

2021

Time: -3

Full Marks-60

I.T. CC-3

Candidates are required to give their answers in their own words as far as practicable.
The Figures in the margin indicate full marks
Answer form all groups as directed.

Group-A

1X10=10

1. Fill In the Blanks:-

1. Process of removing an element from an empty stack is

- a) underflow
- b) removing
- c) deleting
- d) overflow

2. LIFO stands for

- a) Last In First Out
- b) Late In First Out
- c) Light In Figure Out
- d) None of the Above

3. On which element we perform insertion and deletion operation is stacks

- a) Top
- b) Front
- c) Rear
- d) None of the Above

4. Advantages of Array

- a) Easy to store similar data type
- b) Last element index is $n+1$
- c) Can store mixed type of data type
- d) Only store string data type

5. Pick out the non-linear data structure
- a) Tree
 - b) Array
 - c) Stacks
 - d) String
6. Process of removing an element from the stack is known as
- a) Pop
 - b) Evaluate
 - c) Pop
 - d) None of the Above
7. The queues follow
- a) FIFO
 - b) LIFO
 - c) LILO
 - d) None of the Above
8. Pick the one which is not a queue
- a) Single Ended Queue
 - b) Circular queue
 - c) Single ended queue
 - d) None of the Above
9. Which is not the application of stack?
- a) line at ticket counter
 - b) balancing symbols
 - c) evaluation of postfix expression
 - d) Both A and B
10. Following operation on the data structure
- a) All of the Below
 - b) Deletion

- c) Creation
- d) Selection

Group-B

Answer any Five Question: -

1X5=5

2. State the need of a Data structure
3. What is a Stack?
4. What is the difference between PUSH and POP?
5. Define Linked List Data structure.
6. Define data structure.
7. Define queue with example
8. List the Applications of queue
9. State the disadvantages of linked list implementation of stack.

Group-C

Answer any ^{Three}~~Five~~ Question: -

15X3=45

10. Define Stack? Explain the operations of
 - a. Stack using arrays
 - b. Stack using linked list
 11. Elaborate the following operations of singly linked list.
 - a. Traverse
 - b. insert at front
 - c. insert at any
 - d. insert at end
 12. Illustrate the differences between Double ended queue and circular queue
 13. What is Data Structure? Explain Various types of Data Structure in detail.
 14. List the applications of Stack. What is Recursion? Explain Recursion for find a factorial of number in detail.
 15. What do you mean by Link list? Write an algorithm to insert and delete a node in Singly Linked List.
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