Homi Bhabha National Institute  
Recommendations of the Viva Voce Board

As members of the Viva Voce Board, we certify that we have read the dissertation prepared by Shri Prasun Sharma Chowdhury entitled “Characterization of Microstructure of Nuclear Structural Materials by XRD” and recommend that it may be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Date: 23/04/2012  
Chairman- Dr. D. K. Srivastava, VECC

Date: 23/04/2012  
Guide/Convener- Dr. P. Barat, VECC

Date: 23.04.2012  
Member- Dr. Alok Chakrabarti, VECC

Date: 23.04.2012  
Member- Shri N. Saibaba, NFC

Date: 23.4.12  
Member- Dr. D. Srivastava, BARC

Date: 23.4.12  
Examiner- Dr. M. Vijayalakshmi, IGCAR

Final approval and acceptance of this dissertation is contingent upon the candidate’s submission of the final copies of the dissertation to HBNI.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it may be accepted as fulfilling the dissertation requirement.

Date: 23/04/2012  
Place: VECC, Kolkata
RECOMMENDATION OF THE VIVA VOCE EXAMINER COMMITTEE
23.04.2012

Reports of the examiners, Professor K. Linga Murty, Director of Graduate Programs, Nuclear Engineering, North Carolina State University, USA and Professor M. Vijayalakshmi, Associate Director, Physical Metallurgy Group, IGCAR, for the thesis entitled “Characterization of Microstructure of Nuclear Structural Materials by XRD” of the student Sri PRASUN SHARMA CHOWDHURY (PHYS - 04200604001) are satisfactory. Both the examiners have recommended for the award of the Ph.D degree to Sri PRASUN SHARMA CHOWDHURY after examining his thesis. However, some questions were raised by them and it was also suggested that Sri PRASUN SHARMA CHOWDHURY has to answers those questions in the open seminar. In this context the Viva Voce examination in the form of an open seminar has been arranged on 23rd of April, 2012 in VECC. A notice in this regard has been circulated in the VECC and SINP notice boards. In this seminar Sri PRASUN SHARMA CHOWDHURY answered all the questions raised satisfactorily. It is being felt that the answers to the questions raised by the examiners need not be incorporated in the thesis. The Viva Voce examiner committee recommends that Sri PRASUN SHARMA CHOWDHURY (PHYS - 04200604001) can now be awarded Ph.D. degree in Physical Sciences.

1. Professor D.K. Srivastava, Associate Director (Physics), VECC – Charman

2. Sri N. Saibaba, Chief Executive, NFC, Hyderabad- Member

3. Professor Alok Chakrabarti, Associate Director (Accelerators), VECC – Member

4. Professor Dinesh Srivastava, Head, Physical Metallurgy Section, BARC – Member

5. Professor P. Barat, Head Material Science Section, VECC – Convener

6. Professor M. Vijayalakshmi, Associate Director, Physical Metallurgy Group, IGCAR is the Viva-Voce Examiner.
RE: DATE OF THE VIVA-VOICE EXAMINATION OF SRI PRASUN SARMA CHOWDHURY

Saturday, April 21, 2012 11:57AM

CE's Office
From: "CE's Office" <cenfc@nfc.gov.in>
To: <pbarat@vecc.gov.in>
Cc: 
Bcc: 
Sent by: "CE's Office" <cenfc@nfc.gov.in>

Dear Dr. Barat,

Please refer to your e-mail dated April 16, 2012 on the subject matter. I regret to inform you that, due to pre-occupation, I will not be able to attend the Viva - Voice examination of Shri Prasun Sharma Chowdhury on April 23, 2012 at VECC.

