


CERTIFICATE

This is to certify that research work embodied in this dissertation titled "Recalcitrant Waste Water treatment by Hydrodynamic Cavitation Process" was carried out by Ashutosh Chandrabhan Upadhyay at Swarnim Institute of Technology for partial fulfilment of Master of Technology degree in Environmental Engineering to be awarded by Swarnim University. This research work has been carried out under my guidance and supervision and it is up to my satisfaction.


Date : 15/5/22

Place : Gandhinagar


Head Environment Engineering
(Prof. Kalpana Saini)

Head Of Department
Environment Engineering
Department.

Swarnim Institute of Tech.
Swarnim Startup and Innovation
University.
Gandhinagar.



Dr. M.B. Dholakiya,

Director & Dean

Swarnim Institute of Tech.

Swarnim Startup and Innovation University.
Gandhinagar.

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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "CATALYTIC PLASTIC CRACKING FOR CO GENERATION OF LIQUID FUEL" was carried out by Mr. Dhaval Prajapati (Enroll No.2026002002) at Swarnim Institute of Technology for partial fulfillment of Master of Technology degree in Environmental Engineering to be awarded by Swarnim Startup & Innovation University. She has worked up on the comments given during the Dissertation phase-I and Mid Semester Review. This Research work has been carried out under my supervision and is to my satisfaction.

Date: 15/5/22
Place: Gandhinagar

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Asst.Prof. Kalpana Saini
Internal Guide
Environmental Engineering Department
Swarnim Startup & Innovation University

Vilin

Dr. Vilin Parekh,

Principal,

Swarnim Institute of Technology

Swarnim Startup & Innovation University

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*Study of Electrochemical Treatment for Indigo Dye Wastewater Resulting From Textile Sector (Blue Denim Plant)*" was carried out by **Panktiben Pareshkumar Doshi**, Enrollment No. 2026002003, at Swarnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup & Innovation University.

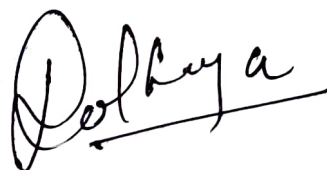
Date: 31/5/22

Place: Gandhinagar



(Asst. Prof. Kalpana Saini)

Department of Environmental Engineering
Swarnim Institute of Technology



(Dr. M. B. Dholakiya)
Director and Dean

Swarnim Institute of Technology

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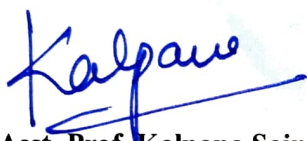
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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "**COD REMOVAL THROUGH FENTON CATALYTIC REACTOR IN DYES AND DYES INTERMEDIATE INDUSTRY**" was carried out by **Ahir Laljibhai Mepabhai**, **EnrolmentNo. 2026002006**, at SwarnimStartup& Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in **Environmental Engineering** degree to be awarded by SwarnimStartup&Innovation University. This work has been carried out under our supervision meets the requirement of SwarnimStartup& Innovation University.

Date: 31/5/22

Place: Gandhinagar



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Department of Environmental Engineering
Swarnim Institute of Technology



(Dr. M.B. Dholakiya)

Director

Swarnim Institute of Technology

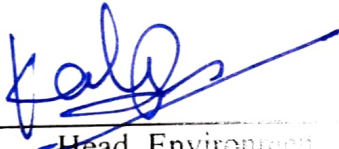
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CERTIFICATE

This is to certify that work embodied in this dissertation entitled “ *Ammoniacal Nitrogen removal by electrochemical process for Wastewater of Fertilizer Industry*” was carried out by **En.No: 2026002008: Vasara Bharat Bhimabhai**, at Swarnim Startup& Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup& Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup& Innovation University.

Date: 30/5/22

Place: Gandhinagar



Head, Environment
Engineering
(Assist. Prof. Kalpana Satish)



Principal
(Dr. Vilin Parekh)

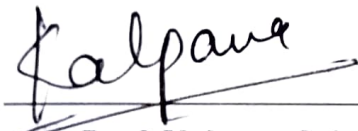
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CERTIFICATE

This is to certify that the research work embodied in this dissertation titled “ Environment Impact Assessment Report for Resin manufacturing in plywood plant” was carried out by Jain Mitul Vinod at Swarnnim Institute of Technology for the fulfillment of Master of Technology degree in Environment Engineering to be awarded by Swarnnim Startup Innovation University. This research work has been carried out under my guidance and supervision and it is up to my satisfaction.

