

**Dr. Basudev Mandal**  
M. Sc, Ph.D, FSAB  
Asst. Professor



**Department of Aquaculture  
Management and Technology  
Vidyasagar University  
Midnapore 721102, West Bengal**

Date.....

Ref.....

## **CERTIFICATE**

This is to certify that the research work embodied in the thesis entitled "*Allelopathic interferences of aquatic plants in the floodplain wetlands of West Bengal and their inductive inference on fish and harmful algal bloom - an experimental and statistical perspective*" has been carried out by Miss Nabanita Chakraborty under the joint supervision of myself and Dr. Archan Kanti Das, Principal Scientist, ICAR – Central Inland Fisheries Research Institute (CIFRI), Barrackpore. The results have not been published by any other scientist / researchers.

This is also certifying that Miss Nabanita Chakraborty has fulfilled all the requirements of the Vidyasagar University Ph. D. regulations for submission of the thesis.

I am pleased to forward this thesis for consideration for the award of the Degree of Doctor of Philosophy in Science under Vidyasagar University.

  
(Dr. Basudev Mandal)  
Asst. Professor,

**Aquaculture Management & Technology  
Vidyasagar University**

**Midnapore – 721102  
West Bengal, India**  
Dr. Basudev Mandal, Ph.D, FSAB  
Asst. Professor & Teacher-in-charge  
Deptt. of Aquaculture Mgt. & Tech.  
Vidyasagar University, Midnapore, W.B.



भाकृअनुप-केन्द्रीय अंतर्स्थलीय मात्स्यकी अनुसंधान संस्थान  
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**ICAR-Central Inland Fisheries Research Institute**

AN ISO 9000 : 2008 Certified Organisation  
(Indian Council of Agricultural Research)  
Barrackpore, Kolkata - 700 120, West Bengal

Dr. Archan Kanti Das  
Principal Scientist

Dated: 2<sup>nd</sup> Feb, 2019

**CERTIFICATE**

It is certified that the work contained in the Ph.D. thesis entitled, "*Allelopathic interferences of aquatic plants in the floodplain wetlands of West Bengal and their inductive inference on fish and harmful algal bloom - an experimental and statistical perspective*" is a faithful and bonafide research work carried out by Miss Nabanita Chakraborty under the joint supervision of me and Dr. Basudev Mandal, Assistant Professor, Vidyasagar University, West Bengal. The work presented in this thesis has not been submitted for award of any degree or diploma earlier or elsewhere.

*Archan Kanti Das*  
02:02:19

(ARCHAN KANTI DAS)

डॉ. अर्चन कान्ति दास/Dr. A. K. Das  
Principal Scientist

भा.कृ.अनु.प - के. अ. मा. अनु. संस्थान  
ICAR-Central Inland Fisheries Research Institute  
Barrackpore, Kolkata - 700 120