Quantum Information Theory

Fall 2020, Examiner: Joe Renes

1. **Summary:**
   Schmidt decomposition
   Superdense coding
   Proof optimality superdense coding
   P_{agree} classical communication (know your pinch inequalities, trace preservation and $\rho \leq 1$)
   Entropy, bound on entropy
   Subadditivity. Why does subadditivity hold? (Klein)
   Channel capacity. How do you go about finding the capacity of a certain channel?
   Bounds on conditional entropy (data processing inequality)
   I wasn't asked to do any long calculations, mostly definitions and just the idea behind certain proofs