Computer Science and Information Technology Department, UoB, Quetta
Course: Data Structures and Algorithms
Terminal Exam Session 2017-2021

BSIT 3ʳᵈ Semester   **Roll No: _____**   **Max marks: 40**

Note: **Attempt all questions. Every question is of 10 marks. Avoid cutting / overwriting.**

Question No 1-A: Suppose we have an empty stack 'S', with a capacity of storing 5 elements. What will be the values of TOP of the stack after following operations:

1. Push(36)
2. Push(24)
3. Pop()
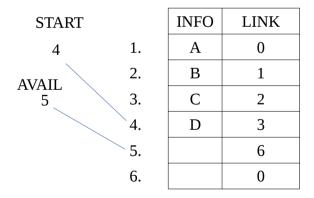4. Push(15)
5. Push(25)
6. **Pop()**

Question No 1-B: Convert **5 * (6 + 2) - 12 / 4** infix expression in postfix notation.

Question No 2-A: What is Recursion? Provide at least one example of a recursive procedure.

Question No 2-B: Suppose we have an empty Queue with a capacity of storing 5 elements. What will be the value of 'FRONT' and 'REAR' when following operations take place:

1. Insert A, B and C
2. Delete A
3. Insert D and E
4. Delete B and C
5. Insert F

Question No 3: Given the following linked list, insert 'H' in the beginning of the list.

START

4

AVAIL
5

	INFO	LINK
1.	A	0
2.	B	1
3.	C	2
4.	D	3
5.		6
6.		0

Question No 4: Insert 11 in the binary search tree shown in figure .