Max. Marks: 40+10
Time: 3hrs.

Unit-I

Flowcharts:- Purpose of program planning, Meaning, Use, Symbols Used Levels of Flowcharts, Flowcharting rules, Advantages and limitations, Decision tables, pseudocode: Meaning, pseudocodes for Basic Logic(Control) Structures, Advantages and Limitations.

Unit –II

Introduction to Computer problem-solving aspect:- Algorithms: its meaning, representation of Algorithm, Top down Design Implementation of algorithms, Program Verifications, Efficiency of Algorithms, Analysis of Algorithm.

Unit-III

Fundamental Algorithms:- Summation of a set of numbers, Factorial computation, Sine Function Computation, Fibonacci sequence, Reversing the digits of an integer, Algorithm for factoring methods: Square root of number, Smallest divisor of an integer, Greatest Common Divisor, Generating Prime numbers, Pseudo Random numbers, raising a number to a large power, algorithm techniques for merge, sort, search operations.

Unit-IV

Excel: - Spreadsheet, creation, manipulation of spreadsheet, importing database, concepts of macros, charts and graphs.

Reference Books:

1. How to solve it by Computer by R.G. Dromey
2. Programming languages & Techniques by Trat
3. Programming Handling Techniques by J.Chhabra

Note:

1. Syllabus in each Theory Paper is divided in 4 units.
    I. A Student is required to attempt 5 questions in all.
    II. Question No 1 is compulsory, consisting of short answer type questions based on all the 4 units.
    III. Two questions will be set from each unit. A student is required to attempt one question from each unit.
    IV. All questions carry equal marks.
2. Use of simple calculator is permissible.
3. Instructions should be imparted using SI system of units. Familiarity with CGS system of units should also be ensured.
4. Distribution of Marks: 40+10*= 50.
    * Each question paper will be of 40 marks and 10 marks in each theory paper are awarded through internal assessment in each semester.
5. Work load – 3 periods per week per theory paper.