Date: 15 June 2022

Place: Gandhinagar

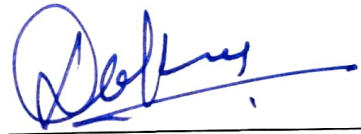


Asst. Prof. Kalpana Saini

Designation of The Guide : HOD, Environment Engineering

Swarnnim Institute of Technology

Gandhinagar – 382420



Dr. M.B. Dholakiya

Director

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Gandhinagar – 382420

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*Assessment Of Manmade Pollution And Predicting Water Quality Responses To Natural Phenomena in River Sabarmati*" was carried out by *Nehal Dhiren Ajmera*, Enrollment No. 2026002010, at Swarnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup & Innovation University.

Date: 15/5/22

Place: Gandhinagar



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Principal
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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "A Study on wastewater treatment of chemical industry using electro-coagulation" was carried out by Mr. Meet Rana (Enroll No.2026002011) at Swarnim Institute of Technology for partial fulfillment of Master of Technology degree in Environmental Engineering to be awarded by Swarnim Start up & Innovation University. He has worked upon the comments given during the Dissertation phase -I and Mid Semester Review. This Research work has been carried out under my supervision and is to my satisfaction.

Date: 15/5/22

Place: Gandhinagar



Prof. Kalpana Saini

Internal Guide

Environmental Engineering Department Swarnim Start
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Dr. M.B. Dholakiya,

Director & Dean ,

Swarnim Institute of technology

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*A Study on Sequential Batch Biofilm Reactor for domestic wastewater*" was carried out by **ID.No:2026002013: Deep Jagdishbhai Rao**, at Swarnim startup & Innovation University An Autonomous Institution for partial fulfillment of Master of Technology in *Environmental Engineering* degree. This work has been carried out under our supervision and meets the requirement of Swarnim startup & Innovation University.

Date: 15/5/22

Place: Gandhinagar



Head, Environment
Engineering
(Asst. Prof. Kalpana Saini)



Director & Dean
(Dr. M.B Dholakiya Patel)

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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "Performance Evaluation of The Narol Dye Stuff Enviro Society -CETP" was carried out by Mr. Malhar Divyeshbhai Desai (Enroll No. 2026002014) at Swarnim Institute of Technology for partial fulfillment of Master of Technology degree in Environmental Engineering to be awarded by Swarnim Startup & Innovation University. He has worked upon the comments given during the Dissertation phase - I and Mid Semester Review. This Research work has been carried out under my supervision and is to my satisfaction.

Date: 15/5/24

Place:


Prof. Kalpana Saini

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Dr. M.B. Dholakia

Director & Dean

Swarnim Institute of Technology

Swarnim Startup & Innovation University

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*Hydrodynamic Cavitation as a Preliminary Treatment for CETP Influent*" was carried out by *Sumitkumar Surendra Chauhan*, Enrollment No. 2026002015, at Swarnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup & Innovation University.

Date: 31/5/22

Place: Gandhinagar



(Asst. Prof. Kalpana Saini)

Department of Environmental Engineering
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(Dr. Vilin Parekh)
Principal

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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "To determine optimum use of water: Evaluation of possibility and reduce water consumption in textile processing units" was carried out by Mr. Bhavesh G. Hadiya (Enrolment No. 2026002017) studying at Environmental Engineering Department of Swarnim Institute of Technology for Partial Fulfillment of Master of Engineering degree to be awarded by Swarnim Startup and Innovation University. This research work has been carried out under my guidance and supervision, and it is up to my satisfaction.



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Date: 30/5/2022
Place: Gandhinagar

Asst. Prof. Kalpana Saini

Department of Environmental Engineering,
Swarnim Institute of Technology,

Dr. Vilin Parekh

Principal,
Swarnim Institute of Technology,

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CERTIFICATE

This is to certify that research work embodied in this dissertation titled "Decolourization of synthetic wastewater of 'Reactive Yellow 145 dye' using Tea Waste Powder" was carried out by **SANJAYKUMAR VALJI MALSATTAR (Enrolment No: 2026002018))** at Swarnim Institute Of Technology for partial fulfillment of Master of Technology e in Environmental Engineering to be awarded by Swarnim Startup & Innovation University. This research work has been carried out under my guidance and supervision and it is up to my satisfaction.

