

DEPARTMENT OF MATHEMATICS
COMSATS University Islamabad, Attock Campus

Assignment # 1

Class: MSc: Sem. III

Max. Marks: 10

Course Title: Convex Analysis

Course Code: MTH424

Instructor: Dr. Atiq ur Rehman

Due Date: 23-10-2020

Instructions:

- Please name the PDF as **a1-mth424-xyz**, where *xyz* is last three digits of your registration number (e.g. if your registration number is fa19-mmt-041, then name file as a1-mth424-041) before submission.
- Similarity of a solution with other students may reduce your marks.
- Please make sure that the PDF is good before sending and email at ***atiq+mth424@cuiatk.edu.pk***
- Please send the solution by email only one time (don't send multiple emails).

Question 1: Prove that $g(x) = e^{f(x)}$ is convex on $(-\infty, \infty)$, where f is twice differentiable convex function on $(-\infty, \infty)$.

Question 2: Prove that $g(x) = |x + 5|$ is convex on $(-\infty, \infty)$



Course page: www.mathcity.org/atiq/fa20-mth424