COMSATS University Islamabad

Attock Campus

Department of Mathematics

ASSIGNMENT # 04

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

Due Date: 20-12-2021 (1:30PM)
Course Code: MTH322
Marks: 10

Question # 1

If $\sum a_n$ converges absolutely, then prove that $\sum a_n \cos nx$ converges uniformly on $\mathbb{R}$.

Question # 2

Prove that $\sum_{n=1}^{\infty} \frac{\cos\left(\sqrt{n}+x^2\right)}{n\left(\sqrt{n}+3\right)}$ is uniformly convergent for $x \in [0, 2\pi]$.

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.
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.