

*Dedicated*  
*To*  
*My Adored Family*

**Copyright © Indian Institute of Technology  
(Banaras Hindu University), Varanasi, India, 2019.**

**All rights reserved.**

## CERTIFICATE

It is certified that the work contained in the thesis titled "*Structural and Magnetic Phase Transitions Studies on Ti-doped  $R_{1-y}Ba_yMn_{1-x}Ti_xO_3$  ( $R = La, Nd$ ) Perovskite Manganites*" by "*Dinesh Kumar*" has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive, Candidacy and SOTA for the award of Ph.D. degree.

Date.....

Place: Varanasi

**(Dr. Akhilesh Kumar Singh)**

**Supervisor**

**Associate Professor**

**School of Materials Science & Technology**

**IIT (BHU), Varanasi**

## DECLARATION BY THE CANDIDATE

I, **Dinesh Kumar**, certify that the work embodied in this Ph.D. thesis is my own bonafide work carried out by me under the supervision of **Dr. Akhilesh Kumar Singh** for a period from **December 2013** to **May 2019** at the **School of Materials Science and Technology**, Indian Institute of Technology (Banaras Hindu University), Varanasi. The matter embodied in this Ph.D. thesis has not been submitted for the award of any other degree/diploma. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully copied any other's work, paragraphs, text, data, results, *etc.*, reported in journals, books, magazines, reports dissertations, thesis, *etc.*, or available at websites and have not included them in this thesis and have not cited as my own work.

Date.....

Place: Varanasi

(Dinesh Kumar)

---

## CERTIFICATE BY THE SUPERVISOR

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

(Dr. Akhilesh Kumar Singh)

**Supervisor**

**Associate Professor**

**School of Materials Science & Technology**

**IIT (BHU), Varanasi**

(Dr. Akhilesh Kumar Singh)

**Coordinator of the School**

# COPYRIGHT TRANSFER CERTIFICATE

**Title of the Thesis:** “Structural and Magnetic Phase Transitions Studies on Ti-doped  $R_{1-y}Ba_yMn_{1-x}Ti_xO_3$  ( $R = La, Nd$ ) Perovskite Manganites”

**Candidate's Name:** Dinesh Kumar

## Copyright Transfer

The undersigned hereby assigns to the Indian Institute of Technology (Banaras Hindu University), Varanasi all rights under copyright that may exist in and for the above thesis submitted for the award of the **Ph.D. degree**.

Date: .....

Place: Varanasi

(Dinesh Kumar)

**Note:** However, the author may reproduce or authorize others to reproduce materials extracted verbatim from the thesis or derivative of the thesis for author's personal use provided that the source and the Institute's copyright notice are indicated.