



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)

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9581-2016



TOGETHER WE REACH THE GOAL  
SJIF 7.429

## Certificate

*It is here by certified that the paper ID : IJRASET40035, entitled*

*Performance Performance Analysis of Tubular PEM Fuel Cell Models and Thermal  
Analysis of Base Model using Ethylene Glycol-Water Mixture as a Coolant*

*by  
Tejas Ambekar*

*after review is found suitable and has been published in  
Volume 10, Issue I, January 2022  
in*

*By [Signature]*

Editor in Chief, IJRASET

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



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)

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9581-2016



10.22214/IJRASET



TOGETHER WE REACH THE GOAL  
SJIF 7.429

## Certificate

*It is here by certified that the paper ID : IJRASET40035, entitled*

*Performance Performance Analysis of Tubular PEM Fuel Cell Models and Thermal  
Analysis of Base Model using Ethylene Glycol-Water Mixture as a Coolant*

*by*

*Prathmesh Amle*

*after review is found suitable and has been published in  
Volume 10, Issue I, January 2022  
in*

*By [Signature]*

Editor in Chief, IJRASET

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





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)

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9581-2016



TOGETHER WE REACH THE GOAL  
SJIF 7.429

## Certificate

*It is here by certified that the paper ID : IJRASET40035, entitled*

*Performance Performance Analysis of Tubular PEM Fuel Cell Models and Thermal  
Analysis of Base Model using Ethylene Glycol-Water Mixture as a Coolant*

*by*

*Durgesh Chandangole*

*after review is found suitable and has been published in  
Volume 10, Issue I, January 2022  
in*

*By [Signature]*

Editor in Chief, IJRASET

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



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 : IJRASET40035, entitled*

*Performance Performance Analysis of Tubular PEM Fuel Cell Models and Thermal  
Analysis of Base Model using Ethylene Glycol-Water Mixture as a Coolant*

*by  
Gopal Ghule*

*after review is found suitable and has been published in  
Volume 10, Issue I, January 2022  
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-9581-2016



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)

ISRA  
JIF

ISRA Journal Impact  
Factor: 7.429



45.98  
INDEX COPERNICUS



THOMSON REUTERS  
Researcher ID: N-9581-2016



10.22214/IJRASET



TOGETHER WE REACH THE GOAL  
SJIF 7.429

## Certificate

*It is here by certified that the paper ID : IJRASET40035, entitled*

*Performance Performance Analysis of Tubular PEM Fuel Cell Models and Thermal  
Analysis of Base Model using Ethylene Glycol-Water Mixture as a Coolant*

*by*

*Prof. Dr. L. D. Mangate*

*after review is found suitable and has been published in  
Volume 10, Issue I, January 2022  
in*

*By [Signature]*

Editor in Chief, IJRASET

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