P.B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, Vijayawada – 520 010
Reaccredited at 'A+' level by NAAC
Autonomous & ISO 9001:2015 Certified

Title of the Course: C PROGRAMMING
Semester : I

Course Code	22MA1T5	Course Delivery Method	Blended Mode
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2020-2021	Year of offering : 2022-2023	Year of Revision: ---	Percentage of Revision :---

Course Objectives: The aim of this course is to provide basic the concepts of C-language including flow charts, algorithms, pointers, functions, structures and simple applications.

Course Outcomes: After successful completion of this course, students will be able to

CO-NO	COURSE OUTCOME	BTL	PO	PSO
CO1	understand the basic concepts of C programming.	**K3**	**3**	**1**
CO2	implement the algorithms and draw flowcharts for solving Mathematical problems.	**K3**	**7**	**2**
CO3	work with arrays and character strings of complex objects within the framework of functional model.	**K3**	**7**	**1**
CO4	write C programs with pointers and functions.	**K3**	**2**	**1**
CO5	create C programs for simple applications using Structures, unions and understand file operations.	**K3**	**2**	**2**

Mapping of Course Outcomes:

CO-PO-PSO MATRIX										
22MA1T5	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
	CO1			**2**					**2**	
	CO2							**3**		**3**
	CO3							**3**	**2**	
	CO4		**2**						**2**	
	CO5		**3**							**3**

UNIT-I

Over view of C – Constants, variables and Data types - Operators and Expressions.

[Chapters 2, 3& 4 of the prescribed book]

UNIT-II

Managing Input and output operations - Decision making and branching - Decision making and Looping.[Chapters 5, 6 & 7 of the prescribed book]

UNIT-III

Arrays - Handling of character strings.[Chapters 8 & 9 of the prescribed book]

UNIT-IV

User defined functions – Pointers.

[Chapters 10&11 of the prescribed book]

UNIT-V

Structures and Unions - File management in C.

[Chapter 12 and 13 of the prescribed book]

PRESCRIBED BOOK:

1. E. Balaguruswamy, "**C Programming and Data Structures"** Second Edition, Tata McGraw- Hill Publishing Company.(Refer 4th edition also)

REFERENCE BOOKS:

1. E. Balaguruswamy, "**Computing Fundamentals and C Programming**", McGrawHill, 2008.

2. D. Ravichandran, "**Programming in C",** New Age International, 1998.

3. Ashok N. Karthane, "**C and Data Structures",** Pearson Education.

Course has Focus on : Foundation

Websites of Interest: 1. www. nptel.ac.in

2. www.epgp.inflibnet.ac.in

3. www.ocw.mit.edu

P B SIDDHARTHA COLLEGE OF ARTS AND SCIENCE::VIJAYAWADA

(An Autonomous college in the jurisdiction of Krishna University)

M. Sc. Mathematics

First Semester

C PROGRAMMING -22MA1T5

Time: 3 Hours **Max.Marks:70**

SECTION -A

Answer all questions **(5x4=20)**

1 (a) Write history of C programming language. (CO1, K2)

(OR)

(b) Explain increment and decrement operators with examples. (CO1, K2)

2 (a) Explain increment and decrement operators with examples. (CO2, K2)

(OR)

(b) Explain differences between while and do while loops in C. (CO2, K2)

3 (a) Explain single dimensional arrays. (CO3, K2)

(OR)

(b) Explain any two string functions with examples. (CO3, K2)

4 (a) Explain user defined functions. (CO4, K2)

(OR)

(b) What is a pointer? Write two differences between pointers and Arrays. (CO4, K2)

5 (a) Explain Unions in C. (CO5, K2)

(OR)

(b) Write the uses of structures in C. (CO5, K2)

SECTION – B

Answer all questions. All questions carry equal marks **(5X10=50)**

6. a) Explain structure of C program with example. (CO1, K2)

(OR)

b) Explain data types in C. (CO1, K2)

7. a) Write a program to check whether the given number is palindrome. (CO2, K3)

(OR)

b) Explain Simple if, if-else, nested if statements with example programs. (CO2, K3)

(P.T.O.)

8. a) Write a program in C for the addition of two matrices using arrays. (CO3, K3)

(OR)

b) Explain the following with example programs.

i) strupr ii) strlen iii) strrev (CO3, K3)

9. a) Write a program in C to find biggest of three numbers using function. (CO4, K3)

(OR)

b) Explain the terms (i) call by reference (ii) call by value with example programs. (CO4, K3)

10. a) Write the differences between structures and unions. (CO5, K3)

(OR)

b) Explain how the file open and file close functions are handled in C. (CO5, K3)

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