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Affiliated to Mahatma Gandhi University, Kottayam, Kerala
Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "**Effects of EGFR Inhibition on Breast Cancer Cellular Proliferation And Survival *In Vitro***" submitted by **Ashna Hafzal**, in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. Lakshmi S, Additional Professor, Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram** during the period of her study in the St. Berchmans college, Changanassery and internal supervision of **Mr. Shobin Varghese, Head of the Department, St. Berchmans college, Changanassery.**

Place: Changanassery

Date: 10-10-2022

Examiners:


10/10/2022



MR. SHOBIN VARGHESE

Teacher in charge



MR. SHOBIN VARGHESE

Head of the Department



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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled **The Influence of Various Occupation that Leads to the Infertility and the Effect of Semen Quality-A Survey** submitted by **Mr. Nandhu Anilkumar**, in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. Manopriya**, Obstruction and Gynecologist, Lotus Fertility, Ponnaiah Hospital Campus, R.S. Coimbatore, Tamil Nadu, during the period of his study in the St. Berchmans College, Changanacherry and internal supervision of **Ms. Shija Jacob**, Assistant Professor, St. Berchmans College, Changanacherry.

Place: Changanacherry

Date: 10-10-2022

Ms. SHIJA JACOB

Teacher in charge

Examiners:



Mr. SHOBIN VARGHESE

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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that the dissertation entitled "Differentiation of Bone Marrow Mesenchymal Stem Cells to Cardiomyocytes During Spheroid Formation" is an authentic work done by Ms. Aiswarya Sambasivan (Reg. No. 22012338) under my supervision and guidance of Dr. Anil Kumar PR, Scientist G and In-Charge, Division of Tissue Culture, Department of Applied Biology, Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram for the partial fulfillment for the Degree of Master of Science in Biotechnology, St. Berchmans College, Changanacherry and internal supervision of Ms. Shija Jacob, Assistant Professor, St. Berchmans College, Changanacherry.

Date: 10.10.2022

Place: Changanacherry

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Examiners:



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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled “**BIOCOMPATIBILITY OF PVDF SYNTHETIC SCAFFOLD CONTAINING CELLULOSE NANOFIBER AND NICKEL FERRITE NANOPARTICLE INTENDED FOR TISSUE ENGINEERING**” submitted by **Ms.ANJU JOSE**, in partial fulfillment of the degree of master of science in biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. Yogesh B Dalvi** and **Dr. Nebu George Thomas**, scientists, pushpagiri Institute of medical science and Research centre, Thirvalla and internal supervision of **Mrs.Tessmol P George**, Assistant Professor, St. Berchmans college, Changanassery.

Place: Changanassery

Mrs. TESSMOL P GEORGE

Date: 10-10-2022

Teacher in charge

Examiners:

MR. SHOBIN VARGHESE

Head of the Department



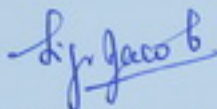
DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation, submitted by **Ms. JOVITTA ROY**, in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. ANUPAM BASU**, Associate Director of NIBMG, Kalyani during the period of her studies at St. Berchmans College, Changanacherry and internal supervision of **Dr. LIJY JACOB**, Assistant Professor of St. Berchmans College, Changanacherry.

Place: Changanacherry

Date: 10.10.2022



Dr. LIJY JACOB

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Mr. SHOBIN VARGHESE

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CERTIFICATE

This is to certify that this dissertation entitled "Cloning and characterization of a Ferulate 5-hydroxylase (F5H) gene homologue from *Piper nigrum L.*" submitted by Aliya Liyab, in partial fulfilment of the degree of master of science in biotechnology, is an authentic record of work done by her under the supervision and guidance of Dr. S Manjula, Scientist F, Plant Disease Biology, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram during the period of her study in the St. Berchmans College, Changanassery and internal supervision of Dr Lijy Jacob, Assistant Professor, St. Berchmans college, Changanassery.

Place: Changanassery

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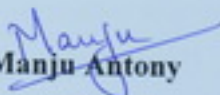
DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "ASSESSMENT OF GENETIC DIVERSITY IN CASHEW (*Anacardium occidentale* L.) USING NOVEL MICROSATELLITE MARKERS" submitted by **Mr. GOKUL MOHAN**, in partial fulfillment of the degree of Master of Science in Biotechnology, is a record of original work done by him under the supervision and guidance of **Dr. Siddanna Savadi**, Scientist (Biotechnology), ICAR-Directorate of Cashew Research, Puttur, Karnataka and internal supervision of **Dr. Manju Antony** during the period of his study in the Department of Biotechnology, St. Berchmans College, Changanassery.

