



ISSN No. : 2321-9653

# IJRASET

**International Journal for Research in Applied  
Science & Engineering Technology**

IJRASET is indexed with Crossref for DOI-DOI : 10.22214

Website : [www.ijraset.com](http://www.ijraset.com), E-mail : [ijraset@gmail.com](mailto:ijraset@gmail.com)

## Certificate

*It is here by certified that the paper ID : IJRASET39467, entitled*  
*Countering of Black Hole Attack on Manet with AODV Protocol*  
*by*  
*Gurwinder Singh*

*after review is found suitable and has been published in*  
*Volume 9, Issue XII, December 2021*  
*in*

*International Journal for Research in Applied Science &  
Engineering Technology*  
*(International Peer Reviewed and Refereed Journal)*

*Good luck for your future endeavors*

*By*

Editor in Chief, IJRASET

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9681-2016



TOGETHER WE REACH THE GOAL  
SJIF 7.429



ISSN No. : 2321-9653

# IJRASET

**International Journal for Research in Applied  
Science & Engineering Technology**

IJRASET is indexed with Crossref for DOI-DOI : 10.22214

Website : [www.ijraset.com](http://www.ijraset.com), E-mail : [ijraset@gmail.com](mailto:ijraset@gmail.com)

## Certificate

*It is here by certified that the paper ID : IJRASET39467, entitled*  
*Countering of Black Hole Attack on Manet with AODV Protocol*  
*by*  
*Dr. Ashish Oberoi*

*after review is found suitable and has been published in*  
*Volume 9, Issue XII, December 2021*  
*in*

*International Journal for Research in Applied Science &  
Engineering Technology*  
*(International Peer Reviewed and Refereed Journal)*  
*Good luck for your future endeavors*

*By [Signature]*

Editor in Chief, IJRASET

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9681-2016



TOGETHER WE REACH THE GOAL  
SJIF 7.429



ISSN No. : 2321-9653

# IJRASET

**International Journal for Research in Applied  
Science & Engineering Technology**

IJRASET is indexed with Crossref for DOI-DOI : 10.22214

Website : [www.ijraset.com](http://www.ijraset.com), E-mail : [ijraset@gmail.com](mailto:ijraset@gmail.com)

## Certificate

*It is here by certified that the paper ID : IJRASET39467, entitled*  
*Countering of Black Hole Attack on Manet with AODV Protocol*  
*by*  
*Prof. Jasdeep Singh*

*after review is found suitable and has been published in*  
*Volume 9, Issue XII, December 2021*  
*in*

*International Journal for Research in Applied Science &  
Engineering Technology*  
*(International Peer Reviewed and Refereed Journal)*  
*Good luck for your future endeavors*

*By [Signature]*

Editor in Chief, IJRASET

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9681-2016



TOGETHER WE REACH THE GOAL  
SJIF 7.429