PRN:		Course Code :	AMT1305

Second Year **B. Tech AIML** End Semester Examination Summer 2024

Data Structure with C++

Day and Date: 31 MAY 2024, Friday Max Marks: **100**

Time : Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Brief explain the Structure and OO Programming Paradigm.	08	L4	CO1
	b)	Briefly explain element of Object Oriented Programming.	08	L2	CO1
		OR			
	b)	Construct program of Class and object.	08	L1	CO1
Q.2		**Attempt the following**			
	a)	Demonstrate a friend function program.	08	L2	CO1
	b)	With an example ,explain Inline Function.	08	L2	CO1
		OR			
	b)	Write a program the concept of function overloading.	08	L2	CO2
Q.3		**Attempt any two from the following**			
	a)	Describe the different types of Inheritance with suitable example.	08	L4	CO2
	b)	Explain the use of Pure Virtual function in c++.	08	L2	CO2
	c)	Write the c++ program for hybrid Inheritance.	08	L4	CO2
Q.4		**Attempt any two from the following**			
	a)	Write algorithm for (i) BubbleSort (ii) Selection sort	08	L2	CO3
	b)	Define hashing. What are the properties of a good hash function? With necessary examples explain four different hashing techniques.	08	L2	CO3
	c)	What is Linear Search? Explain it with example.	08	L1	CO3
Q.5		**Attempt any Two of the following**			
	a)	Differentiate between Priority queue and deque.	09	L4	CO4
	b)	Define Single Linked List. Explain insertion operation with example.	09	L3	CO4
	c)	Solve infix equation into prefix (take any example).	09	L2	CO4
Q.6		**Attempt any Two of the following**			
	a)	Explain Binary Search trace the given Array	09	L4	CO4

43	48	38	5	78	23	8	40	4	42

And Search element 40.

	b)	Explain Binary Search Tree with example.	09	L4	CO4
	c)	Breifly discuss BFS and DFS with example.	09	L4	CO4

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