

TEZPUR UNIVERSITY SCHOOL OF ENGINEERING DEPARTMENT OF ENERGY

Forwarding Certificate

We hereby recommend that the thesis prepared under our supervision by Washima Tasnin entitled "Design and Development of Temperature Control Mechanism for Solar Water Heating Systems" be accepted in partial fulfillment of the requirements for the degree of Master of Technology in Energy Technology.

Pradyumna Kumar Choudhury Supervisor

> Department of Energy Tezpur University

Prof. D. Deka

Head

Department of Energy Tezpur University Prof. D. K. Bhattacharyya

Dean

School of Engineering Tezpur University



TEZPUR UNIVERSITY SCHOOL OF ENGINEERING DEPARTMENT OF ENERGY

Certificate of Approval

The foregoing thesis by **Washima Tasnin (Roll Number ENE12032)** is hereby approved as a creditable study carried out and presented in a manner satisfactory to warrant its acceptance as a pre-requisite to the degree for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve only for the purpose for which it is submitted.

Committee On		27 14
Final Examination for	•	
Evaluation of Thesis		

DECLARATION

I, Washima Tasnin, hereby declare that this thesis entitled "Design and Development of Temperature Control Mechanism for Solar Water Heating Systems" is submitted to the Department of Energy, Texpur University, Texpur. Assam., India for acceptance to award the degree of the Master of Technology in Energy Technology is prepared by me and the same has not been/is not being submitted to any other in Stitution.

Date: 27.5.14

Place: Tezpur

VIWIUVYV SIVIVV

(Washima Tasnin)

Department of Energy

Roll Number ENE12032

ACKNOWLEDGEMENTS

I express my heartiest thanks and profound gratitude to my supervisor Mr. Pradyumna Kumar Choudhury, Assistant Professor, Department of Energy, Tezpur University, for his utmost help and motivation in all stages of this work. His sound guidance has taught me the rudiments of the subject, helped me overcome challenges and defend the results in the best possible way. The most important aspect that I have learnt from my interactions with him is the technique of conducting a successful research in a time-bound frame. I am indebted to him for the fruitful culmination of this work and look forward to continue his guidance in future.

I am immensely grateful to Prof. D. Deka, Head, Department of Energy, Tezpur University, for his official initiatives, kind guidance and the most generous support offered in times of need. His invaluable teachings, proactive suggestions, motivation towards perfection and rigorous supervision have instilled in me the discipline to persistently perform towards my goal.

I would like to offer my warm regards and sincere thanks to the other faculty members of the Department of Energy, *viz.*, Prof. D. C. Baruah, Dr. R. Kataki and Mr. P. Kalita for their invaluable teachings and kind guidance during the entire M.Tech. Programme. I am also thankful to Prof. D. K. Bhattacharyya, Dean, School of Engineering, for extending his help and support whenever required.

I would like to unfailingly acknowledge the valuable suggestions, help and assistance of Mr. Tapanjit Bora and Mr. Troilokya Lahon of the Department of Energy.

I am also grateful to my colleagues Surajit Pal, Manash Hazarika and Harish Kuli of the Instrumentation and Control Lab for their kind co-operation and moral support for the timely completion of this work.

The support of the staff, senior colleagues and all my friends of the Department of Energy has made my work a lot easier and comfortable. I heartily acknowledge them for their valuable presence and interactions.

Last, but not the least, my indebtedness remains towards my parents and family members for their constant encouragement and support in all possible respects throughout the duration of my M.Tech. Programme.