VERTEX (a,d)-ANTIMAGIC TOTAL LABELING ON CIRCULANT GRAPH $C_n(1,2,3)$

K.A. Sugeng[1] and N.H. Bong[2]

[1]Department of Mathematics, Faculty of Mathematics and Natural Science, University of Indonesia, Kampus Depok, Depok 15424, Indonesia, kiki@ui.ac.id

[2]Department of Mathematics, Faculty of Mathematics and Natural Science, University of Indonesia, Kampus Depok, Depok 15424, Indonesia, novi_bong@yahoo.com

Abstract. Let $G = (V, E)$ be a graph with order $|G|$ and size $|E|$. An (a, d)-vertex-antimagic total labeling is a bijection α from all vertices and edges to the set of consecutive integers $\{1, 2, ..., |V| + |E|\}$, such that the weights of the vertices form an arithmetic progression with the initial term a and the common difference d. If $\alpha(V(G)) = \{1, 2, \ldots, |V|\}$ then we call the labeling a super (a, d)-vertex antimagic total. In this paper we show how to construct such labelings for circulant graphs $C_n(1, 2, 3)$, for $d = 0, 1, 2, 3, 4, 8$.

Key words: Circulant graph, (a, d)-vertex antimagic total graph.