

# The regular number of a graph \*

Ashwin. Ganesan<sup>†</sup>

Radha. R. Iyer<sup>§</sup>

*Department of Mathematics  
Amrita School of Engineering  
Amrita Vishwa Vidyapeetham  
Amritanagar  
Coimbatore - 641 112  
Tamil Nadu, India*

---

## Abstract:

Let  $G$  be a simple undirected graph. The regular number of  $G$  is defined to be the minimum number of subsets into which the edge set of  $G$  can be partitioned so that the subgraph induced by each subset is regular. In this work, we obtain the regular number of some graphs and obtain some bounds on this parameter. Also, some of the bounds proved in [5] are shown here to hold with equality.

---

**Keywords:** *Regular number of a graph, generalized graph colorings, the degree bound, minimum regular partition of an edge set.*