



# SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur District – 635601

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31/4 at 'A+' Grade,

Affiliated to Thiruvalluvar University

## Project List 2020-2022

S. No	Register Number	Name of the students	Title of the Project
1	BP200401	MINNOZHLI T	ALBUMIN ASSISTED SYNTHESIS OF COPPER DOPED TITANIUM DIOXIDE FOR PHOTOCATALYTIC DYE DEGRADATION
2	BP200402	MAMTHA K	ECO-FRIENDLY SYNTHESIS OF COPPER NANOPARTICLES USING TAMARIND SEED EXTRACT: CHARACTERIZATION AND ANTI-BACTERIAL STUDY
3	BP200403	GOKUL G	DEVELOPING NEW STRATEGY FOR SYNTHESIZING CHROMOPHORE TAGGED PINCER MOLECULE
4	BP200404	PAVITHRA S	SYNTHESIS AND CHARACTERISATION OF SCHIFF BASE AND ITS COORDINATION COMPLEXES
5	BP200405	KUZHANTHAITHERAS P	PHYTOCHEMICAL ANALYSIS AND ANTIMICROBIAL ACTIVITY OF NYCTANTHES ARBOR TRISTIS
6	BP200406	ARTHI S	GREEN SYNTHESIS OF IRON OXIDE NANOPARTICLES
7	BP200407	JEMIMAH LIMS S	SYNTHESIS AND CHARACTERISATION OF SCHIFF BASE LIGAND AND ITS COPPER COMPLEXES
8	BP200408	JOSEPH R	SPHERICAL SHAPED MORPHOLOGY OF YTTERBIUM ASSISTED HYDROXYAPATITE

			SYNTHESIS USING HYDROTHERMAL METHOD
9	BP200409	ANUPRIYA BABU	PHYTOCHEMICAL ANALYSIS AND ANTIMICROBIAL ACTIVITY OF MYRISTICA FRAGANS
10	BP200410	ANN MARIA PRASAD ANN	PHYTOCHEMICAL ANALYSIS AND EVALUATION OF ANTIMICROBIAL ACTIVITY OF CLERODENDRUM VISCOSUM VENT
11	BP200411	MARIA PEPIN A	GREEN SYNTHESIS OF NICKEL OXIDE NANOPARTICLES.
12	BP200412	CHANDROSHINI C	MD SIMULATION OF ABC TRANSPORTERS WITH ATP
13	BP200413	VISHNU A	ANTIBACTERIAL ACTIVITY OF PLANT MEDIATED SYNTHESIZED COPPER OXIDE NANOPARTICLE.
14	BP200414	FASIHA F	CORROSION INHIBITION OF STAINLESS STEEL USING GARLIC EXTRACT AS GREEN INHIBITOR
15	BP200415	MICHEAL RAJ D	ELECTROCHEMICAL AND STRUCTURAL CHARACTERISATION OF PVP BASED COMPOSITE POLYMER ELECTROLYTE.
16	BP200416	JENIFER A	PHYTOCHEMICAL ANALYSIS AND ANTIMICROBIAL ACTIVITY OF SURULAIKODI
17	BP200417	DIVYADHARSHINI R	GREEN SYNTHESIS OF ZnO NANOPARTICLES USING ORANGE FRUIT PEEL EXTRACT CHARACTERISATION AND THEIR ANTIMICROBIAL ACTIVITY
18	BP200418	ROSHINIDEVI R	GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING HIBISCUS ROSA SINENSIS LEAF EXTRACT AND THEIR ANTIMICROBIAL ACTIVITY
19	BP200419	RAGHUL R	SYNTHESIS AND CHARACTERIZATION OF POLYANILINE AND PVP - PANI POLYMER ELECTROLYTE.
20	BP200420	PUGALANTHI S	GREEN SYNTHESIS OF COPPER