Place: Changanassery

Date: 10/10/2022


Dr. Manju Antony

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Mr. Shobin Varghese

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CERTIFICATE

This is to certify that this dissertation entitled "SCREENING OF NOVEL SIMPLE SEQUENCE REPEAT MARKERS FOR POLYMORPHISM AND GENETIC DIVERSITY ANALYSIS IN CASHEW (*Anacardium occidentale* L.)" submitted by Ms. MANJU MANUEL, in partial fulfillment of the degree of Master of Science (M.Sc.) in Biotechnology, is a record of original work done by her under the supervision and guidance of Dr. Siddanna Savadi, Scientist (Biotechnology), ICAR - Directorate of Cashew Research, Puttur, Karnataka and internal supervision of Dr. Lijy Jacob during the period of her study in the Department of Biotechnology, St. Berchmans College, Changanassery.

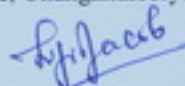
Place: Changanassery

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2.



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CERTIFICATE

This is to certify that this dissertation entitled "EXPRESSION ANALYSIS OF DEFENSE RELATED GENES IN COMPATIBLE AND INCOMPATIBLE ZINGIBER-PYTHIUM PATHOSYSTEM." Submitted by **Keerthi S**, in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. George Thomas**, Scientist G, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, during the period of her study in the St. Berchmans College, Changanassery and internal supervision of **Dr. Reshma John**, Assistant Professor, St. Berchmans College, Changanassery.

Place: Changanassery

Date: 10-10-2022

for Mary
Dr. RESHMA JOHN
Teacher in Charge

Examiners:

[Signature]
10/10/2022

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MR. SHOBIN VARGHESE
Head of the Department



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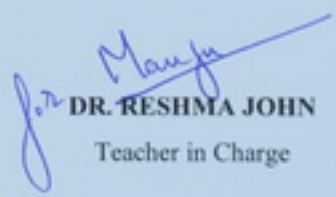
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This is to certify that this dissertation entitled "Standardisation of Virus Induced Gene Silencing technique in *Zingiber sp.*" submitted by **Sabira P S** in partial fulfilment of the Degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. George Thomas**, Scientist G, Plant Disease Biology, **Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram** during the period of her study in the St. Berchmans College, Changanacherry and internal supervision of **Dr Reshma John**, Assistant Professor, St. Berchmans College, Changanacherry.

Place: Changanacherry

Date: 10/10/2022


DR. RESHMA JOHN
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This is to certify that this dissertation entitled "Mechanosensitive Piezo 1 ion channel in the pathogenesis of varicose veins" submitted by **Suvarna Sankar C M**, in partial fulfilment of the degree of **MASTER OF SCIENCE IN BIOTECHNOLOGY**, is an authentic record of work done by her under the supervision and guidance of **Dr. Sumi S**, Cardiovascular Disease and Diabetes Biology Laboratory, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram during the period of her study in the St. Berchmans College, Changanassery and internal supervision of Mr. Shobin Varghese, Head of the Department of Biotechnology, St. Berchmans College, Changanassery.

Place:- Changanassery

Date:- 10/10/2022



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MR. SHOBIN VARGHESE

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This is to certify that this dissertation entitled "Effect of calcium chloride in the production of embryogenic callus and determination of its embryogenic nature by cytochemical and molecular markers in *Hevea brasiliensis*" submitted by Sandra Eliza George, in partial fulfilment of the degree of master of science in biotechnology, is an authentic record of work done by her under the supervision and guidance of Dr. P. Kumari Jayasree, Scientist D, Biotechnology Division, Rubber Research Institute of India, Kottayam during the period of her study in the St. Berchmans college, Changanassery and internal supervision of Dr. Manju Antony, Assistant Professor, St. Berchmans college, Changanassery.

Place: Changanassery

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DR. MANJU ANTONY

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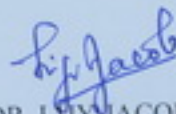
This is to certify that this dissertation entitled "**PHYSIOCHEMICAL CHARACTERIZATION OF CHITOSAN BASED DRUG DELIVERY SYSTEM**" submitted by **Krishnapriya** in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **DR. REKHA M R**, Scientist F, Sree Chitra Institute of Medical Sciences and Technology, Thiruvananthapuram, during the period of her study in the St. Berchmans college, Changanassery and under the internal supervision of **Dr. Lijy Jacob**, Assistant Professor, St. Berchmans college, Changanassery.

