



# COMSATS University Islamabad

## Attock Campus

### Department of Mathematics

#### Assignment # 01

**Class:** BSM-VII  
**Subject:** Convex Analysis  
**Instructor:** Dr. Atiq ur Rehman

**Due Date:** 01-03-2024  
**Course Code:** MTH424  
**Marks:** 9

**Note:** Every student must submit a handwritten assignment.

#### Question # 1

Define convex function and describe or draw its geometrical interpretation.

#### Question # 2

Define concave function and describe or draw its geometrical interpretation.

#### Question # 3

Provide two graphical illustrations for each showing convex and concave functions.

#### Question # 4

Give two analytical examples for convex function and two analytical examples for concave function.

#### Academic Honesty Requirements:

You are encouraged to work with others in the completion of assignments, but it doesn't include copying. However, in the spirit of Academic Honesty, which includes crediting others for their contribution to your work, please include one of the following statements with every submitted assignment on title page:

1. **I worked alone on this assignment and write myself.**
2. **I worked with the following: List their full names. Include their relationship to you if they are not also a member of this class and write myself.**