

On Leech Trees and Some Related Concepts

Aparna Lakshmanan S.

Department of Mathematics,
Cochin University of Science and Technology
Cochin - 22, Kerala, India

Abstract

In 1975, John Leech introduced Leech trees [2]. A tree on n vertices with positive integer edge weights (labels) such that path weights are exactly $1, 2, \dots, {}^nC_2$ is called a Leech tree. Leech found five Leech trees which are the only known Leech trees till date. Though the characterization problem is open till date, some non-existence results on Leech trees were discussed in [1],[3],[4],[5]. There are some other edge labelings motivated from the definition of Leech labeling viz. minimal distinct distance labeling, modular Leech labeling, leaf Leech labeling and almost Leech labeling. In this talk, we discuss some interesting results on Leech trees, some classes of non-Leech trees and relation of Leech labeling with some other edge labelings.

Keywords: Leech Labeling, Leech Tree, Edge Labeling

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