Place: Changanassery

Date: 10-10-2022


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DR. LIJY JACOB

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CERTIFICATE

This is to certify that this dissertation entitled “ Identification, Extraction and Evaluation of bioactives from *Picrorhiza kurroa* (Katuka Rohini) for the prevention of NAFLD by *in vitro*” submitted by Ms. Pooja Gopi, in partial fulfillment of the degree of master of science in biotechnology, is an authentic record of work done by her under the supervision and guidance of Dr. B. PULLA REDDY, Senior Technical Officer(2), Department of Molecular Nutrition, CSIR-Central Food Technological Research Institute, Mysuru during the period of her study in the St. Berchmans college, Changanassery

Place: Changanassery

Date: 10/10/2022

Examiners:


10/10/2022



Mrs. TESSMOL P. GEORGE

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MR. SHOBIN VARGHESE

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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled **Evaluation of the Apoptotic Effect of *Camellia sinensis* Leaf Extract on MDA-T32 Thyroid Carcinoma Cell Line** submitted by **Ms. Aswathy Benny**, in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. Guruvayoorappan C**, Associate Professor, Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram, during the period of her study in the St. Berchmans College, Changanacherry and internal supervision of **Mrs. Tessmol P. George**, Assistant Professor, St. Berchmans College, Changanacherry.

Place: Changanacherry

Date: 10.10.2022

Examiners:



10/10/2022



Mrs. TESSMOL P. GEORGE

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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "CARDAMONIN INHIBITS PANCREATIC CANCER CELL PROLIFERATION: AN In vitro STUDY" submitted by Neenumol Xavier, in partial fulfillment of the Degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of Dr. Harikumar KB, Scientist E-II, cancer research, Rajiv Gandhi Centre For Biotechnology, Thiruvananthapuram during the period of her study in the St Berchmans college, Changanacherry, and internal supervision of Ms. Shija Jacob, Assistant Professor, St Berchmans college Changanacherry.

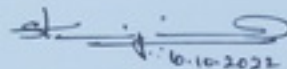
Place: Changanacherry

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MS. SHIJA JACOB



MR. SHOBIN VARGHESE

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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "Dietary fats of plant and animal origin differentially modulates regulators of lipid metabolism in Balb/ c mice" submitted by **Nowfiya Nazar**, in partial fulfilment of the degree of master of science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. Abdul Jaleel K.A.**, Scientist G at Diabetes Biology Laboratory, Division of Cardiovascular Disease and Diabetes Biology, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Kerala during the period of her study in the St. Berchmans college, Changanassery and internal supervision of **Dr. Reshma John**, Assistant Professor, St. Berchmans college, Changanassery.


DR. ABDUL JALEEL
(Rajiv Gandhi Centre for Biotechnology)


Examiners:



10/10/2022

Place: Changanaserry

Date: 10-10-2022




DR. RESHMA JOHN
Teacher in charge


MR. SHOBIN VARGHESE
Head of the Department



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DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "EXPRESSION DYNAMICS OF RP GENE REGULATORS *Ihh1*, *Crfl* AND *Fhll* IN RESPONSE TO METHIONINE" submitted by Ms. Anjitha S. in partial fulfilment of the degree of Master of Science in Biotechnology, is an authentic record of work done by her under the supervision and guidance of Dr. Rajalakshmi Srinivasan, DST-INSPIRE Faculty Fellow, Institute of Bioinformatics and Applied Biotechnology, Bengaluru and internal supervision of Mr. Shobin Varghese during the period of her study in the Department of Biotechnology, St. Berchmans College, Changanassery.

Mr. SHOBIN VARGHESE
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Place: Changanassery

Date: 10/10/2022



Mr. SHOBIN VARGHESE
Head of the Department

10/10/2022



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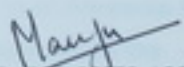
DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE

This is to certify that this dissertation entitled "**Identification, extraction and efficacy of bioactives from *Swertia chirata* (Kiratatikta) for the prevention of NAFLD by *invitro***" submitted by **Ms. Athila Akbar**, in partial fulfilment of the degree of master of science in biotechnology, is an authentic record of work done by her under the supervision and guidance of **Dr. B. PULLA REDDY**, Senior Technical Officer(2), Department of Molecular Nutrition, CSIR-Central Food Technological Research Institute, Mysuru during the period of her study in the **St. Berchmans college, Changanassery** and internal supervision of **Dr. Manju Antony**, Assistant Professor, **St. Berchmans college, Changanassery**.

Place: Changanassery

Date: 19/10/2022.


DR. MANJU ANTONY

Teacher in charge

Examiners:


19/10/2022


MR. SHOBIN VARGHESE

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