Quiz 1 - Information and Communication 2021

Prasad

Q2: (7 marks, 17 mins) Let X be a random variable taking values in some finite set $\mathcal{X}$ of cardinality $n \geq 2$ (i.e., $|\mathcal{X}| = n$). Show that for any given non-negative real value A, there exists (i.e., we can cook up) two probability distributions p_1 and p_2 for X, such that $D(p_1||p_2) = A$.