

The Riemann Zeta Function has been successfully and promisingly generalized in various ways so that the concept of zeta functions has become important in many different areas of research. In particular, work done by Y. Ihara in the 1960s led to the definition of an Ihara Zeta Function for finite graphs. The Ihara Zeta Function has the nice property of having three equivalent expressions: an Euler product form over “primes” of the graph, an expression in terms of vertex operators on the graph, and an expression in terms of arc operators on the graph. In this paper we present two possibilities for generalizing the Ihara Zeta Function to cell products of graphs. We start with a background discussion of the Ihara Zeta Function and cell products. Then we present our generalized zeta functions and prove some properties about them. Our hope is that the ideas presented in this paper will stimulate further ideas about using the nice properties of the Ihara Zeta Function as a model for defining zeta functions more generally on higher dimensional geometric objects.