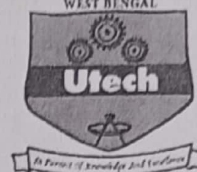




MAULANA ABUL KALAM AZAD  
UNIVERSITY OF TECHNOLOGY,  
WEST BENGAL



A  
Project Report on

**Design, development and characterization of  
carboxymethyl pullulan-g-tannic acid/gelatin based  
sponges as hemostatic dressings**

*Submitted by*

**SUMON PAUL**

*University Regn. No. – 221892310037*

*Roll No. - 18920322004*

Under the guidance of

**DR. HRIDAY BERA**

Associate Professor, BCRCP

In partial fulfilment of the Requirement for the Degree of  
**Master of Pharmacy in Pharmaceutics**

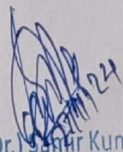
Submitted to

**Maulana Abul Kalam Azad University of Technology  
West Bengal**

**Dr. B. C. Roy College of Pharmacy and Allied Health Sciences  
Durgapur 713206**

**Academic Year: 2023 - 2024**



  
Prof. (Dr.) Sanjay Kumar Samanta  
M. Pharm., Ph.D (J.U.)  
Principal  
Dr. B. C. Roy College of Pharmacy & AHS  
Durgapur, West Bengal-713206



## DECLARATION

I hereby declare that the Project entitled "**Design, development and characterization of carboxymethyl pullulan-g-tannic acid/gelatin based sponges as haemostatic dressings**" in partial fulfilment of the requirement for the award of Master of Pharmacy submitted to **Maulana Abul Kalam Azad University of Technology, West Bengal**, is an authentic record of bona fide work carried out by me under the guidance of **Dr. Hriday Bera**.

The matter embodied in this Project has not been submitted for the award of any other degree or diploma to any University / Institution.

*Sumon Paul*

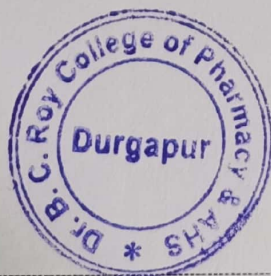
Signature

Name of Candidate: SUMON PAUL

Roll No: 18920322004

Date: 06.06.2024

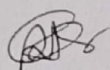
Place: DURGAPUR



*[Signature]*  
Prof. (Dr.) Samir Kumar Samanta  
M. Pharm., Ph.D (J.U.)  
Principal  
Dr. B. C. Roy College of Pharmacy & AHS  
Durgapur, West Bengal-713206

## CERTIFICATE

This is to certify that the Project entitled "Design, development and characterization of carboxymethyl pullulan-g-tannic acid/gelatin based sponges as haemostatic dressings" by Sumon Paul in partial fulfilment for the MASTER OF PHARMACY (PHARMACEUTICS) under MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY is a record of the original research work under our supervision and up to our satisfaction. To our knowledge, neither this thesis nor any part of it has been submitted for any other academic award anywhere before. The thesis is forwarded to Controller of Examination MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY for assessment.

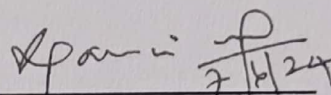


Signature of Guide

Name of Guide: Dr. Hriday Bera

Place: Durgapur

Date: 06.06.2024



Signature of the External

Examiner

Place: Durgapur

Date:

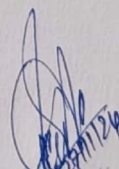


PROF. SAMIR KUMAR  
SAMANTA  
(PRINCIPAL)

Prof. (Dr.) Samir Kumar Samanta  
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