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Question Paper Code: 94826

B.E./B.Tech. DEGREE EXAMINATION, NOV 2022

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

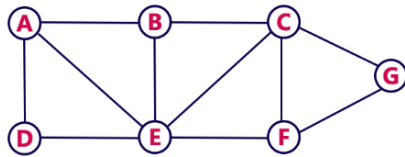
PART – B (5 x 16= 80Marks)

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)

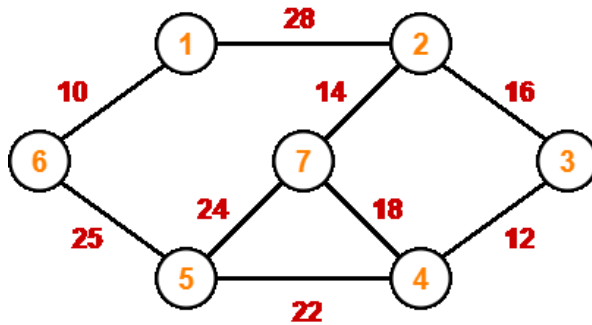
13. (a) Define Tree. Describe the tree traversals with algorithms and examples. CO1-U (16)
 Or
 (b) Describe the applications of heap. CO1-U (16)

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)