



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | ISSN: 2320 - 2882

*An International Open Access, Peer-reviewed, Refereed Journal*

The Board of  
International Journal of Creative Research Thoughts  
Is hereby awarding this certificate to

**Amreen Khan**

In recognition of the publication of the paper entitled  
**DESIGN OF AN IMPROVED TEACHER-LEARNER BASED OPTIMIZATION  
MODEL USING PARTICLE SWARM TECHNIQUE**

Published In IJCRT ( [www.ijert.org](http://www.ijert.org) ) & 7.97 Impact Factor by Google Scholar

Volume 9 Issue 9 September 2021 , Date of Publication: 15-September-2021

UGC Approved Journal No: 49023 (18)

PAPER ID : IJCRT2109253

Registration ID : 211734

Scholarly open access journals, Peer-reviewed, and Refereed Journals, Impact factor 7.97 (Calculate by google scholar and Semantic Scholar | AI-Powered Research Tool) , Multidisciplinary, Monthly Journal



EDITOR IN CHIEF

**INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | IJCRT**  
*An International Scholarly, Open Access, Multi-disciplinary, Indexed Journal*

Website: [www.ijcrt.org](http://www.ijcrt.org) | Email id: [editor@ijcrt.org](mailto:editor@ijcrt.org) | ESTD: 2013



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | ISSN: 2320 - 2882

*An International Open Access, Peer-reviewed, Refereed Journal*

The Board of  
International Journal of Creative Research Thoughts  
Is hereby awarding this certificate to

**Dr. M.M. Raghuwanshi**

In recognition of the publication of the paper entitled  
**DESIGN OF AN IMPROVED TEACHER-LEARNER BASED OPTIMIZATION  
MODEL USING PARTICLE SWARM TECHNIQUE**

Published In IJCRT ( [www.ijert.org](http://www.ijert.org) ) & 7.97 Impact Factor by Google Scholar

Volume 9 Issue 9 September 2021 , Date of Publication: 15-September-2021

UGC Approved Journal No: 49023 (18)

PAPER ID : IJCRT2109253

Registration ID : 211734

Scholarly open access journals, Peer-reviewed, and Refereed Journals, Impact factor 7.97 (Calculate by google scholar and Semantic Scholar | AI-Powered Research Tool) , Multidisciplinary, Monthly Journal



  
EDITOR IN CHIEF

**INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | IJCRT**  
*An International Scholarly, Open Access, Multi-disciplinary, Indexed Journal*

Website: [www.ijcrt.org](http://www.ijcrt.org) | Email id: [editor@ijcrt.org](mailto:editor@ijcrt.org) | ESTD: 2013





# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | ISSN: 2320 - 2882

*An International Open Access, Peer-reviewed, Refereed Journal*

The Board of  
International Journal of Creative Research Thoughts  
Is hereby awarding this certificate to

**Dr. Snehlata .S. Dongre**

In recognition of the publication of the paper entitled  
**DESIGN OF AN IMPROVED TEACHER-LEARNER BASED OPTIMIZATION  
MODEL USING PARTICLE SWARM TECHNIQUE**

Published In IJCRT ( [www.ijert.org](http://www.ijert.org) ) & 7.97 Impact Factor by Google Scholar

Volume 9 Issue 9 September 2021 , Date of Publication: 15-September-2021

UGC Approved Journal No: 49023 (18)

PAPER ID : IJCRT2109253

Registration ID : 211734

Scholarly open access journals, Peer-reviewed, and Refereed Journals, Impact factor 7.97 (Calculate by google scholar and Semantic Scholar | AI-Powered Research Tool) , Multidisciplinary, Monthly Journal



  
EDITOR IN CHIEF

**INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS | IJCRT**  
*An International Scholarly, Open Access, Multi-disciplinary, Indexed Journal*

Website: [www.ijcrt.org](http://www.ijcrt.org) | Email id: [editor@ijcrt.org](mailto:editor@ijcrt.org) | ESTD: 2013