Information Theory, Part II

Manan Shah manan.shah.777@gmail.com The Harker School

January 17, 2017

This document contains lecture notes from Harker's Advanced Topics in Mathematics class in Information Theory II, taught by Dr. Anuradha Aiyer. This course is the second part of a two part offering that explores the basic concepts of Information Theory, as initially described by Claude Elwood Shannon at Bell Labs in 1948. In Part 2 of the course, we explore other applications of Information Theory – specifically to the disciplines of Gambling, Statistics, Physics, Computer science, Economics and Philosophy. These notes were taken using TeXShop and \LaTeX and will be updated for each class. The reader is advised to note any errata at the source control repository https://github.com/mananshah99/infotheory.

Contents

1 January 18, 2016

 $\mathbf{2}$

1 January 18, 2016

Appendix A—Quotes