ORDERING CONNECTED 3-CHROMATIC GRAPHS

SANA JAVED\(^1\) AND IOAN TOMESCU\(^{1,2}\)

\(^1\)Abdus Salam School of Mathematical Sciences, GC University, Lahore-Pakistan. unique.sana@hotmail.com

\(^2\)Faculty of Mathematics and Computer Science, University of Bucharest, Str. Academiei, 14, 010014 Bucharest, Romania. ioan@fmi.unibuc.ro

ABSTRACT. Let \(C(n,k)\) denote the family of connected graphs having order \(n\) and chromatic number \(k\). In [I. Tomescu, J. Graph Theory, 43(2003), 210-222] a partial order relation between the graphs in \(C(n,k)\) was defined by using the coefficients of the chromatic polynomial in factorial form and the first \(\lceil n/2 \rceil\) levels of the diagram of the poset \(C(n,3)\) were described. Later in [I. Tomescu, S. Javed, Extremal bicyclic 3-chromatic graphs, submitted] the next \((\lceil n/2 \rceil + 1)\)-st level was analysed. This paper is focused on the \((\lceil n/2 \rceil + 2)\)-nd level and it is shown that this level contains \((n^2 - 2n + 4)/4\) bicyclic graphs for even \(n\) and \((n + 1)^2/4\) bicyclic graphs for odd \(n\).

REFERENCES