

**Government College of Engineering  
Salem-11**

**List of project work for M.E., Thermal Engineering**

**Batch: 2021-2023**

**Academic Year: 2022-2023**

**Semester: IV**

Sl. No	Reg. No	Name of the Student or Batch	Name of the Supervisor	Title of the Project	Page No
1	61772153201	Divagaran. P	Prof. M. Periyasamy	Experimental Investigation on The Performance of Vapour Compression Refrigeration System by Using Liquid Suction Heat Exchanger with R134a, R1234yf And R1234ze	2
2	61772153202	Muralishankar. A	Dr. S. Sivalakshmi	Experimental Analysis on Enhancement of Heat Transfer in Compact Heat Exchanger Using Nano Particles	4
3	61772153203	Vikram .M	Dr. K. Sakunthala	Modelling and Simulation of Solar Water Heater Integrated with Phase Change Material in Solar Collector	6

DEPARTMENT OF MECHANICAL ENGINEERING  
**GOVERNMENT COLLEGE OF ENGINEERING**

(An Autonomous Institution Affiliated to Anna University, Chennai)

Salem-636011

DISSERTATION PHASE - II


OCTOBER 2023

This is to certify that this project work entitled  
**EXPERIMENTAL INVESTIGATION ON THE  
PERFORMANCE OF VAPOUR COMPRESSION  
REFRIGERATION SYSTEM WITH LIQUID SUCTION  
HEAT EXCHANGER USING R134a, R1234yf AND R1234ze**

is the bonafide record of project work done by

**DIVAGARAN P** (Register Number: 61772153201)

of M.E. Thermal Engineering during the year 2021–2023

  
20/10/23  
Project Guide

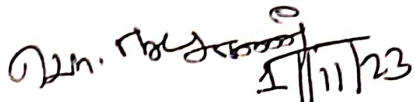
**Prof. M. PERIYASAMY., M.E.,**

  
Head of the Department

**Dr. T. BALUSAMY., Ph.D.,**

Submitted for the Dissertation Phase – II Viva-Voce examination held on 01.11.2023

  
11/11/23  
Internal Examiner

  
11/11/23  
External Examiner

Certificate No:202309210



# NEHRU INSTITUTE OF TECHNOLOGY (Autonomous)

Accredited with AICTE, New Delhi & Affiliated to Anna University, Chennai  
Accredited by NAAC with A+, Recognized by UGC under 2(f)



## CENTRE FOR RENEWABLE ENERGY

### CERTIFICATE OF PRESENTATION

This Certificate is awarded to **Mr. P. DIVAGARAN**, Thermal Engineering, Department of **Mechanical Engineering** from **Government College of Engineering ,Salem** for their presentation on a paper titled **Experimental Investigation on the Performance of Vapour Compression Refrigeration System by using Liquid Suction Heat Exchanger with R134a, R1234yf and R1234ze** in the Second **International Conference on Advanced Trends in Renewable Energy (ICATRE 2023)** conducted by the Centre for Renewable Energy, Nehru Institute of Technology, Coimbatore on 29<sup>th</sup> and 30<sup>th</sup> September 2023.

**Prof. S. Satheesh Kumar**

Head - Centre for Renewable Energy

**Dr. M. Sivaraja**

Principal

DEPARTMENT OF MECHANICAL ENGINEERING

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**DISSERTATION PHASE II**

**NOVEMBER 2023**

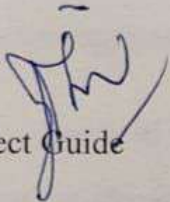
This is to certify that this project work entitled

**EXPERIMENTAL ANALYSIS ON ENHANCEMENT  
OF HEAT TRANSFER IN COMPACT HEAT  
EXCHANGER USING NANO PARTICLES**

is the bonafide record of project work done by

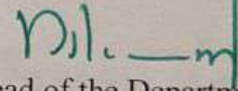
**MURALISHANKAR A** (Register Number: 61772153202)

of M.E. Thermal Engineering during the year 2021– 2023



Project Guide

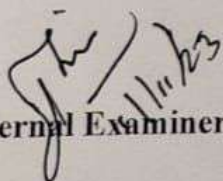
**Dr. S. SIVALAKSHMI Ph.D.,**



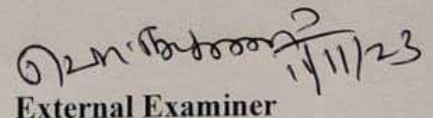
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External Examiner

DOI: 10.55041/IJSREM18265



ISSN: 2582-3930

Impact Factor: 7.185

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING & MANAGEMENT

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## CERTIFICATE OF PUBLICATION

International Journal of Scientific Research in Engineering & Management is hereby awarding this certificate to

**Muralishankar. A**

*in recognition to the publication of paper titled*

**EXPERIMENTAL ANALYSIS ON ENHANCEMENT OF HEAT TRANSFER IN  
COMPACT HEAT EXCHANGER USING NANO PARTICLES**

*published in IJSREM Journal on Volume 07 Issue 03 March, 2023*

Editor-in-Chief  
IJSREM Journal

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**DISSERTATION PHASE-II**

**PROJECT WORK**

**OCTOBER 2023**

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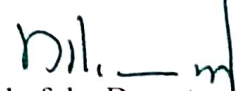
**EXPERIMENTAL INVESTIGATION OF SOLAR  
WATER HEATER INTEGRATED WITH PHASE  
CHANGE MATERIAL IN SOLAR COLLECTOR**

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**VIKRAM M (Register Number: 61772153203)**

Of M.E. Thermal Engineering during the year 2021– 2023

  
Project Guide

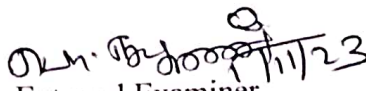
  
Head of the Department

**Dr. K.SAKUNTHALA Ph.D.,**

**Dr.T.BALUSAMY Ph.D.,**

Submitted for the Dissertation phase-II Viva -Voce examination held on 1/10/23

  
Internal Examiner

  
External Examiner



# International Journal of Research Publication and Reviews

(Open Access, Peer Reviewed, International Journal)

(A+ Grade, Impact Factor 5.536)

ISSN 2582-7421

Sr. No: IJRPR 21578

## *Certificate of Acceptance & Publication*

*This certificate is awarded to Vikram M, and certifies the acceptance for publication of research paper entitled "Modelling and Simulation of Solar Water Heater Integrated with Phase Change Material in Solar Collector" in "International Journal of Research Publication and Reviews", Volume 4, Issue 3, 2023.*

**Signed**

*Ashish Agarwal*



**Date** 23/03/2023

**Editor-in-Chief**  
International Journal of Research Publication and Reviews