

**DEPARTMENT OF BUSINESS MANAGEMENT**  
**SATAVAHANA UNIVERSITY**  
**B.B.A (Computer Applications): SEMESTER -II**  
**PRINCIPLES OF 'C' PROGRAMMING**

**PPW: 4Hr/Week**

**CREDITS:4+1 =5**

**MAX. MARKS: 60 THEORY +20 INTERNAL +20 PRACTICALS**

***Objectives: To gain the skills of Structured (Procedural/Functional) Programming using C Language.***

**UNIT-I: INTRODUCTION TO C LANGUAGE, DATA TYPES AND I/O OPERATIONS:**

**Introduction:** Types of Languages - History of C language – Applications of 'C'-Features of 'C'-Basic Structure - Creating - Compiling - Linking and Executing the 'C' Program - Pre-processors in "C"- Types and I/O operations: Keywords ,Tokens, Identifiers - Constants - Variables - Scope and Life of a Variable -Data types - Storage classes - Reading a character or values - Writing a character or value - Formatted Input and Output operations.

**UNIT-II: OPERATORS, EXPRESSIONS AND DECISION MAKING:**

**Operators:** Introduction - Arithmetic - Relational - Logical - Assignment Conditional - Special operators

**-Expressions:** Arithmetic - Evaluation - Type conversions.

**Decision Making & Looping:** Introduction - If statements - If-else statements –Nested if, Nested if-else- Switch statements -Conditional statements - While statements - Do statements - For Statements.

**UNIT-III: ARRAYS AND STRINGS:**

**Arrays:** Introduction - Defining an array - Initializing an array - One dimensional array - Two dimensional array - Dynamic array.

**Strings:** Introduction - Declaring and initializing string variables - Reading and Writing strings - String handling functions.

**UNIT-IV: BUILT-IN FUNCTIONS AND USER-DEFINED FUNCTIONS:**

**Functions:** Introduction-**Built-in functions:** Mathematical functions - String functions - Character functions - Date functions. **User defined functions:** Introduction - Need for user defined functions - Elements of functions - Return values and their types - Function declaration - Function calls - Recursive functions.

**UNIT-V: STRUCTURES AND POINTERS:**

**Structures:** Introduction - Declaring structures variables - Accessing structure members - Functions and Structures - Array of structures - Enumerated Data types - Introduction to Unions.

**Pointers:** Fundamentals –Uses of Pointers- Understanding pointers - Address - Declaration of Pointers- Pointers and strings-Array and Pointers-Dynamic Memory Allocation.

**SUGGESTED READINGS:**

1. Programming in ANSCI C: Balaguriswamy, McGraw Hill.
2. Programming in C: Ashok Kamthane, Pearson.
3. C How to Program: P.J. Deitel& H.M. Deitel, Pearson & PHI.
4. Programming in C: K.S. Kahlon, Kalyani Publishers.
5. Fundamental of C: Dr. N. Guruprasad, Himalaya Publishing House.
6. Mastering C: K.R. Venugopal, McGraw Hill.
7. The C Programming Language: B.W.Kernighan&D.M.Ritehie, PHI.
8. C: The Complete Reference: H.Schildt, McGraw Hill.
9. Let Us C: Y.Kanetkar, BPB.
10. C++ Spoken Tutorials by IIT Bombay

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**PRINCIPLES OF 'C' PROGRAMMING**  
**Computer Lab - Practical Question Bank**

**Time: 2 hrs**

**Record: 05**

**Skill Test: 15**

**Total Marks : 20**

1. Write a Program to find greatest of three numbers using ternary operator.
2. Write a Program to check whether the given number is palindrome or not.
3. Write a Program to print the prime numbers in given range.(minimum and maximum values should be accepted from the user)
4. Create a menu driven application using switch to find addition, subtraction, multiplication and division of two numbers.
5. Write a Program to sort the elements of an array using bubble sort technique.
6. Write a Program to search an element in an array using binary search method.
7. Write a Program to perform matrix multiplication.
8. Write a program to find factorial of a given number using recursion.
9. Write program to print Fibonacci numbers using function. (0 1 1 2 3 5 8....).
10. Write a program to demonstrate local and global variables.
11. Write a program to demonstrate auto and static variables.
12. Write a program to concatenate two strings with and without using string functions.
13. Write a program to sort the strings, passing array to function.
14. Write a program to find area of a circle using macros.
15. Write a program to find length of string using pointers and functions.
16. Write a program to swap two values using parameter passing mechanism.
17. Write a program to create a structure, store the values and display them.
18. Write a program to create array of student objects.
19. Write a program to demonstrate passing structures to functions using pointers.
20. Write a program to demonstrate nesting of structure.

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