

## The atom bond connectivity index of some trees and bicyclic graphs

### ABSTRACT

The atom bond connectivity (ABC) index is one of the recently most investigated degree-based molecular structure descriptors that have applications in chemistry. For a graph  $G$ , the ABC index is defined as  $ABC(G) = \sum_{uv \in E(G)} \sqrt{d_u + d_v - 2}$ , where  $d_u$  denotes the degree of a vertex  $u$  in  $G$ . In this paper, we obtain the general formula for ABC index of some special, chemical trees, and bicyclic graphs.

**Keyword:** The atom bond connectivity (ABC) index; Bicyclic graphs; Molecular graphs; Chemical tree