## **CANDIDATE'S DECLARATION**

I, K, Ramesh, certify that the work embodied in this Ph.D. thesis is my own bonafide work carried out by me under the supervision of Prof. Nira Misra and Prof. Biswajit Ray. for a period of about 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 Ph.D. thesis has not been submitted for the award of any other degree/diploma.

I declare that I have faithfully acknowledged, given credit to and referred to the research workers wherever their works have been cited in the text and the body of the thesis. I further certify that I have not willfully lifted up some other's work, paragraph, text, data, results, etc., reported in the journals, books, magazines, reports, dissertations, thesis, etc., or available at web-sites and included them in this Ph.D. thesis and cited as my own work.

Date:

Place: IIT (BHU), Varanasi

(K. Ramesh)

## CERTIFICATE FROM THE SUPERVISOR

This is to certify that the above statement made by the candidate is correct to the best of our knowledge.

Supervisor Signature Prof. Nira Misra Co-supervisor Signature Prof. Biswajit Ray

Signature of the Coordinator School of Biomedical Engineering IIT (BHU), Varanasi