CERTIFICATE

It is certified that the work contained in the thesis "EFFECT OF ULTRASONIC SHOT PEENING ON MICROSTRUCTURE, LOW CYCLE FATIGUE AND CORROSION BE-HAVIOR OF AA7075 ALUMINIUM ALLOY" by "VAIBHAV PANDEY" 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 Examination, Candidacy and SOTA for the award of Ph.D. Degree.

Signature: Kausik Chattopadhyay

Associate Professor Department of Ceramic Engineering Indian Institute of Technology (Banaras Hindu University) Varanasi-221005

DECLARATION BY THE CANDIDATE

I, VAIBHAV PANDEY certify that the work embodied in this thesis is my own bona-fide work and carried out by me under the supervision of Dr. Kausik Chattopadhyay from July-2013 to July-2018, at the Department of Metallurgical Engineering, Indian Institute of Technology (Banaras Hindu University) Varanasi. The matter embodied in this 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, theses, *etc.*, or available at websites and have not included them in this thesis or cited as my own work.

Date :

Signature of the Student (VAIBHAV PANDEY)

Place :

CERTIFICATE BY THE SUPERVISOR

It is certified that the above statement made by the student is correct to the best of my knowledge.

Signature of Supervisor (Dr. Kausik Chattopadhyay)

Signature of Head of Department

COPYRIGHT TRANSFER CERTIFICATE

Title of the Thesis: EFFECT OF ULTRASONIC SHOT PEENING ON MICROSTRUC-TURE, LOW CYCLE FATIGUE AND CORROSION BEHAVIOR OF AA7075 ALU-MINIUM ALLOY Name of the Student: VAIBHAV PANDEY

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 DOCTOR OF PHILOSOPHY.

Date :	Signature of the Student
Place :	(VAIBHAV PANDEY)

Note: However, the author may reproduce or authorize others to reproduce material 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.

iv