

SIVANANDA RAJARAM SENIOR SECONDARY SCHOOL (CBSE)

Subject: Computer Science

DATA STRUCTURES: STACKS AND QUEUEE USING LISTS TEST

Class: XII

Total :30M

Answer the Following Questions:

1. What is Data structure? 10 X 2=20M
2. compare a Datatype with a data structure.
3. What are linear and nonlinear data structures?
4. What is stack? what basic operations can be performed on them?
5. Enlist some applications of stacks?
6. What are queues? what all operations can be performed on queues?
7. Enlist some applications of queues?
8. write a function in python, MakePush (Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data Structures.
9. Write a function in Python, INSERTQ (Arr, data) and DELETE (Arr) for performing insertion and deletion operations in a queue. Arr is the list used for implementing queue and data is the value to be inserted.
10. Describe the similarities and differences between queues and stacks.

Practical questions:

2X5=10M

1. Write a Python Program to Implement Stack operations (with output)
2. Write a Python Program to Implement Queue Operations (with output)

.....All the Best.....