			NANOPARTICLES USING CARCIA PAPAYA LEAF EXTRACT AND ITS CHARACTERISATION
21	BP200421	RAMYA C	SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING SIDA ACUTA PLANT LEAF EXTRACT
22	BP200422	MOHANA PRIYA V	PROCESSING OF BARIUM DOPED HYDROXYAPATITE SYNTHESISED BY SOLUTION COMBUSTION METHOD
23	BP200423	SHARMA P	SYNTHESIS AND CHARACTERIZATION OF HOMODINUCLEAR IRON(III) COMPLEX FOR SUPRAMOLECULAR ARCHITECTURES
24	BP200424	JANANI V	STUDIES ON POLYOXOMETALATES BASED COMPOSITES
25	BP200425	NAVAREETHAN T	SYNTHESIS AND CHARACTERISATION OF HETERO POLYACID BASED COMPOSITES
26	BP200426	TAMILARASAN R	COMPUTATIONAL AND NLO STUDIES OF PINCER ORGANIC PRECURSORS
27	BP200427	ARCHANA S	SYNTHESIS AND CHARACTERIZATION OF HOMODINUCLEAR COPPER(II) COMPLEX FOR SUPRAMOLECULAR ARCHITECTURES
28	BP200428	KANISHKAR R	NATURAL TEMPLATE CORN ASSISTED SYNTHESIS OF COPPER DOPED TiO <sub>2</sub> FOR ANTI BACTERIAL ACTIVITY
29	BP200429	HEMANTH KUMAR K R	MD SIMULATION OF ABC TRANSPORTER WITHOUT ATP

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**PRINCIPAL**



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**CERTIFICATE**

This is to certify that the thesis entitled "**ALBUMIN ASSISTED SYNTHESIS OF COPPER DOPED TiO<sub>2</sub> FOR PHOTOCATALYTIC DYE DEGRADATION**" submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **MINNOZHILI. T** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

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### **CERTIFICATE**

This is to certify that the thesis entitled "*Eco-Friendly Synthesis Of Copper Nanoparticles Using Tamarind Seed Extract: Characterization And Anti-Bacterial Study*" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **MAMTHA K** during the period 2020-2022 of her study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

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This is to certify that the thesis entitled "*Developing new strategy for synthesizing chromophore tagged pincer molecule*" submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfilment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **GOKUL G** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

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This is to certify that the thesis entitled "*Synthesis and Characterization of schiff base and its coordination complexes*" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by PAVITHRA S during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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## DECLARATION

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## CERTIFICATE

This is to certify that dissertation entitled Phytochemical analysis and antimicrobial activity of *Nyctanthes Arbor Tristis* has been submitted to **SACRED HEART COLLEGE (Autonomous), Tirupattur**, Tirupattur District 635601 in partial fulfillment of the requirements for the award of the degree of Master of Science in Chemistry is a record of original research work done by **Kuzhanthaitheras p (BP200405)** during the period 2019-2022 of her study in the post graduate and research department of chemistry at Sacred Heart College (Autonomous), Tirupattur 635601, under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/ Diploma/ Associate ship/ Fellowship or similar title to any candidate of any College University.

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### **CERTIFICATE**

This is to certify that the thesis entitled “ **Green Synthesis of Iron Oxide Nanoparticles**” submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **S. ARTHI** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

*Praveen Peter*

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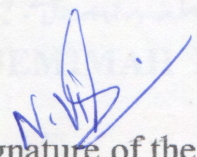
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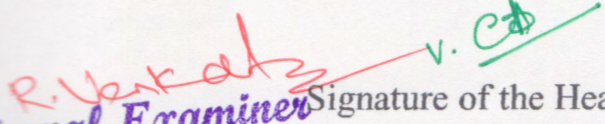
### CERTIFICATE

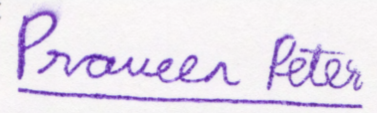
This is to certify that the thesis entitled "*Synthesis and Characterization of Schiff base ligand and its copper complex*" submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **JEMIMAH LIMS S** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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**PG & Research Department of Chemistry**

