

Some vulnerability measures: total accessibility, total edge accessibility

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One of the most important problems with the help of graph theory is to design a network model which is more stable and more resistant to failures than other networks. Many vulnerability measures such as, connectivity, integrity, tenacity, toughness etc., have been studied widely on this purpose. Most of these measures are defined over all vertices or all edges of a graph. In recent years, measures are defined over some vertices or edges which have a specific property. Total Accessibility which is a new measure as the second type of measures using the some vertices of a graph having a special property is defined. Some results are found on general graph types and its relation between graph operations. An algorithm is written to calculate the Total Accessibility number of a graph. It is based on accessibility which is defined by Pinar Dundar. In this work also a new measure on edges of graphs Total Edge Accessibility is defined. There is still more to be done for the measure Total Edge Accessibility.