#### **CANDIDATE'S DECLARATION**

I, Md. Koushik Chowdhury, certify that the work embodied in this Ph.D. thesis is my own bonafide work carried out by me under the supervision of **Dr. Neeraj** Sharma and **Dr. Shiru Sharma** for a period of about 4 years and 10 months from March 2011 to December 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

(Md. Koushik Chowdhury)

### **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 Dr. Neeraj Sharma (Associate Professor) Co-Supervisor Signature Dr. Shiru Sharma (Assistant Professor)

Signature of the Coordinator School of Biomedical Engineering IIT-(BHU), VARANASI.

# <u>COURSE WORK / COMPREHENSIVE</u> EXAMINATION / COMPLETION CERTIFICATE

This is to certify that Mr. Md. Koushik Chowdhury, 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 Mr. Md. Koushik Chowdhury, a bonafide research scholar of this School, has successfully completed the pre-submission seminar requirement on the topic "Noninvasive Blood Glucose measurement using Modulated Ultrasound and Infrared light" on dated 09-07-2015, which is a part of his Ph.D. programme.

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