CBCS SCHEME

USN | | | | | | | | | | BPOPS103

First Semester B.E./B.Tech. Degree Examination, Jan./Feb. 2023
Principles of Programming using C

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. VTU Formula Hand Book is permitted.
3. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain the organization of Basic computer model with neat diagram.	8	L1	CO2
	b.	Explain Input/Output statement in C.	8	L1	CO2
	c.	List and explain any two input-output devices.	4	L1	CO2
		OR			
Q.2	a.	What are the basic datatypes available in C?	6	L2	CO2
	b.	Define variable. Explain the rules to declare a variable with example.	6	L2	CO2
	c.	With suitable example – Explain the basic structure of C program.	8	L2	CO2
		Module – 2			
Q.3	a.	What is type casting? Explain its types with suitable example.	6	L2	CO2
	b.	Write a C program to find the largest of three numbers using ternary operator.	6	L3	CO2
	c.	List and explain unconditional branching statements with example.	8	L1	CO2
		OR			
Q.4	a.	List the conditional branching statements in 'C'. Explain any two with example.	6	L1	CO2
	b.	Write a C program to compute the roots of a quadratic equation by accepting the coefficients print appropriate messages.	6	L3	CO2
	c.	Explain different types of loops in C. Justify with its syntax and example.	8	L2	CO2
		Module – 3			
Q.5	a.	Define an array. Explain with example. How to declare and initialize 2D-array.	6	L2	CO3
	b.	Write a C program to search an element using binary search technique (for numericals).	6	L3	CO3
	c.	Write a C program to perform addition of 2-dimensional matrix (consider 3×3 ordered matrices A and B).	8	L3	CO3
		OR			

Q.6	a.	Define function. Explain the type of functions based on parameters.	8	L2	CO3
	b.	Write a C program to sort the elements using bubble sort technique by passing array as function argument.	6	L3	CO4
	c.	Write a C program to find the n_{C_r}. $\left[n_{C_r} = \frac{n!}{(n-r)!r!}\right]$	6	L3	CO3
		Module – 4			
Q.7	a.	Define a string. List the string manipulation functions. Explain any two with examples.	8	L2	CO2
	b.	Write a C program to find the length of a given string without using built-in function.	6	L3	CO3
	c.	Write a C program to check whether the given string is Palindrome or not without using built in function.	6	L3	CO2
		OR			
Q.8	a.	Define Pointer. Explain how the pointer is declared and initialized with example.	6	L2	CO4
	b.	Write a C program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of 'n' real numbers.	8	L3	CO4
	c.	Write a C program to replace each constant in a string with the text one except letter 'z', 'Z' and 'a''A', for the string "Corona Virus" should be modified as "DpSpoa Wjsvt".	6	L3	CO3
		Module – 5			
Q.9	a.	Differentiate between structures and Union.	6	L2	CO4
	b.	Write a C program to implement structures to read and write Book-Title, Book-Author and Book-id of n books.	8	L3	CO3
	c.	Write a note on files.	6	L3	CO4
		OR			
Q.10	a.	List and explain any four file operations in C.	6	L2	CO2
	b.	Write a C program to store and print name, USN, Subject and IA marks of students using structure.	8	L3	CO4
	c.	Write a note on enumerated data type.	6	L2	CO4

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