Indian Institute of Science

Quantum Information Theory

Instructor: Shayan Srinivasa Garani
Homework #3, Fall 2022

Late submission policy: Points scored = Correct points scored $\times e^{-d}$, d = # days late

Assigned date: Oct. 30th, 2022 $\hspace{4cm}$ **Due date:** Nov. 14th, 2022, 11:59 pm

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PROBLEM 1: Solve the following exercise problems from Mark Wilde's book: 9.1.8, 9.2.4, 9.2.5, 9.2.6, 9.4.2, 11.6.3, 11.6.3, 11.6.5, 11.7.6, 11.8.5 $\hspace{4cm}$ (50 pts.)

PROBLEM 2: Prove why the Holevo information is an upper bound to the accessible information. (10 pts.)

PROBLEM 3: Solve Exercise 12.4 from Nielsen and Chuang's book. $\hspace{2cm}$ (10 pts.)