



# COMSATS University Islamabad

## Attock Campus

### Department of Mathematics

#### Assignment # 04

**Class:** BSM-VI  
**Subject:** Real Analysis II  
**Instructor:** Dr. Atiq ur Rehman

**Due Date:** 9-6-2023 (3:00PM)  
**Course Code:** MTH322  
**Marks:** 9

**Note:** *Please follow the due date & time strictly.*

1. Define sine function.
2. Define cosine function.
3. If C represent cosine and S represent sine function, then prove that

$$C^2(t) + S^2(t) = 1 \text{ for } t \in \mathbb{R}.$$

#### **Academic Honesty Requirements:**

You are encouraged to work with others in the completion of assignments, but it doesn't include copying. Academic integrity is an ethical code, whereby the student guarantees that all work submitted is the student's own work. For this purpose, please include the following statement with every submitted assignment on title page:

***I worked on this homework myself, and I understand it well.***