

St Xavier's College (Autonomous)

5, Mahapalika Marg, Mumbai-400001

## Development of 3D tumoroid system to assess the effect of microenvironment on its aggressiveness

A dissertation submitted to St. Xavier's College- Autonomous

For the partial fulfilment of the degree of Master of Science in Biotechnology

By

Divya Bachan Gaud

MSc. (Biotechnology) 2019-2020

Under the guidance of

Prof. Abhijit Majumder

M-Lab, Department of Chemical Engineering
Indian Institute of Technology Bombay
Powai, Mumbai 400 076.

## POST GRADUATE DEPARTMENT OF BIOTECHNOLOGY

St. Xavier's College (Autonomous)

5, Mahapalika Marg, Mumbai - 400001



## CERTIFICATE

This is to certify that Ms. Divya Bachan Gaud, student of MSc (Biotechnology) - Semester IV, at the Post Graduate Department of Biotechnology, St. Xavier's College (Autonomous) has submitted the dissertation work titled "Development of 3D tumoroid system to assess the effect of microenvironment on its aggressiveness" for the partial fulfilment of the Master's degree in Science in Biotechnology, during the academic year 2019-2020.

Date:

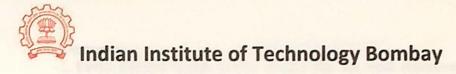
Place:

Dr. Karuna Gokarn

KRGoKam

Head of the Department, PGDBT

POST GRADUATE DEPARTMENT OF BIOTECHNOLOGY ST. XAVIER'S COLLEGE, MUMBAI-400 001.



Abhijit Majumder, PhD Associate Professor

## CERTIFICATE OF COMPLETION

This is to certify that Ms. Divya Bachan Gaud, student of MSc (Biotechnology), St. Xavier's College (Autonomous) has completed four months training/ Research Project at the M lab, Department of Chemical Engineering, (Indian Institute of Technology Bombay) during the academic year 2019-2020.

She has completed the dissertation work entitled "Development of 3D tumoroid system to assess the effect of microenvironment on its aggressiveness" for the partial fulfilment of MSc. (Biotechnology) degree. She has been familiarized with the following techniques during this project:

- a) Animal Cell Culture
- Polyacrylamide gel fabrication b)
- c) Optical microscopy
- d) Time-lapse imaging

This carefully written report represents the experiments and literature related to the same carried out by her during the period from 1st December 2019 to 31st March 2020.

I found Ms. Divya Bachan Gaud to be a sincere and hardworking student. Her overall conduct was good.

Principal Investigator: Prof. Abhijit Majumder

Signature: Awinda.

Date: 11th June 2020

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