

## SOME RESULTS ON GRACEFUL LABELING FOR DOUBLE STEP GRID RELATED GRAPHS

V. J. KANERIA<sup>1</sup>, H. M. MAKADIA<sup>2</sup> AND R. V. VIRADIA<sup>3</sup>

<sup>1</sup> Department of Mathematics,

Saurashtra University, Rajkot-360005, India

<sup>2</sup> Govt. Engineering College, Rajkot-360005, India

<sup>3</sup> A. D. Patel Institute of Technology, V V Nagar-388121, India

### Abstract

In this paper we investigated some double step grid  $DSt_n$  related families with their graceful labeling. We obtained graceful labeling for open star of double step grid graph  $S(t \cdot DSt_n)$  and one point union for path of double step grid graph  $P_n^t(tn \cdot DSt_m)$ . We also obtained graceful labeling for path union of cycle  $C_m$  ( $m \equiv 0 \pmod{4}$ ) with double step grid graph and by joining  $C_m^+$  ( $m \equiv 2 \pmod{4}$ ) and  $DSt_n$  with a path of arbitrary length.

---

Key Words : *Graceful labeling, Open star of graph, One point union of path graphs, Path union, Double step grid graph, Cycle with twin chords.*

AMS Subject Classification : 05C78.

© <http://www.ascent-journals.com>