



Lesson Plan

Program: BCA **Semester:** II **Course Code:** BCA-202 **Course Name:** C Programming

Course Objectives

- CO1: To introduce the arrays and its various types.
- CO2: To describe the use of pointer in programming.
- CO3: To learn the use of string in C programming.
- CO4: To study the use of structure, union and macros.
- CO5: To learn file operations and implement file operation in C programming for a set of problems.

Session Duration: 50 minutes

Participants: BCA Second Semester Students

Entry level knowledge and skills of students

- i. Computer Fundamentals

Equipment required in Classroom/ Laboratory/ Workshop

- i. Projector
- ii. White Board/ Marker

Assessment Schemes

S. No.	Criteria	Marks (100)
1	CCSU End Term Examination	75
2	Internal Evaluation Scheme	25
2(a)	Teacher Assessment (Continuous Evaluation) (Assignment & attendance)	25
2(a)(i)	Assignment-1	10
2(a)(ii)	Assignment-2	10
2(a)(iii)	Attendance (compulsory)	5

Course Outcomes (starting with action-oriented observable and measurable verb)

- (CO1):** Able to understand and apply of array in matrix related problems **Understand K(2), Applying K(3)**
- (CO2):** Able to define and implement Pointers. **Understand K(2), Applying K(3)**
- (CO3):** Able to implement the Strings functions to manage character array. **Applying K(3)**
- (CO4):** Able to understand & implement the importance of Structure, Union and Macros in record based problems **Understanding K(2), Applying K(3)**
- (CO5):** Able to implement the concept of working with files using 'C' **Applying K(3)**



L. No.	Topics	Sub Topics	Date of implementation	Pedagogy	CO-Covered	Faculty Sign	HoD's Remark with Date
Unit - 1							
1.	Discuss Syllabus	Course Objective & Outcome			CO-1 TO CO-6		
2.	Array	Definition, declaration and initialization of 1-D array;		Lecture	CO-1		
3.	Sorting	Bubble Sort, Selection Sort		Lecture, Demonstration	CO-1		
4.		Insertion sort		Lecture, Demonstration	CO-1		
5.	Array & Function	Array & Function		Lecture, Demonstration	CO-1		
6.	2-D Array	Declaration & Initialization		Lecture	CO-1		
7.		Multidimensional array		Lecture, Demonstration	CO-1		
8.		Revision Unit-1		Brainstorming, Buzz Grouping	CO-1		
9.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-1		
Unit - 2							
10.	Pointers	Definition, Initialization		Lecture	CO-2		
11.	Pointer Operator	Indirection, address of, pointer arithmetic		Lecture, Demonstration	CO-2		
12.	DMA Function	Introduction, Malloc, Calloc, Free, Realloc		Lecture, Demonstration	CO-2		
13.		Array Pointer		Lecture, Demonstration	CO-2		
14.		Function Pointers		Lecture, Demonstration	CO-2		
15.		Dangling & void Pointers		Lecture	CO-2		
16.		Revision Unit-2		Brainstorming, Buzz Grouping	CO-2		
17.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-2		
Unit - 3							



18.	Strings	Definition & declaration		Lecture	CO-3		
19.	Standard library function	strlen(), strcpy(),		Lecture, Demonstration	CO-3		
20.		strcat(), strcmp(), Strrev()		Lecture, Demonstration	CO-3		
21.	Implementation without using Library Function	String Length, Reverse		Lecture, Demonstration	CO-3		
22.		String Compare, copy, Concatenate		Lecture, Demonstration	CO-3		
23.		Revision Unit-3		Brainstorming, Buzz Grouping	CO-3		
24.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-3		
Unit – 4							
25.	Structure	Definition, initialization		Lecture	CO-4		
26.		Accessing fields and structure operations		Lecture, Demonstration	CO-4		
27.		Nested structures		Lecture, Demonstration	CO-4		
28.	Union	Definition and declaration		Lecture	CO-4		
29.		Differentiate between Union and structure		Lecture, Demonstration	CO-4		
30.		Revision Unit-4		Brainstorming, Buzz Grouping	CO-4		
31.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-4		
Unit – 5							
32.	Introduction C Preprocessor	Definition of Preprocessor		Lecture	CO-4		
33.	Types of Preprocessor	Macro substitution directives, File inclusion directives, Conditional compilation		Lecture, Demonstration	CO-4		
34.	Bitwise	Bitwise		Lecture, Demonstration	CO-4		



	Operators	operators; Shift operators, Masks; Bit field					
35.		Revision Unit-5		Lecture, Brainstorming	CO-4		
36.		Discuss University Questions		Lecture, Brainstorming	CO-4		
Unit – 6							
37.	File handling	Definition of Files		Lecture	CO-5		
38.		Opening modes of files		Lecture, Demonstration	CO-5		
39.	Standard function	fopen(), fclose(), feof(), fseek(), fewind();		Lecture, Demonstration	CO-5		
40.	Using text files	fgetc(), fputc(), fscanf()		Lecture, Demonstration	CO-5		
41.	Command line arguments	Introduction		Lecture, Demonstration	CO-5		
42.		Revision Unit-6		Brainstorming, Buzz Grouping	CO-5		
43.		Discuss University Questions		Brainstorming, Buzz Grouping	CO-5		

Text Books:

1. Programming in ANSI C – by E. Balagurusamy
2. Let us C – by Yashavant P. Kanetkar

Reference Books:

1. A First Course in Programming with C – by T Jeyapoovan
2. Programming in C – by R.S.Salaria