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**CERTIFICATE**

This is to certify that the thesis entitled "*Spherical Shaped Morphology Of Ytterbium Assisted Hydroxyapatite Synthesis Using Hydrothermal Method*" submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **JOSEPH R, Reg. No.BP200408** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

*R. Joseph*

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### CERTIFICATE

This is to certify that dissertation entitled Phytochemical analysis and antimicrobial activity of Myristica Fragans has been submitted to **SACRED HEART COLLEGE (Autonomous), Tirupattur**, Tirupattur District 635601 in partial fulfillment of the requirements for the award of the degree of Master of Science in Chemistry is a record of original research work done by **ANUPRIYA BABU (BP200409)** during the period 2020-2022 of her study in the post graduate and research department of chemistry at Sacred Heart College (Autonomous), Tirupattur 635601, under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/ Diploma/ Associate ship/ Fellowship or similar title to any candidate of any College University.

Signature of the candidate  
(Anupriya Babu)

Signature of the Guide  
(Prof. C. Elvarasi)

Signature of the Head of the Department

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DECLARATION

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CERTIFICATE

This is to certify that dissertation entitled *Phytochemical analysis and evaluation of antimicrobial activity of Clerodendrum Viscosum Vent* has been submitted to SACRED HEART COLLEGE (Autonomous), Tirupattur, Tirupattur District-635601 in partial fulfillment of the requirements for the award of the degree of Master of Science in Chemistry is a record of original research work done by ANN MARIA PRASAD (BP200410) during the period 2020-2022 of her study in the post graduate and research department of chemistry at Sacred Heart College (Autonomous), Tirupattur 635601, under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/ Diploma/ Associate ship/ Fellowship or similar title to any candidate of any College University.

Signature of the candidate  
(Ann Maria Prasad)

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This is to certify that the thesis entitled “*Synthesis and Characterization of Nickel Oxide Nanoparticles*” submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **MARIA PEPIN.A** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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### CERTIFICATE

This is to certify that the thesis entitled “ MD Simulation of an ABC Transporters with ATP ” submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done CHANDROSHINI C during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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Signature of the candidate

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This is to certify that the thesis entitled “*ANTIBACTERIAL ACTIVITY OF PLANT MEDIATED SYNTHESIS OF COPPER OXIDE NANOPARTICLE*” submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **VISHNU A** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

*A. Vishnu*

Signature of the candidate

*R. Praveen Peter*

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## CERTIFICATE

This is to certify that the project titled "Corrosion inhibition of stainless steel using garlic extract as green inhibitor" is a record of personal work done by, **F. FASIHA**, a full time scholar of Master of Science in Chemistry, Sacred Heart College(Autonomous), Tirupattur, during the period of the study academic year 2021-2022. This report represents entirely an independent work of the candidate under my supervision and guidance.

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**PG AND RESEARCH DEPARTMENT OF CHEMISTRY**

**SACRED HEART COLLEGE (AUTONOMOUS)**

**TIRUPATTUR-635 601**

This is certifying that the dissertation entitled "*ELECTROCHEMICAL AND STRUCTURAL CHARACTERISATION OF PVP BASED COMPOSITE POLYMER ELECTROLYTE*". Submitted to the Sacred Heart College (Autonomous), Tirupattur in partial fulfillment of the requirements for the award of Degree of Master of Science in Chemistry is a record of original research work done by **MICHEAL RAJ D REG.NO. BP200415** during the period 2020-2022 of his study in the department of Chemistry, Sacred Heart College, Tirupattur under my supervision and guidance of Dr. R.S. DIANA SANGEETHA, M.Sc., M.Phil., Ph.D. The dissertation has not formed the basis for the award of any degree or similar title to any candidate of any College or University.

*D. Micheal Raj*  
SIGNATURE OF THE CANDIDATE

*R.S.D* 11/6/22  
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**Dr. R.S. Diana Sangeetha,**  
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Tirupattur-635 601**

**CERTIFICATE**

This is to certify that dissertation entitled Phytochemical analysis and antimicrobial activity of surulaikodi has been submitted to **SACRED HEART COLLEGE (Autonomous), Tirupattur**, Tirupattur District 635601 in partial fulfillment of the requirements for the award of the degree of Master of Science in Chemistry is a record of original research work done by **JENIFER A (BP200416)** during the period 2020-2022 of her study in the post graduate and research department of chemistry at Sacred Heart College (Autonomous), Tirupattur 635 601, under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/ Diploma/ Associate ship / Fellowship or similar title to any candidate of any College University.

