Mathematical Statistician and Engineering Applications
ISSN: 2094-0343
2326-9865

Decomposition of Various Graphs in to Prime Graphs

Dr. Rajeev Gandhi S
Head of the department
Department of Mathematics (SF)
V H N Senthikumara Nadar College (Autonomous),Virudhunagar.
rajeevgandhi@vhnsnc.edu.in

Article Info
Page Number: 10500 - 10514
Publication Issue:
Vol 71 No. 4 (2022)

Article History
Article Received: *15 September 2022*
Revised: *25 October 2022*
Accepted: *14 November 2022*
Publication: *21 December 2022*

Abstract
Abstract: In this paper we define prime decomposition and prime decomposition number $\pi_p(G)$ of a graph. Also investigate some bounds of $\pi_p(G)$ in product graphs like Cartesian product, composition etc.

Keywords: Decomposition, Prime graph, Cardinality.

1. Introduction

A decomposition of G is a collection $\psi_p = \{H_1, H_2, ...H_r\}$ such that H_i are edge disjoint and every edges in H_i belongs to G. If each H_i is a prime graphs, then ψ_p is called a prime decomposition of G. The minimum cardinality of a prime decomposition of G is called the prime decomposition number of G and it is denoted by $\pi_p(G)$.

2. Prime Decomposition

In this section we define graceful decomposition of a graph $G(V,E)$ some and investigate some bounds of graceful decomposition number in $G(V,E)$.