UNDERNING FROM THE CANDIDATE

*I, **Monika**, declare that the work embodied in this Ph.D. thesis, is my own work carried out by me under the supervision of **Prof. Nira Misra** for a period of 5 years from **August 2010 to September 2015** at School of Biomedical Engineering, Indian Institute of Technology, Banaras Hindu University, Varanasi. The matter embodied in this thesis has not been submitted for the any other degree/diploma.*

Date:

Place: IIT (BHU), Varanasi   (Monika)

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

Date: (Signature of the Coordinator of the School)

Place: IIT (BHU), Varanasi

PRE SUBMISSION SEMINAR COMPLETION CERTIFICATE

This is to certify that **Ms. Monika**, a bonafide research scholar of School of Biomedical Engineering, Indian Institute of Technology, Banaras Hindu University, Varanasi, has successfully completed the pre-submission seminar requirement on the topic **"Evaluation of polymeric ionomers composite and its exposure with mouse mesenchymal stem cells"** on dated 31-03-2015 which is a part of this Ph.D. programme.

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