Date: 15/5/22

Place: Raichur

Kalpna

Signature and Name of Guide

Prof. Ms. Kalpana Saini

M.B. Dholakiya

Dr. M.B. Dholakiya,
Director & Dean,
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CERTIFICATE

This is to certify that research work embodied in this dissertation titled "Assessment of Ambient Quality at Foundry Industrial Cluster at Eastern Ahmedabad- A case study" was carried out by **Ashokkumar Mohanbhai Chauhan (Enrolment No: 2026002019)** at Swarnim Institute of Technology for partial fulfillment of Master of Technology in Environmental Engineering technology awarded by Swarnim Startup & Innovation University. This research work has been carried out under my guidance and supervision and it is up to my satisfaction.

Date: 31/8/22

Place: Gandhinagar



Signature and Name of Guide

Prof. Ms. Kalpana Saini



Signature and Name of Principal

Ulli Parthen

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CERTIFICATE

This is to certify that research work embodied in this thesis entitled " A study on electrochemical reduction of dye waste " was carried out by Ms. Kena Lakhani (Enroll No.2026002021) at Swarnnim Institute of Technology for partial fulfillment of Master of Technology degree in Environmental Engineering to be awarded by Swarnnim Startup & Innovation University. She has worked upon the comments given during the Dissertation phase -1 and Mid Semester Review. This Research work has been carried out under my supervision and is to my satisfaction.

Date: 15/10/2022

Place: Vadodara



Prof. Kalpana Saini
Internal Guide
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Swarnnim Startup & Innovation University



Dr. Vilin Parekh,
Principal,
Swarnnim Institute of Technology

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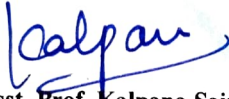
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This is to certify that work embodied in this dissertation entitled "*Environment Modeling Using MATLAB*" was carried out by *Parthik Maheshkumar Soni*, Enrollment No. *2026002022*, at Swarnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup & Innovation University.

Date: 18/5/22

Place: Gandhinagar



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Department of Environmental Engineering
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(Dr M D Dholakiya)
Director and Dean

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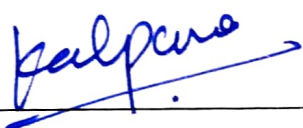
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CERTIFICATE

This is to certify that the research work embodied in this dissertation titled " An Empirical Study Of Building Related Construction And Demolition Waste Management : Waste Handling & Remodeling." was carried out by Parth S Parikh at Swarnnim Institute of Technology for the fulfillment of Master of Technology degree in Environment Engineering to be awarded by Swarnnim Startup Innovation University. This research work has been carried out under my guidance and supervision and it is up to my satisfaction.

Date: 27 June 2022

Place: Gandhinagar

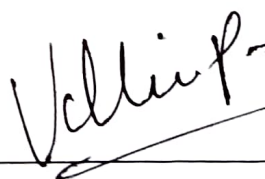


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Designation of The Guide : HDD, Environment Engineering

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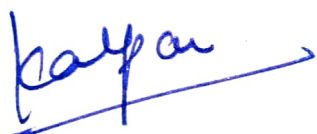
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CERTIFICATE

This is to certify that work embodied in this dissertation entitled “*Technical Evaluation of Utilization of Different Agriculture Waste for Making Bio-Fuel Using Anthracite Coal*” was carried out by **Bipin L. Rathod**, Enrollment No. 2026002025, at Swarnnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in **Environmental Engineering** degree to be awarded by Swarnnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnnim Startup & Innovation University.

Date: 15/5/22

Place: Gandhinagar



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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "Air Quality Mapping Using GIS Tools For Vadodara City" was carried out by Mr. Vivekkumar Dahyabhai Chaudhari (Enrolment No. 2026002026) studying at Environmental Engineering Department of Swarnim Institute of Technology for Partial Fulfillment of Master of Engineering degree to be awarded by Swarnim Startup and Innovation University. This research work has been carried out under my guidance and supervision, and it is up to my satisfaction.

Date: 21/5/22
Place: Gandhinagar



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Vilim Parekh

Dr. Vilim Parekh

Principal,

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CERTIFICATE

This is to certify that research work embodied in this thesis entitled "**Analysis and Reduction of pollutants by using a Bagasse as an Alternate Fuel** - Current practices, challenges and opportunities" was carried out by Mr. **Gajjar Pragnesh Maneklal (Enroll No.2026002027)** at Swarnim Institute of Technology for partial fulfillment of Master of Technology degree in Environmental Engineering to be awarded by Swarnim Start up & Innovation University. She has worked upon the comments given during the Dissertation phase -I and Mid Semester Review. This Research work has been carried out under my supervision and is to my satisfaction.

