COMSATS University Islamabad
Attock Campus

Department of Mathematics

Quiz # 01

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

Due Date: 05-11-2020 (1700 Hrs)
Course Code: MTH211
Marks: 10

Instructions:

- Please name the PDF as **q1-mth322-xyz**, where xyz is last three digits of your registration number (e.g. if your registration number is **sp20-mmt-071**, then name the as **q1-mth322-071**) before submission.
- Similarity of a solution with other students may reduce your marks.
- Please make sure that the PDF is good before sending.
- Email PDF at **atiq+mth322@cuiatk.edu.pk** (any email address can be used for sending).

Question # 1

(a) Use Cauchy criterion to prove that if an improper integral $\int_a^\infty f(x)dx$ is absolutely convergent then it is convergent.

(b) Prove that $\int_1^\infty \dfrac{\sin t}{t^2} dt$ is convergent.