

# ANALYSIS QUALIFYING EXAM

JUNE 2022

## REAL ANALYSIS

Answer all 4 questions. In your proofs, you may use any major theorem, except the fact you are trying to prove (or a variant of it). State clearly what theorems you use. Good luck.

Question 1 (30 points)

a) Let  $f_n : \mathbb{R} \rightarrow \mathbb{R}$  be a sequence of ( M

## COMPLEX ANALYSIS