

A DISSERTATION ON
DEVELOPMENT OF PRIMARY CULTURE FROM
DIFFERENT TISSUE OF PABDA FISH (*OMPOK PABDA*)
SUBMITTED TO THE
DEPARTMENT OF BIOENGINEERING
FACULTY OF ENGINEERING & INFORMATION TECHNOLOGY
INTEGRAL UNIVERSITY, LUCKNOW



IN PARTIAL FULFILMENT
FOR THE
DEGREE OF B. TECH-M. TECH DUAL DEGREE
IN BIOTECHNOLOGY

BY
Mohammad Arsh Saleem Khan
B. Tech-M. Tech Biotechnology (X Semester)
Roll No: 1801010024

UNDER THE SUPERVISION OF

Dr. Basdeo Kushwaha,
Principal Scientist and Head
Genomic and Computational Resource Division of
ICAR- National Bureau of Fish Genetic Resources, Lucknow



INTEGRAL UNIVERSITY, DASAULI, KURSI ROAD
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DECLARATION FORM

I, Mohammad Arsh Saleem Khan, a student of **B. Tech - M. Tech Dual Degree Biotechnology** (5th year/10th semester), Integral University have completed my six months dissertation work entitled “**Development of Primary Culture from Different Tissue of Pabda Fish (*Ompok Pabda*)** successfully from ICAR- NBFGR under the able guidance of **Dr. Basdeo Kushwaha**.

I, hereby, affirm that the work has been done by me in all aspects. I have sincerely prepared this project report and the results reported in this study are genuine and authentic.

Name and Signature of Student with Date

Name and Signature of Course Coordinator with Date



भा.कृ.अनु.प.-राष्ट्रीय मत्स्य आनुवंशिक संसाधन ब्यूरो

कैनाल रिंग रोड, डाकघर-दिलकुशा, निकट तेलीबाग, लखनऊ-226 002 उ.प्र., भारत

ICAR-NATIONAL BUREAU OF FISH GENETIC RESOURCES

Canal Ring Road, PO Dilkusha, Lucknow-226002



13th September, 2023
Lucknow

CERTIFICATE

This is to certify that Mr. Mohammad Arsh Saleem Khan, B. Tech – M. Tech, Dual Degree Biotechnology (Enrollment No. 1800100994), Department of Bioengineering, Integral University, Lucknow has carried out dissertation work at ICAR-NBFGR under the guidance and supervision of Dr. Basdeo Kushwaha, Scientist, ICAR-NBFGR, Lucknow for the period 13th February to 05th August 2023. The title of M. Tech dissertation was “**Development of primary cell culture from different tissues of *Ompok pabda* (Hamilton-Buchanan, 1822)**”.

Dr. Basdeo Kushwaha
Principal Scientist & HoD (Acting)
ICAR-NBFGR, Lucknow
Supervisor

Dr. Poonam Jayant Singh
Chairman,
Higher Education committee

Dr. Uttam Kumar Sarkar
Director
ICAR-NBFGR



CERTIFICATE BY INTERNAL ADVISOR

This is to certify that **Mohammad Arsh Saleem Khan** a student of **B.Tech.- M.Tech. Dual Degree Biotechnology**, Integral University has completed his six months dissertation work entitled “**Development of Primary Culture from Different Tissue of Pabda Fish (*Ompok Pabda*)**” successfully. He has completed this work from ICAR-NBFGR under the guidance of Dr. **Basdeo Kushwaha**. The dissertation was a compulsory part of his **B.Tech.-M.Tech. Dual Degree Biotechnology**.

I wish him good luck and a bright future.

Dr. Khwaja Osama

Assistant Professor

Department of Bioengineering

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TO WHOM IT MAY CONCERN

This is to certify Mohammad Arsh Saleem Khan, a student of **Dual Degree Biotechnology** (5th Year/10th Semester) Integral University has completed his six months dissertation work entitled “**Development of primary culture from different tissue of pabda fish (*Ompok Pabda*)**” successfully. He has completed this work from **ICAR-National Bureau of Fish Genetic Resources** under the guidance of **Dr. Basdeo Kushwaha** the dissertation was a compulsory part of his **Dual Degree Biotechnology** program.

I wish him good luck and a bright future.

Dr. Alvina Farooqui

Professor and Head

Department of Bioengineering

Faculty of Engineering & Information Technology

ACKNOWLEDGEMENT

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I feel indebted with deep gratitude to my External Guide Mr Basdeo Kushwaha, Principal Scientist, Head ICAR- National Bureau of Fish and Genetic Resources,