Reg. No. : | | | | | | | | | | |

Question Paper Code: 94826

B.E./B.Tech. DEGREE EXAMINATION, MAY 2024

Fourth Semester

Electrical and Electronics Engineering

19UIT426- Data Structure Using C

(Regulations 2019)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1.	Write the routine for insertion operation of doubly linked list.	CO1- U
2.	Name various operations that can be performed in DSA.	CO1- U
3.	Write an algorithm to implement the pop operation under array representation of stacks.	CO2- App
4.	If the elements “A”, “B”, “C” and “D” are placed in a queue and are deleted one at a time, in what order will they be removed?	CO2- App
5.	Define AVL Tree.	CO1- U
6.	Write an algorithm to implement the push operation under array representation of stacks.	CO1- U
7.	What are the applications of graph data structure?	CO1- U
8.	What is topological sorting in a graph?	CO1- U
9.	What are the collision resolution method?	CO1- U
10.	What are the types of collision resolution strategies in open addressing?	CO1- U

PART – B (5 x 16= 80Marks)

11.	(a)	Describe the operations of circularly linked lists.	CO1-U	(16)
		Or		
	(b)	Describe the various operations of the list ADT with examples.	CO1-U	(16)

12. (a) Explain how to evaluate arithmetic expressions using stacks CO1-U (16)

Or

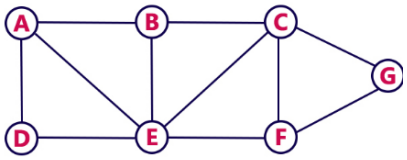
(b) Describe the applications of Stacks CO1-U (16)

13. (a) Define Tree. Describe the tree traversals with algorithms and examples. CO1-U (16)

Or

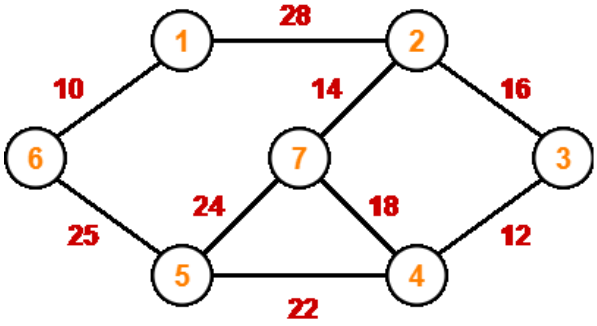
(b) Describe the applications of heap. CO1-U (16)

14. (a) Consider the following example graph to perform BFS traversal. CO2-App (16)



Or

(b) Construct the minimum spanning tree (MST) for the given graph using Kruskal's Algorithm. CO2-App (16)



15. (a) Describe the sorting algorithms with an example CO1- U (16)

Or

(b) Describe the searching algorithm with an example. CO1- U (16)