CAMBRIDGE INSTITUTE OF TECHNOLOGY

K.R. Puram Bengaluru – 36

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Principles of Programming using C – BPOPS203

Semester: 2 **Section: P1, P2, P3**

MODULE- 4 QUESTION BANK

C123.3 Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting.

C123.4 Explore user-defined data structures like structures, unions and pointers in implementing solutions

C123.5 Design and Develop Solutions to problems using modular programming constructs using functions.

Questions:

Q.No	*Questions*	*RBT*	*CO: C123*
1	What is a string? Explain how to declare and initialize a string with examples.	1	3
2	Give the differences between scanf() and gets() functions.	2	3
3	What is string Taxonomy?	1	3
4	Explain all the string handling functions with syntax and example program for each.	3	3
5	Explain array of strings in detail with example program.	2	3
6	Write a program for the following without using string handling functions. i)string copy ii)string concatenation iii)string comparison iv) string length v) string reverse	3	3
7	Write a program to replace each constant in a string with the next one except	4	3

	letter ‘z’ ‘Z’ and ‘a’, ‘A’. Thus the string “programming in C is fun” should be modified as “qsphsannjoh jo D jt gvo”.		
8	Write a program to find the number of vowels and consonants in a text string.	3	3
9	Write a program which would print the alphabet set a to z and A to Z in decimal and character form.	2	3
10	Write a program to check if the input string is palindrome or not. i) With built –in functions ii) Without built-in functions	3	3

Lab Programs

Q.No	***Questions***	***RBT***	***CO: C123***
1	Implement Binary Search on Integers.	*3*	*3*
2	Implement Matrix multiplication and validate the rules of multiplication.	*3*	*3*
3	Compute sin(x)/cos(x) using Taylor series approximation. Compare your result with the built-in library function. Print both the results with appropriate inferences.	*3*	*3*
4	Sort the given set of N numbers using Bubble sort.	*3*	*3*
5	Write functions to implement string operations such as compare, concatenate, and find string length. Use the parameter passing techniques.	*5*	*5*

Pointers

Q.No	***Questions***	***RBT***	***CO: C123***
1	Define pointer variable. Explain with example the declaration and initialization of pointer variable.	*2*	*4*
2	Give the advantages and disadvantages of pointers.	*1*	*4*
3	Develop a c program to read two numbers and functions to swap these numbers using pointers.	*2*	*4*
4	Write a C Program to add two numbers using pointers.	*2*	*4*

5	Explain pointer increments and scale factor.	*2*	*4*
6	Explain pointers and arrays.	*2*	*4*
7	Explain pointers as function arguments.	*2*	*4*
8	Explain functions returning pointers.	*2*	*4*
9	Design and develop a C program to read n unsorted number to an array of size n and pass the address of this array to a function to sort the number in ascending order using bubble sort.	*2*	*4*
10	Write a C program using pointers to compute sum, mean and standard deviation of all elements stored in an array of n real numbers.	*3*	*4*