]   [Max. Marks : 50

    N. B. : (1) All questions are compulsory and carry equal
               marks.
           (2) Draw neat and labelled diagram wherever
               necessary.

EITHER

1.   (a) Define algorithm. Give symbols used in it with
        meaning. What is the necessity of an algorithm.
                                         5

    (b) Explain modular programming structure giving
        suitable example.   5

OR

    (c) What is pseudocode ? What are the logic
        structgure that can be used with pseudocode ?
        Write pseudocode for finding greatest of numbers.
                                         5

    (d) Write an algorithm and draw flowchart to compute
        roots of quadratic equation.   5

EITHER

2.   (a) What is operator precedence and Associativity?
        Explain.   5

(b) Write a program to find the prime number and sum of prime numbers between 1 to 100 numbers. 5

OR

(c) What are the different string manipulation function provided by C language ? Explain with example. 5

(d) Explain following library function in C.

   (i)   Ceil ( )   (ii) Floor ( )

   (iii) Pow ( )   (iv) Sqrt ( )

   (v)   Cos ( )

EITHER

3. (a) Explain with example :—

   (i)   Call by value.

   (ii) Call by reference. 5

(b) Write a program to merge two given sorted list. 5

OR

(c) List the categories of function on the basis of argument and return type and explain with example.

(d) Write a program to multiply two matrices of size 3 × 3. 5

EITHER

4. (a) Write a program to create data file 'lib dat' which stores information books. The field are Accession no, Title of book, price of book. 5

(b) What is embedded structure ? Explain with suitable example. 5

OR

(c) Explain address operator in C What is void pointer. List advantages of address pointer. 5

(d) Explain various operations that can be performed on file. 5

5. Solve any **ten** :—

(a) Write any two limitation of flowchart.

(b) Draw flowchart for generating Fibonacci series.

(c) Write algorithm to swap two numbers.

(d) What is bitwise operator ?

(e) List C character set.

(f) What is enumerated data type ?

(g) What is storage class?

(h) How do two dimensional array is initialized?

(i) What is recursive function ?

(j) Write syntax for opening a file.

(k) What is command line argument.

(l) What is pointer to pointer ? 1x10