

SEC.1:

A: Computer Programming with C language (Th 13 classes + Practical: 26 classes)

Composite Paper, Full Marks:100 (Th: 60+ Pr: 40), Total Credit: 2 (1+1) No. of classes per week: 3(=1+2)

Course Objective: *To be acquainted with basics of programming language in connection with mathematics.*

Theory Part (HMTSE3012T):

Following general programs are to be done using C language. (Classes:26(Practical) +13(Theory))

- Calculate the sum $1/1 + 1/2 + 1/3 + 1/4 + \dots + 1/N$. (2)
- Calculation of sum of finite and infinite series and test of convergence. (2)
- To find the absolute value of an integer. (1)
- Enter integers into an array and sort them in an ascending order. (2)
- Calculation of mean/standard deviation of a set of real numbers using array and writing user defined functions for mean and s.d. (2)
- Calculation of factorial value of a positive integer using function. (2)
- Introduction to two dimensional array, computation of matrix product, matrix transpose. (2)

Books Recommended:

- (1) Let Us C: Kanitkar
- (2) Programming with C : Byran Gottfried

Practical Part (HMTSE3012P):

- 1) To generate a sequence. (4)
- 2) To check convergence of s sequence and its limit. (4)
- 3) To find sum of finite series. (4)
- 4) To check convergence of a series and its sum. (4)
- 5) Introduction of array and sorting it in ascending or descending order. (2)
- 6) To find frequency distribution of a given set of data and calculation of mean and standard deviation. (4)
- 7) Introduction of two dimensional array as matrix and its input output sum, product, transpose.(4)

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- (1) Let Us C: Kanitkar
- (2) Programming with C : Byran Gottfried