

GLS UNIVERSITY
FACULTY OF COMPUTER APPLICATIONS AND INFORMATION TECHNOLOGY
BCA SEM III
Data Structure
Theory Assignment – 2

Q-1.	Fill in the Blanks.
1.	ADT stands for _____.
2.	Stack is a _____ data structure
3.	_____ form of access is used to add and remove nodes from a queue.
4.	In linked representation of stack _____ holds the elements of the stack.
5.	New element are added to the _____ of the queue.
6.	A queue follows _____ manner.
7.	The retrieval of items in a stack is _____ operation.
8.	The term push and pop is related to _____ data structure.
9.	Deletion operation is done using _____ in a queue.
10.	Insertion operation is done using _____ in a queue.
11.	If stack is empty then its called _____.
12.	_____ problem found in simple queue.
13.	Queue has _____ types in data structure.
14.	_____ function return the top element from stack.
15.	Stack and Queue are types of _____ data structure.
Q-2.	True or False
1.	Stack follow FILO.
2.	In stack top pointer points top of the stack element.
3.	To insert an element in queue front pointer is updated.
4.	If f=-1 and r=-1 then queue is full.
5.	In simple queue we can add new element after deletion of old element.
6.	Circular queue manage multiple time insertion of new element.
7.	Priority queue is based on element priority.
8.	Dqueue can perform insertion and deletion from both side.
9.	Queue can be implement using list.
10.	Top pointer points the top of the element of queue.
11.	Front and rear pointer are optional in Queue data structure.
12.	In circular queue if f and r points to the same pointer then need to set to 0.
Q-3.	Answer the following questions.

1.	What is Stack in data structure? Explain its function.
2.	Write down the algorithm for stack: 1. Push() 2. Pop()
3.	What is Queue in data structure? Explain its function.
4.	Write down the algorithm for queue: 1. Enqueue() 2. Dequeue()
5.	Explain the types of Queue.
6.	Explain double ended queue with its operations.
7.	What is priority queue? Explain with example.
Q-4.	Evaluate following infix expression to postfix and prefix.
1.	$(A+B)*(C-D)/E$
2.	$A+B+C+D+E-F-G*H$
3.	$A+B*C-D/(E*F)$
4.	$P*Q*R*S+T/Y$
5.	$A*(B+C*D)+E/F$
6.	$(Q-W+R)/T*Y$
7.	$((A+((B^C)-D))*(E+(A-)))$
8.	$((A+((B^C)-D))*(E-(A/C)))$
9.	$A^B*C-C+D/A/(E+F)$
10.	$(A+B)*(C+D-E)*F$