



TEZPUR UNIVERSITY

NAPAAM::TEZPUR 784028

Certificate of Supervisor

This is to certify that the thesis entitled **Modeling and positioning of reference electrode in Ion Sensitive Field Effect Transistor (ISFET) and development of a Schottky Enzyme Field Effect Transistor (ENFET) for hydrocarbon detection** submitted to the **School of Engineering, Tezpur University** in part fulfillment for the award of the degree of **Doctor of Philosophy in Electronics and Communication Engineering** is a record of research work carried out by **Ms. Chinmayee Hazarika** under my supervision and guidance.

All help received by her from various sources have been duly acknowledged.

No part of this thesis has been submitted elsewhere for award of any other degree.

Dr. Santanu Sharma

Associate Professor

School of Engineering

Department of Electronics and Communication

Engineering

Tezpur University



TEZPUR UNIVERSITY

NAPAAM::TEZPUR 784028

Certificate of Oral Defence Evaluation Committee

This is to certify that the thesis entitled **Modeling and positioning of reference electrode in Ion Sensitive Field Effect Transistor (ISFET) and development of a Schottky Enzyme Field Effect Transistor (ENFET) for hydrocarbon detection** submitted by **Ms. Chinmayee Hazarika** to the Tezpur University in partial fulfillment of requirement for the award of the degree of **Doctor of Philosophy** in the discipline of **Electronics and Communication Engineering** under the school of **Engineering** has been examined by us on _____.

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

Supervisor

Examiner