*A. Jenifer*  
Signature of the candidate  
(Jenifer A)

*[Signature]*  
Signature of the Guide  
(Dr. Arokia Nepolean Raj A)

*R. Venkatesh*  
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Signature of the Head of the Department  
(Dr. Collins Arun Prakash V)  
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P.G. and Research Department of Chemistry,  
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### CERTIFICATE

This is to certify that the thesis entitled “Green Synthesis of ZnO nanoparticle using Orange fruit peel extract, Characterization and their Antibacterial activity” submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **DIVYADHARSHINI R** during the period 2020-2022 of her study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

*D. Divyadharsini*  
Signature of the candidate

*A.P. Angelina Mary* 13/06/22  
Signature of the Guide

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*Praveen Peter*  
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**Sacred Heart College (Autonomous)**  
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DECLARATION

P.G. and Research Department of Chemistry,  
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Tirupattur-635 601

CERTIFICATE

This is to certify that the thesis entitled "Green Synthesis of ZnO nanoparticle using Hibiscus rosa sinensis leaf extract, Characterization and their Antibacterial activity" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **ROSHINIDEVI R** during the period 2020-2022 of her study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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RAGHUL R hereby declares that the dissertation of "Synthesis and Characterisation of Polyaniline and PVP - PANI Polymer Electrolyte" submitted to Sacred Heart College (Autonomous), Tirupattur, 635601, affiliated to the Thiruvalluvar University, is partial fulfillment of the requirements for the award of the Degree of Master of Science in chemistry.

This is to certifying that the dissertation entitled "**Synthesis and Characterisation of Polyaniline and PVP – PANI Polymer Electrolyte**" submitted to Sacred Heart College (Autonomous), Tirupattur, in partial fulfilment of the requirements for the award of the Degree of Master of Science in chemistry is a record of original research work done by **RAGHUL R(BP200419)** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance. The dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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**P.G. AND RESEARCH DEPARTMENT OF CHEMISTRY,**

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**CERTIFICATE**

This is to certify that the thesis entitled "*GREEN SYNTHESIS OF COPPER NANOPARTICLES USING CARCIA PAPAYA LEAF EXTRACT AND ITS CHARACTERISATION*" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **PUGALANTHI S** during the period 2020-2022 of her study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

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*Jaya K S.C*  
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P.G. and Research Department of Chemistry

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Tirupattur-635 601

### CERTIFICATE

This is to certify that the thesis entitled "*Synthesis of Zinc Oxide Nanoparticles using sida Acuta plant leaf extract*" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **RAMYA C** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur,635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

*C. Ramya*

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11/06/2022

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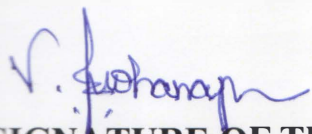




P.G. and Research Department of  
Chemistry, Sacred Heart College  
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### CERTIFICATE

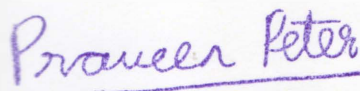
This is to certify that the thesis entitled "Processing Of Barium Doped Hydroxyapatite Synthesised By Solution Combustion Method" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by **V.MOHANA PRIYA, BP200422** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

