



**COMSATS University Islamabad**  
**Sahiwal Campus**  
**(Department of Computer Science)**

---

<b>Course Title:</b>	Data Structures and Algorithms	<b>Course Code:</b>	CSC211	<b>Credit Hours:</b>	4
<b>Course Instructor:</b>	Ms. Tahreem Saeed	<b>Programme:</b>	BSCS		
<b>Semester:</b>	3	<b>Batch:</b>	-	<b>Section:</b>	-
<b>Time Allowed:</b>		<b>Deadline:</b>	18-12-2023	<b>Maximum Marks:</b>	10
<b>Student's Name:</b>		<b>Reg. No.</b>	CUI/		/SWL
<b>Important Instructions / Guidelines:</b> <i>Read the question paper carefully and answer the questions according to their statements. Mobile phones are not allowed. Calculators must not have any data/equations etc. in their memory.</i>					

**Assignment 4 Fall 2023**

**Question 1:** Discuss the following non-linear data structures in brief:

- i. AVL Tree; Insertion and Deletion of nodes in AVL Trees
- ii. B-tree; Insertion and Deletion of nodes in B-trees

**Question 2:** Discuss Hashing; Hash Tables and hash function. Also, describe two strategies for avoiding and resolving collisions in hashing.