# **UNDERTAKING FROM THE CANDIDATE**

I, Shreevats, certify that the present work embodied in this Ph. D. thesis is my own bonafide work carried out by me under the supervision of Prof. Devendra Kumar and co-supervision of Prof. Om Parkash (Department of Ceramic Engineering, IIT(BHU) in the Department of Ceramic Engineering, Indian Institute of Technology (Banaras Hindu University). The contents included in this Ph. D. thesis have not been submitted for the award of any other degree.

Date:	(Shreevat
Place: Varanasi	



सिरामिक अभियांत्रिकी विभाग भारतीय प्रौद्योगिकी संस्थान ;काषी हिन्दू विष्वविद्यालयद्ध वाराणसी—221005(उ०प्र०) भारत

DEPARTMENT OF CERAMIC ENGINEERING INDIAN INSTITUTE OF TECHNOLOGY (BANARAS HINDU UNIVERSITY)

Varanasi-221005 (U.P.) INDIA

Phone: 0542-6702890 (Head), 6701783 (Off.) Fax: 0542:2368428 e-mail: head.cer@itbhu.ac.in Phone: 09335411705 (Mobile) e-mail: devendra.cer@itbhu.ac.in

#### **ANNEXURE F**

## COURSE WORK/ COMPREHENSIVE EXAMINATION COMPLETION CERTIFICATE

This is to certify that Mr.Shreevats, a bonafide research scholar of this department, has successfully completed the course work/comprehensive examination requirement which is a part of his Ph. D. programme.

Date: ..... (Head of the Department)

Place: Varanasi



सिरामिक अभियांत्रिकी विभाग भारतीय प्रौद्योगिकी संस्थान ;काषी हिन्दू विष्वविद्यालयद्ध वाराणसी—221005(उ०प्र०) भारत

DEPARTMENT OF CERAMIC ENGINEERING INDIAN INSTITUTE OF TECHNOLOGY (BANARAS HINDU UNIVERSITY)

Varanasi-221005 (U.P.) INDIA

Phone: 0542-6702890 (Head), 6701783 (Off.)

Phone: 09335411705 (Mobile)

Fax: 0542:2368428 e-mail: head.cer@itbhu.ac.in

e-mail: devendra.cer@itbhu.ac.in

#### **ANNEXURE F**

### Pre Ph.D. SEMINAR COMPLETION CERTIFICATE

This is to certify that **Mr. Shreevats,** Ph. D. scholar of the Department (Enrollment No. 305592) has delivered his PrePh.D. seminar on **16**<sup>th</sup>June, **2016** on the topic "Electrical and structural investigations on liquid phase sintered **ZnO-V<sub>2</sub>O<sub>5</sub>** varistor ceramics doped with **MnO**, Nb<sub>2</sub>O<sub>5</sub>, Cr<sub>2</sub>O<sub>3</sub> and **ZrO<sub>2</sub>**" in the Computer Room of the Department to the satisfaction of DPGC,DRC and RPC members.

(Head of the Department)

#### ANNEXURE G

# **COPYRIGHT TRANSFER CERTIFICATE**

Title of the Thesis: Electrical and structural investigations on liquid phase sintered  $ZnO-V_2O_5$  varistor ceramics doped with MnO,  $Nb_2O_5$ ,  $Cr_2O_3$  and  $ZrO_2$ 

Candidate's Name: Shreevats

# **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.

(Signature of the Candidate)

**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.