  
SIGNATURE OF THE CANDIDATE

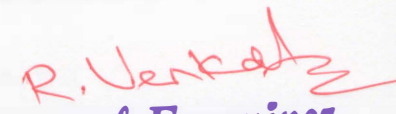
  
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### Certificate

This is to certify that the thesis entitled “*Synthesis and characterization of homodinuclear iron(III) complex for supramolecular architectures*” submitted to Sacred Heart College(Autonomous), Tirupattur, 635 601, in partial fulfillment for the requirement of the award of the degree Master of Science in Chemistry, is a record of original work done by **SHARMA, P** during the period June 2020-June 2022 of her study in the Department of Chemistry at Sacred Heart College(Autonomous), Tirupattur, 635 601 under my supervision and guidance and this dissertation has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

sharma.P

Signature of the Candidate

Proveer Peter

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This is to certify that the dissertation entitled "studies on polyoxometalates based composites" submitted to Sacred Heart College (Autonomous), Tirupattur-635 601 in partial fulfillment of the requirement for the award of the Degree of Master of Science in Chemistry is a record of original research work done by JANANI V during the period 2020-2022 of her study in the Department of Chemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore-635601 under my supervision and guidance. The dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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This is to certify that the dissertation entitled "**synthesis and characterisation of hetero polyacid based composites**" submitted to Sacred Heart College (Autonomous), Tirupattur-635 601 in partial fulfillment of the requirement for the award of the Degree of Master of Science in Chemistry is a record of original research work done by **NAVAREETHAN T** during the period 2020-2022 of her study in the Department of Chemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore-635601 under my supervision and guidance. The dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

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*R. Venkatesh*

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**CERTIFICATE**

This is to certify that the thesis entitled “Computational and NLO Studies of pincer organic precursors” submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done by TAMILARASAN R during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or othersimilar title to any candidate in any university.

*Tamilarasan.R*

Signature of the candidate

*Guido = 13/06/2022*

Signature of the Guide

*Prooveer Peter*

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P.G. & Research Department of Chemistry,  
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### Certificate

This is to certify that the thesis entitled "*Synthesis and characterization of homodinuclear copper(II) complex for supramolecular architectures*" submitted to Sacred Heart College(Autonomous), Tirupattur, 635601, in partial fulfillment for the requirement of the award of the degree Master of Science in Chemistry, is a record of original work done by ARCHANA, S during the period June 2020-June 2022 of her study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635 601, under my supervision and guidance and this dissertation has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

S. Archana

Signature of the Candidate

Dr. R. Venkatesh

Signature of the Guide

Praveen Peter  
Controller of Examinations  
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V. Ch

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R. Venkatesh  
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VELLORE - 632 002.



PG and Research Department of Chemistry,  
Sacred Heart College (Autonomous),  
Tirupattur - 635 601

**CERTIFICATE**

This is to certify that the dissertation entitled “**NATURAL TEMPLATE CORN ASSISTED SYNTHESIS OF COPPER DOPED TiO<sub>2</sub> FOR ANTIBACTERIAL ACTIVITY**” submitted to Sacred Heart College (Autonomous), Tirupattur-635 601 in partial fulfillment of the requirement for the award of the Degree of Master of Science in Chemistry is a record of original research work done by **R. KANISHKAR, REG. No: BP200428** during the period 2020-2022 of his study in the Department of Chemistry, Sacred Heart College (Autonomous), Tirupattur -635 601. Under my supervision and this dissertation has not formed the basis for the award of Researcher in Chemistry.

Signature of the Candidate

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Tirupattur-635 601, Tirupattur - Dist

Signature of the Head of the Department

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Signature of the Guide

**Dr. R. Jude Vimal Michael, M.Sc., M.Phil., Ph.D.,**  
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**External Examiner**

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This is to certify that the thesis entitled "MD Simulation of an ABC Transporters without ATP" submitted to Sacred Heart College(Autonomous), Tirupattur, in partial fulfillment of the requirements for the award of the degree of Master of Science in chemistry is a record of original work done **HEMANTH KUMAR K.R** during the period 2020-2022 of his study in the Department of Chemistry at Sacred Heart College (Autonomous), Tirupattur, 635601 under my supervision and guidance and this dissertation has not formed the basis for the award of any degree/Diploma/Associate ship/Fellowship or other similar title to any candidate in any university.

*K.R. Hemant K.R*  
Signature of the candidate

*V. E. S.*  
Signature of the Head of the department  
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*M. Nahren*  
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