

**SWAMI VIVEKANANDA INSTITUTE  
OF  
MODERN SCIENCE**




Affiliated to Maulana Abul Kalam Azad University of Technology, WB  
Sonarpur Station Road, Karbala, P.O. - Narendrapur, P.S. - Sonarpur, Kolkata-700103


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**TO WHOM IT MAY CONCERN**

This is to certify that the project entitled **"OPTIMIZATION OF PROCESS PARAMETERS THROUGH RESPONSE SURFACE METHODOLOGY [RSM] IN CASE OF BIOREMEDIATION OF 4-CHLOROPHENOL AND CATECHOL BY INVOLVING FOUR DIFFERENT BACTERIAL STAINS."** with reference to **Swami Vivekananda Institute of Modern Science, Sonarpur, Kolkata-700103** is submitted by **Tripti Roy** [2<sup>nd</sup> year, 2<sup>nd</sup> semester, registration no. 212641899210029 year 2021-22, roll no. 26499221025] under the Department of Biotechnology for the partial fulfilment of the degree of **M.Sc Biotechnology**, under **Maulana Abul Kalam Azad University of Technology, WB**, embodies the work has been done by her under our supervision.

  
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**Prof. Gargi Gupta**  
(Vice-Principal)  
SVIMS

  
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**Prof. (Dr.) Nilanjana Bhattacharyya Nath**  
(Internal Project Guide)  
Department of Biotechnology  
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**Prof. (Dr.) Nilanjana Bhattacharyya Nath**  
(Head of the Department)  
Department of Biotechnology  
SVIMS

Date:  
Place: Kolkata





DEPARTMENT OF FOOD TECHNOLOGY & BIO-CHEMICAL ENGINEERING

f.No. SA/FTBE/190523

Date 19/05/2023

**CERTIFICATE**

This is to certify that the M.Sc. Thesis entitled “**OPTIMIZATION OF PROCESS PARAMETERS VIA RESPONSE SURFACE METHODOLOGY (RSM) IN THE BIOLOGICAL TREATMENT OF THE 4-CHLOROPHENOL AND CATECHOL AS A MIX COMPOUND BY INVOLVING FOUR DIFFERENT BACTERIAL SPECIES**” has been submitted by **Ms.Tripti Roy**, a student of final year M.Sc. in Biotechnology, Department of Biotechnology, Maulana Abul Kalam Azad University of Technology, west Bengal.

This project work is the outcome of the work carried out by her from January (02/01/2023) to April (28/04/2023) in the laboratory of Food Technology & Biochemical Engineering, Jadavpur University.

The thesis is result of original work done by her and I am satisfied with keenness and interest shown by her during the project execution.

She is a sincere student and suitable candidate for the degree of Master of Science in Biotechnology. I wish her all the best for her future career.

With regards,

*Dr. Sunita Adhikari (Nee Pramanik)*

[Dr. Sunita Adhikari (Nee Pramanik)]

Associate Professor, Dept. of FTBE, JU

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