



**DEPARTMENT OF BIOTECHNOLOGY**  
PG Department sponsored by DBT, G.O.I.  
**University of North Bengal**

P.O. NORTH BENGAL UNIVERSITY  
RAJA RAMMOHUNPUR, SILIGURI - 734013  
DIST. DARJEELING, WEST BENGAL, INDIA

Ref. No.....

Date.....201....

## CERTIFICATE

This is to certify that Ms. Amrita Acharya has carried out her research work under our joint supervision with Professor B.N. Chakraborty, Immuno-Phytopathology Laboratory, Department of Botany, NBU. Her thesis entitled "**Serological and molecular detection of foliar fungal pathogens of *Persea bombycina* Kost and activation of defense response using bioinoculants**" is based on her original work and is being submitted for the award of PhD degree in Biotechnology in accordance with the rules and regulations of the University of North Bengal.

  
(Shilpi Ghosh)

**[Supervisor]**  
Shilpi Ghosh  
Assistant Professor  
Department of Biotechnology  
University of North Bengal  
Darjeeling

# UNIVERSITY OF NORTH BENGAL

## Department of Botany



**Professor B. N. Chakraborty**

*Ph.D, FPSI, FNRS, FISMPP, FISPC, FMSI, FIMS  
FAScT, FRSC (Lond.), FNAAS*



IMMUNO-PHYTOPATHOLOGY LABORATORY

PO. N.B.U 734013, Siliguri, West Bengal, India

Phone : 0353-2776337 (O), 09800266298 (M)


Fax : 0353-2699001

E-mail : bncnbu@gmail.com

Website: www.ipnbu.ac.in

### CERTIFICATE

This is to certify that Ms. Amrita Acharya has carried out her research work under our joint supervision with Dr. Shilpi Ghosh, Department of Biotechnology, NBU. Her thesis entitled “**Serological and molecular detection of foliar fungal pathogens of *Persea bombycina* Kost and activation of defense response using bioinoculants**” is based on her original work and is being submitted for the award of PhD degree in Biotechnology in accordance with the rules and regulations of the University of North Bengal.

  
(B.N. Chakraborty)

**Co-Supervisor,**

(Professor B. N. Chakraborty)  
Department of Botany  
University of North Bengal