PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

23CSMIP121 : Problem Solving using C Lab

Offered to : All UG Programs
Course Type: Practical -Minor 1

Semester: **II** **30Hours** **Credits:1**

Course Objective:

This course aims to provide exposure to problem-solving through programming and introduce the concepts of the C Programming language.

Course outcomes (based on BTL):

Course Outcome No.	Outcome	Mapping to
CO1	Demonstration of basic C programs using branching and iterative statements.	PO5
CO2	Perform operations on arrays	PO5
CO3	Demonstrate passing parameters to functions and recursive functions.	PO5
CO4	Demonstrate pointers	PO5
CO5	Demonstrate structures and file handling concepts	PO5, PO6

Mapping of Course Outcomes (COs) with Programme Outcomes (POs) & PSOs

	CO-PO MATRIX							
	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
23CSMIP121	CO1					H		
	CO2					H		
	CO3					H		
	CO4					H		
	CO5					H		M

List of the Practicals

Experiment – 1:

Write a C program to check whether the given two numbers are equal, bigger or smaller?

Experiment – 2:

Write a C program to perform arithmetic operations using Switch...case?

Experiment – 3:

- Write a program to find the sum of individual digits of a positive integer.
- Write a program to check whether the given number is Armstrong or not.

Experiment –4:

Write a program to generate the first N terms of the Fibonacci sequence.

Experiment – 5:

Write a program to find both the largest and smallest number in a list of integer values

Experiment – 6:

- Write a program that uses functions to add two matrices.
- Write a program for multiplication of two n X n matrices.

Experiment – 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by Value& Call by Address.

Experiment – 8:

Write a program to calculate factorial of given integer value using recursive functions.

Experiment – 9:

Write a program to search an element in a given list of values.

Experiment – 10:

Write a program to illustrate pointer arithmetic.

Experiment – 11:

Write a program to sort a given list of integers in ascending order.

Experiment – 12:

Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay
b. HRA is 15% of Basic Pay
c. Deduction is 10% of (Basic Pay + DA)
d. Gross Salary = Basic Pay + DA+ HRA
e. Net Salary = Gross Salary - Deduction

Experiment – 13:

Write a program to perform various string operations.

Experiment – 14:

Write a program to read the data character by character from a file.

Experiment – 15:

Write a program to create Book (ISBN, Title, Author, Price, Pages, Publisher) structure and store book details in a file and perform the following operations

a. Add book details
b. Search a book details for a given ISBN and display book details, if available
c. Update a book details using ISBN
d. Delete book details for a given ISBN and display list of remaining Books.

Question Paper Pattern for Core Lab Courses

23CSMIP121 : Problem Solving using C Lab

Offered to: All UG Programs **Semester: II**

Max. Marks : 50 (CIA: 15 + SEE: 35) **Hrs/Week: 2**

Model Paper : Practicals

Time: 3 Hrs **Max. Marks : 35**

Section - A

1. Experiment 1	15 M
2. Experiment 2	10 M

Section – B

Viva Voce	10 M
CONTINUOUS ASSESMENT: (Internal)	**15 M**
Total	50Marks

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