Compressive of the first disc Δ1 (t) of the commuting graph C (G, X) for elements of order three in symmetric groups

ABSTRACT

The commuting graph C (G, X), where G is a finite group and X is a subset of G, is the graph whose vertex set is X and two distinct elements of X being joined by an edge whenever they commute in the group G. Here the CG (t) -orbit representatives and the number of elements in the first disc Δ1 (t) of C (G, X), is studied when G is a symmetric group of degree n, Sym (n) and X is a conjugacy class of elements of order three.

Keyword: Commuting graph; Number; Symmetric group