Regards,

N. Saibaba
Chief Executive, NFC

From: pbarat@vecc.gov.in [mailto:pbarat@vecc.gov.in]
Sent: 16 April 2012 15:30
To: dlnesh@vecc.gov.in; nsai@nfc.gov.in; cenfc@nfc.gov.in; mvl@igcar.gov.in; alok@vecc.gov.in; dsrlivas@barc.gov.in; pbarat@vecc.gov.in

Subject: DATE OF THE VIVA-VOICE EXAMINATION OF SRI PRASUN SARMA CHOWDHURY

Dear All,

The viva - voice examination in the form of an open seminar of Sri PRASUN SHARMA CHOWDHURY has been arranged on 23rd of April at 11.30 AM in the Room No. 202, the Physics Conference Room. Sri PRASUN SHARMA CHOWDHURY has to defend his thesis entitled "Characterization of Microstructure of Nuclear Structural Materials by XRD". Kindly send your travel plans so that necessary arrangements can be made.

With regards,

P. Barat

[Signature]

Dr. P. Barat
Mead, Material Science Section
& Dean - Academic (VECC),
Government of India
VEC Centre
BAR, Bidhan Nagar, Kolkata-700 064
宣言

声明

此论文已提交作为完成要求获取高级学位的要求，并在Homi Bhabha National Institute (HBNI) 存档，供借阅者在HBNI的规则下查阅。

简短的引文从此论文是允许的，无需特别许可，只要准确的来源得到承认。对于从或复制此手稿的完整或部分的扩展引文或复制，必须获得HBNI的有关当局的许可，他的或她的判断认为材料的使用是学术利益的。在所有其他情况下，必须获得作者的许可。

Prasun Sharma Chowdhury

Prasun Sharma Chowdhury
DECLARATION

I, hereby declare that the investigation presented in the thesis has been carried out by me. The work is original and has not been submitted earlier as a whole or in part for a degree / diploma at this or any other Institution / University.

Prasun Sharma Chowdhury

Dedicated to:

The source of

my inspirations...
Dedicated to:

The source of

my inspirations...
First of all, I gratefully want to acknowledge the constant academic and personal support received from my supervisor Dr. P. Barat. I am very much thankful to him for his clear and effective discussions which helped me in finding the platform of research in the field of Materials Science.

I am very happy to convey my gratitude to my senior collaborators Dr. Paramita Mukherjee and Dr. N. Gayathri Bannerjee for their constant encouragement and support starting from the initial stages of my research career. I am really very very grateful to them for their constant effort for motivating me to be in Physics, and inspiring me at all the ups and downs in my research career. I also would like to convey my thanks to Dr. Mishreyee Bhattacharya for her helpful collaboration. I also want to acknowledge Shri Sanjoy Majumdar for his kind help during the experiments performed by me in VECC. I also acknowledge Shri Tapas Mallik for his kind help during the preparation of the flange and the samples in the VECC workshop. Beside these, I want to gratefully acknowledge Apu Da (Dr. Apu Sarkar) for his helpful suggestions and advices during different necessary moments of my research life. I also acknowledge Prof. P. M. G. Nambissan, SINP for his helpful collaboration.

I am very happy to take the opportunity to acknowledge Dr. Dinesh Kumar Srivastava (Head, Physics Group, VECC) for his valuable suggestions which helped me a lot to continue my research career in Physics.

Beside all these, I want to acknowledge all of my senior and junior research fellows in VECC (Victor, Hari, Santosh, Amal, Amlan, Sabyasachi, Mriganka Da, Sidharth Da, Saikat Da, Atanu Da and many others) for their memorable presence at different necessary times during my research life in VECC.

I am very grateful for taking this opportunity to acknowledge Dr. R. K. Bhandari, Director, VECC for his kind support which helped me a lot to continue my research work in VECC.

It is my pleasure to take this opportunity to acknowledge my parents for believing in me, for their patience, and for their continuous support which helped me a lot in continuing my research career.

Last but not the least, I want to take this opportunity to acknowledge all of my well wishers who inspired me in the every aspects of my life, and have been the support for me during all the necessary times.

Prasun Sharma Chowdhury