Date: 15/5/22
Place: Gandhinagar

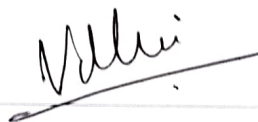


Prof. Kalpana Saini

Internal Guide

Environmental Engineering Department

Swarnim Start up & Innovation University



Dr. Vilin Parekh,

Principal,

Swarnim Institute of Technology

Swarnim Start up & Innovation University

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APPROVAL SHEET

This dissertation report entitled **Food Waste Management In Bikaner Cantt Township With Comparison Of Effectiveness Of Artificially Prepared Compost And Biologically Prepared Compost** by **Lokeshwaraj Singh Rao** is recommended for the degree of Master's in Environmental Engineering by **Swarnim Startup & Innovation University**.

External Examiner


15/5/22

Guided By:



ASST. PROF. KALPANA SAINI

(Internal guide)

Department of Environmental Engineering

Swarnim Institute of Technology

Gandhinagar



~~ASST.~~ PROF. SWAPNIL DHARASKAR

(External guide)

Chemical Engineering Department,

School of Technology,

Pandit Deendayal Energy University,

Gandhinagar

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*Reactor for online decentralized self-sustainable treatment of domestic sewage*" was carried out by **Chaudhari Nareshkumar Pratapbhai, Enrollment No. 20260020231**, at Swarnnim Startup & Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnnim Startup & Innovation University. This work has been carried out under our supervision meets the requirement of Swarnnim Startup & Innovation University.

Date: 20/5/22

Place: Gandhinagar



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Department of Environmental Engineering
Swarnnim Institute of Technology



(Dr. Vilin Parekh)
Principal

Swarnnim Institute of Technology

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Gandhinagar, Gujarat -382420

CERTIFICATE

This is to certify that the thesis entitled, “ASSESSMENT OF GROUND WATER QUALITY USING GIS – A CASE STUDY OF NANDESARI REGION” being submitted by **Manthankumar Joshi** for the award of the degree of Master of Technology (Environmental Engineering) of Swarnnim Institute of Technology, Gandhinagar Gujarat, is a record of bonafide research work carried out by him under my supervision and guidance. Mr. Manthankumar Joshi has worked for nine months on the above project at the Department of Environmental Engineering, Swarnnim Institute of Technology, Gandhinagar and this has reached the standard fulfilling the requirements and the regulation relating to the degree.

Date: 19/11/2022

Place: Gandhinagar, SIT

Prof. Kalpana Sahni

Assistant Professor

Department of Environmental Engineering,

Swarnnim Institute of Technology.

Dr. M.B. Dholakiya

Director & Dean

Swarnnim Institute of Technology.

Swarnnim Startup & Innovation University, Gandhinagar, Gujarat.

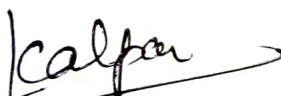
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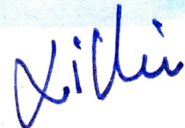
CERTIFICATE

This is to certify that research work undertaken in this dissertation titled **E-WASTE MANAGEMENT "Reuse, Recycle & Precious Metal Recovery from Different types of E-waste"** was completely executed by **JIGNESH PATEL (Enrolment No. 2026002029)** at **Swarnim Institute of Technology** for partial fulfilment of course work in **Environmental Engineering** under Master of Technology degree program to be awarded by Swarnim Startup & Innovation University. This research work has been carried out under my guidance and supervision and it is up to the expectations.

Date: 30/5/22

Place: Gandhinagar


Asst. Prof. Kalpana Saini
Department of Environmental
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Swarnim Institute of Technology,
Gandhinagar


Dr. Vilin Parekh
Principal,
Swarnim Institute of Technology,
Gandhinagar

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CERTIFICATE

This is to certify that work embodied in this dissertation entitled "*Ammoniacal Nitrogen removal by electrochemical process for Wastewater of Fertilizer Industry*" was carried out by **En.No: 2026002008: Vasara Bharat Bhimabhai**, at Swarnim Startup& Innovation University, An Autonomous Institution for partial fulfilment of Master of Technology with Specialization in *Environmental Engineering* degree to be awarded by Swarnim Startup& Innovation University. This work has been carried out under our supervision meets the requirement of Swarnim Startup& Innovation University.

Date: 30/5/22

Place: Gandhinagar



Head, Environment
Engineering
(Assist. Prof. Kalpana Saini)



Principal
(Dr. Vilin Parekh)

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