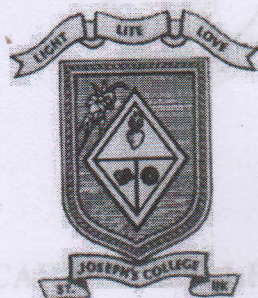


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CERTIFICATE

This is to certify that the dissertation entitled "STUDY ON HEXANAL SELF ALDOL CONDENSATION BY USING SOLID CLAY AND AMINO FUNCTIONALIZED CLAY CATALYSTS." is a record of original work done by, ALPHY MATIN REG NO CRASMCH001:, in the partial fulfillment of the requirement for the award of degree of MASTER OF CHEMISTRY under the guidance of Dr. MANOJ LAZAR., Assistant professor, Department of Chemistry, ST. Joseph's College, Irinjalakuda. It is further certified that this dissertation or any part of this thesis has not been submitted elsewhere for any other degree.

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This is to certify that the work entitled, "STUDY OF VISIBLE LIGHT PHOTOCATALYTIC ACTIVITY OF ZINC FERRITE DOPED TITANIA NANOCOMPOSITE ON METHYLENE BLUE DYE DEGRADATION" submitted to faculty of science, University of Calicut in partial fulfillment of the requirement for the award of Master of science in chemistry is authentic record of work carried out at St. Joseph's College, Irinjalakuda by Ancilyn Antu K and was supervised and guided by Dr. Manoj.A.Lazar, Assistant Professor, Department of Chemistry, St. Joseph's College, Irinjalakuda and Ms. Tessa Jose, Assistant Professor on contract, Department of Chemistry, Carmel College, Mala.

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This is to certify that the dissertation entitled " SCREENING OF AMINO FUNCTIONALIZED LAKE BOTTOM CLAY CATALYST FOR THE SOLVENT FREE SELF CONDENSATION OF PENTANAL" is a record of original work done by ANILA BASTIANK , REG NO:CRASMCH003:, in the partial fulfillment of the requirement for the award of the degree of master of chemistry from Calicut University during the academic year 2018-2020, under the guidance of Dr.MANOJ A. L., Assistant professor, Department of Chemistry, ST JOSEPH'S COLLEGE ,IRINJALAKUDA. This was carried out under my guidance and supervision and that has not been included in any other project submitted for the award of any other degree or diploma .

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CERTIFICATE

This is to certify that the work entitled, **“DEVELOPMENT OF ANODE ELECTROCATALYSTS FOR HYDRAZINE FUEL CELL”** submitted to Faculty of Science, University of Calicut in partial fulfillment of the requirement for the award of Master of Science in Chemistry is authentic record of work carried out at Christ College, Irinjalakuda by **Arathy chandrasenan** and was supervised and guided by **Dr. Joy V.T**, Head of Department of Chemistry, Christ Irinjalakuda.

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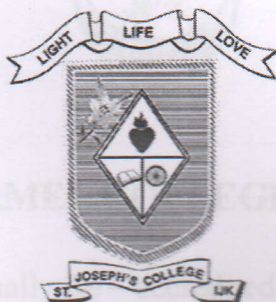
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This is to certify that the dissertation entitled "FAST AMINATION OF AMINOPHENOL AND ITS DERIVATIVES TO AMIDINE ADDUCTS FOR SUBSTITUTED BENZOXAZOLE SYNTHESIS" is a record of original work done by Ms. Arya Rajeev (CRASMCH005); in the partial fulfillment of the requirement for the award of degree of Master of Science in Chemistry under the guidance of Dr. Manoj A.L, Department of Chemistry, St. Joseph's college, Irinjalakuda. It is further certified that this dissertation or any part of this thesis has not been submitted elsewhere for any other degree.

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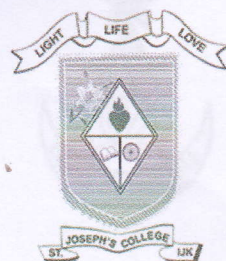
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This is to certify that the dissertation entitled "**PhI(OAc)₂ mediated fast cyclisation of amidine adducts for substituted benzoxazole synthesis**" is a record of original work done by, **GEETHUKRISHNAN** REG NO - **CRAMSMCH006**., in the partial fulfillment of the requirement for the award of degree of **MASTER OF CHEMISTRY** under the guidance of **Dr. MANOJ A L**, Assistant professor, Department of Chemistry, St. Joseph's college, Irinjalakuda. It is further certified that this dissertation or any part of this thesis has not been submitted elsewhere for any other degree.

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Place: Irinjalakuda

Date: 15-07-2020

Certificate



This is to certify that this thesis entitled ““**ELETROCHEMICAL PROPERTIES OF COMBUSTION SYNTHESIZED $MgMn_2 O_4$** ” submitted towards the partial fulfillment for the award of degree of Master of Science in Chemistry at Carmel College, Mala represents original research carried out by JESNA MARY GEORGE, of under the supervision of Dr. JIBIN A K (Christ College, Irinjalakuda) during the academic year 2018-2020.

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Student

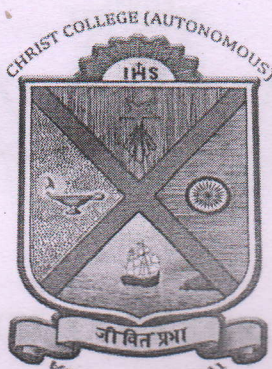
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This is to certify that the work entitled, "DEVELOPMENT OF ANODE ELECTROCATALYSTS FOR SODIUM BOROHYDRIDE FUEL CELL" submitted to Faculty of Science, University of Calicut in partial fulfillment of the requirement for the award of Master of Science in Chemistry is authentic record of work carried out at Christ College, Irinjalakuda by **Kripa Mariya Johnson** and was supervised and guided by **Dr. Joy V.T.**, Head of Department of Chemistry, Christ Irinjalakuda.

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This is to certify that the dissertation entitled **“ELECTRO CHEMICAL PROPERTIES OF SOL GEL SYNTHESIZED LiMn_2O_4 ”** is a record of original work done by **LISMY LOUIS**, Reg no: **CRASMCH009**, in the partial fulfillment of the requirement for the award of degree of **MASTER OF CHEMISTRY** under the guidance of **Dr.JIBIN A.K Assistant Professor, Department of Chemistry, Christ college irinjalakuda**. It is further certified that this dissertation or any part of this thesis has not been submitted elsewhere for any other degree.

Forwarded by

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Project guide

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This is to certify that the dissertation entitled "**CHARACTERIZATION OF $\text{TiO}_2 - \text{ZnFe}_2\text{O}_4$ NANO COMPOSITE**" is a record of original work done by, **SIJA P.C** REG NO: **CRASMCH010**, in the partial fulfillment of the requirement for the award of degree of **MASTER OF CHEMISTRY** under the guidance of **Dr. MANOJ A LAZAR**, Assistant professor, Department of Chemistry, St. Joseph's College, Irinjakkuda and **Ms. TESSY JOSE** Assistant Professor on contract, department of chemistry Carmel College Mala. It is further certified that this dissertation or any part of this thesis has not been submitted elsewhere for any other degree.

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