

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 **Beena Jain** entitled “**Spectroscopic studies on interaction of silica and metallic nano particles with dyes of biomedical significance**” and recommend that it may be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

P. K. Gupta

Date: 17.01.14.

Chairman – Dr. P. K. Gupta

Shailendra Kumar

Date: 17/1/14

Guide / Convener -Dr. S. Kumar

Dr. D. K. Palit

Date: 17/01/2014

Member – Dr. D. K. Palit

Kaushik Das

Date: 17/1/14

Technical Guide – Dr. K. Das

Anindya Datta

Date: 17/01/2014

External Examiner – Dr. Anindya Datta

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: 17/1/2014

Guide: *Shailendra Kumar*

(Dr. Shailendra Kumar)

Place: Indore, RRCAT.