V.S.R & N.V.R College, Tenali (An Autonomous College in the jurisdiction of Acharya Nagarjuna University, Nagarjuna Nagar, A.P., India) Reaccredited by NAAC			
COMPUTER SCIENCE	**CSC 102C**	2019-20 onwards	I B.Sc
SYLLABUS			
I I SEMESTER **PROGRAMMING IN C**			

UNIT I :

Introduction to Algorithms and Programming Languages : Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generations – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

Introduction to C : Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in CProgramming. Examples – Type Conversion and Type Casting

UNIT II :

Decision Control and Looping Statements : Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

Functions : Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration

UNIT III :

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations that can be performed on Array – one dimensional array for inter-function communication – Two dimensional Arrays – Operations on Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices

Strings : Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT IV :

Pointers : Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Pointer and 2D Arrays – Pointer and 3D Arrays – Function Pointers – Array 0f Function Pointer – Pointers to Pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types : Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types

UNIT V :

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file - Introduction to C++ and OOP's - Object, class, data abstration, encapusulation, inherittance, data binding, message passing - Access specifiers

TEXT BOOK

1. E Balagurusamy, Programming in ANSI C, McGraw-Hill, Six Ed 2012, ISBN 978- 1259004612, 572 pages
2. Y Kanetkar, Let us C BPB, 13th Edition-2013, ISBN: 978-8183331630, 656 pages
3. Dennis M. Ritchie and Brian W. Kernighan, "The C Programming Language PHI; 2 edition, 1990 ISBN: 978-8120305960, 284 pages

REFERENCE BOOKS

1. Computer Fundamentals and Programming in C by Reema Thareja, Oxford University Press
2. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
3. Henry Mullish & Huubert L.Cooper: The Sprit of C, Jaico Pub. House,1996.

V.S.R & N.V.R College, Tenali

(An Autonomous College in the jurisdiction of Acharya Nagarjuna University, Nagarjuna Nagar, A.P., India)

Reaccredited by NAAC

COMPUTER SCIENCE	**CSC 102C**	2019-20 onwards	I B.Sc

MODEL PAPER

I I SEMESTER

Time : 3 hrs **PROGRAMMING IN C** Max.Marks:60

I. Answer any FOUR of the following : 4x5=20

1. Question from Unit - I
2. Question from Unit - I
3. Question from Unit - II
4. Question from Unit - III
5. Question from Unit - IV
6. Question from Unit - V

II. Answer any FOUR of the following : 4x10=40

7. Question from Unit - I
8. Question from Unit - I
9. Question from Unit - II
10. Question from Unit - III
11. Question from Unit - IV
12. Question from Unit - V
13. Question from Unit - V

V.S.R & N.V.R College, Tenali

(An Autonomous College in the jurisdiction of Acharya Nagarjuna University, Nagarjuna Nagar, A.P., India)

Reaccredited by NAAC

COMPUTER SCIENCE	**CSC 102CP**	2019-20 onwards	I B.Sc

PRACTICAL SYLLABUS

I I SEMESTER

PROGRAMMING IN C

1. Find the biggest of three numbers using C.
2. Write a C program to find the sum of individual digits of a positive integer.
3. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence.
4. Write a C program to check whether a number is Armstrong or not
5. Write a program to perform various string operations
6. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.
7. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
8. Write C program that implements searching of given item in given list
9. Write a C program to sort a given list of integers in ascending order
10. Write a C program to perform various operations using pointers?
11. Write a C program to read data of 10 employees with a structure of 1. Employee id, 2. Aadar no., 3. Title, 4. Joined date, 5. Salary, 6. Date of Birth, 7. Gender, 8. Department