There will be four questions, each worth 10 points, plus an extra credit question (another 10 points).

1. Logic: be able to use counterexamples, converses and contrapositive statements.
2. Know definitions of increasing, decreasing, convergent etc. sequences, subsequences, limits.
3. Be able to state and prove theorems about limits.
4. Be able to compute limits from the definition: be able to calculate \( N \) from \( \varepsilon \).
5. Methods of proof: understand how to set up and carry through a proof by induction. Be able to carry out a proof by contradiction. Be able to carry out a proof using \( \epsilon, n > N, K - \epsilon \) principle, triangle inequality.
6. Be able to apply the limit theorems.