**Trust Value based Algorithm to Identify and Defense Gray-Hole and Black-Hole attack present in MANET using Clustering Method**

**A mid-semester Major report**

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**CERTIFICATE**

This is to certify that the project titled “**Trust Value based Algorithm to Identify and Defense Gray-Hole and Black-Hole attack present in MANET using Clustering Method**” is the bona fide work carried out by **Jibin Sunny Abraham (15/IEC/017)** and **Vaibhav Kotiyal (15/IEC/044)**, students of B.Tech + M.Tech (Dual Degree) (WCN) of Gautam Buddha University, Gautam Buddha Nagar, Greater NOIDA, Uttar Pradesh (India) during the academic year 2018-19 in partial fulfillment of the requirements for the award of the degree of Master of Technology (Wireless Communication System) ) and that the project has not formed the basis for the award previously of any other degree, diploma, fellowship or any other similar title.

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**ABSTRACT**

MANET stands for Mobile Ad Hoc network which is an infrastructure less network and can configure itself “on the fly”. A MANET has numbers of mobile nodes which are connected to various networks using wireless connections. As the network topology changes, MANET nodes are free to move randomly. Since networks are highly affected by numerous types of attacks or intrusions, so security is a major factor to be considered. In this paper, we use ‘n’ number of mobile nodes in a network, which could have a malicious (intruder) node that drops or delays the packet transmitted through it, resulting in the error in communication between the sender node to the receiver node. Hence, a proper system is required to detect the maximum number of malicious nodes to maintain the proper transmission of packets without any drops or delays via routing the packets from some alternate paths in the network. This is done with the help of trust values assigned to each node with respect to the neighboring node that are always checked before the transmission of packets to remove the need for inbuilt IDS in the wireless networks. Hence, performance of the network gets improved.

Keywords: Routing Protocols, Wireless Ad Hoc Network, MANET, AODV, Black hole, Gray hole.

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