

Kendriya Vidyalaya Ambarnath
Class Test- Stack

Max Marks: 20

Time: 60min

Q.1) State TRUE or FALSE for the following cases:

- a) Stack is a linear data structure. (1)
- b) Stack does not follow LIFO rule. (1)
- c) PUSH operation may result into underflow condition. (1)

Q.2) What is full form of LIFO. (1)

Q.3) Multiple choice questions (1 mark each) (4)

i) The data structure required to check whether an expression contains balanced parenthesis is?

- a) Stack
- b) Queue
- c) Array
- d) Tree

ii) What is the result of the following operation
Top (Push (S, X))

- a) X
- b) Null
- c) S
- d) None

iii) Consider the following operation performed on a stack of size 5.

```
Push(1);  
Pop();  
Push(2);  
Push(3);  
Pop();  
Push(4);  
Pop();  
Pop();  
Push(5);
```

After the completion of all operation, the no of element present on stack are

- a) 1
- b) 2
- c) 3
- d) 4

iv) Which of the following is not an inherent application of stack?

- a) Reversing a string
- b) Evaluation of postfix expression
- c) Implementation of recursion
- d) Job scheduling

Q.4) Write output of following code

(2)

```
result=0
print("Result=",result)
answer=[];
output=""
answer.append('T')
answer.append('A')
answer.append('B')
ch=answer.pop()
output=output+ch
ch=answer.pop()
output=output+ch
ch=answer.pop()
output=output+ch
print("Result=",output)
```

Q. 5) Write a python program to create a Stack for storing only even numbers out of all the numbers entered by the user. Display the content of the Stack along with the largest even number in the Stack. (Hint. Keep popping out the elements from stack and maintain the largest element retrieved so far in a variable. Repeat till Stack is empty) (4)

Q.6) Write a function in python, PushEl(element) and MakeEl(element) to add a new element and delete a element from a List of element Description, considering them to act as push and pop operations of the Stack data structure . (4)