

ANNEXURE-E

[See Clause XIII.2 (b) (iii)]

CANDIDATE'S DECLARATION

I Rana Dutta (Roll No.-11606EN005, Enrollment No- 342211), certify that the work embodied in this Ph.D. thesis is my own bonafide work carried out by me under the supervision of **Prof. J. P. Dwivedi** and co-supervision of **Prof. V. P. Singh**, Department of Mechanical Engineering, Indian Institute of Technology (Banaras Hindu University), and external supervisor Abhijit Ghosh. 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 refereed to the research workers wherever their works have been cited in the test and the body of the thesis. I further certify that I have not willfully lifted up some others work, para, test, data, results, etc. reported in the journal, books magazine, 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: BHU, Varanasi

(Rana Dutta)

CERTIFICATION FROM THE SUPERVISORS/CO-SUPERVISOR

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

(Prof. J. P. Dwivedi)

Supervisor

(Prof. V. P. Singh)

Co-Supervisor

(Head of the Department with Seal)