



# TEZPUR UNIVERSITY

(A Central University by an Act of Parliament)

Napaam, Tezpur-784028

DISTRICT: SONITPUR::ASSAM::INDIA

Supervisor:

Ph. 03712-275556 (O), 9435014377 (M)

Fax: 03712-267005/6

Email: [gazi@tezu.ernet.in](mailto:gazi@tezu.ernet.in)

---

## CERTIFICATE OF THE SUPERVISOR

This is to certify that the thesis entitled “*Optical characterization of particulate matter using indigenous computational and experimental techniques*”, being submitted to Tezpur University in requirement of partial fulfillment for the award of the degree of Doctor of Philosophy in Physics is a record of research work carried out by Mr. Manash Jyoti Boruah under my supervision and guidance.

All helps received from various sources have been duly acknowledged. No part of this thesis has been submitted elsewhere for award of any degree.

Supervisor

(Gazi A. Ahmed)  
Associate Professor  
Department of Physics  
Tezpur University

Date:

Place: Tezpur



**TEZPUR UNIVERSITY**  
**(A Central University by an Act of Parliament)**  
Napaam, Tezpur-784028  
DISTRICT: SONITPUR::ASSAM::INDIA

Ph. 03712-267004 (O) Fax: 03712-267005 Email: [adm@tezu.ernet.in](mailto:adm@tezu.ernet.in)

---

**CERTIFICATE OF THE EXTERNAL EXAMINER AND ODEC**

This is to certify that the thesis entitled “*Optical characterization of particulate matter using indigenous computational and experimental techniques*”, being submitted by Mr. Manash Jyoti Boruah to Tezpur University in the **Department of Physics** under the **School of Sciences** in requirement of partial fulfillment for the award of the degree of Doctor of Philosophy in **Physics** has been examined by us on \_\_\_\_\_ and found to be satisfactory.

The committee recommends for the award of the degree of Doctor of Philosophy.

**Supervisor**

**(Gazi A. Ahmed)**

**External Examiner**

( )

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_