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

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "*Extraction of chitin from seafood waste and its antimicrobial activity on food borne pathogen*" the record of the bonafide work carried out by Ms. Joby Rose Jacob, in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University under the supervision of Mrs **Ramlath Beegam L**, Assistant professor Department of Microbiology & Biochemistry, St Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfillment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double core).

Dr Jiji Jacob

Head of the department

Department of Microbiology and Biochemistry

St. Berchmans College, Changanacherry

Department of
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Changanassery



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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “**Insecticidal property of jackfruit peel extract against rice weevils**” is the record of the bona fide work carried out by Ms. Anupama Sebastian in the Department of Microbiology & Biochemistry, St. Berchman’s College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Riya Alex**, Assistant professor Department of Microbiology & Biochemistry, St. Berchman’s College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Fasdy

Dr Jiji Jacob

Head of the Department

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled . “Antibacterial Effect Of Crab Shell Extract On Human Pathogen” is the record of the bona fide work carried out by Mr Aadhil Hussain in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Dr Jiji Jacob**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Dr Jiji Jacob

Head of the Department

Department of Microbiology & Biochemistry

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CHANGANASSERY, KERALA

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Optimization of fermentation conditions of bioethanol production by Yeast isolated from fruit waste using waste cassava starch**" is the record of the bona fide work carried out by Mr. Alan Thomas in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Dr. Jiji Jacob**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Isolation and identification of endophytic bacteria from roots and leaves of *Plecthranthus amboinicus* and detection of nitrogen fixing endophytes.**" the record of the bona fide work carried out by Ms.Aathira Pratap ,in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, under my supervision and guidance and is submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core). I further certify that the work is original and data presented in the dissertation are based on her own observations and no part of this dissertation has formed the basis for the award of any degree earlier.

DR. JIJ JACOB

HOD

Department of Microbiology & Biochemistry

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Molecular Characterization And Antibiotic Resistance Profile Of *Klebsiella Pneumoniae* Isolated From different Clinical Sources**" is the record of the bona fide work carried out by Ms. Rose Mary Antony in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Aleena Elizebatitus**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

For,

Dr Jiji Jacob

Head of the Department

Department of Microbiology & Biochemistry

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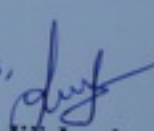
DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Micobiological Quality Assessment Of Raw and Pasteurized Milk**" is the record of the bonafide work carried out by Ms. Maria Joseph in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Ramlath Beegam L.**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

For,


Dr Jiji Jacob

Head of the Department

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Detection of biofilm production and its impact on antibiotic resistance profile of bacterial isolates from chronic wound infections**" is the record of the bonafide work carried out by **Ms. Irene Maria Joe** in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Anju Susan Joy**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfillment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Dr Jiji Jacob

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “**Evaluation of the antibacterial activity of commonly used alcohol based hand sanitizers and formulation of an effective herbal sanitizer**” is the record of the bona fide work carried out by **Ms. Emy John Maria** in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, Mahatma Gandhi University, under the supervision of **Mrs. Anju Susan Joy**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Zoology and Industrial Microbiology (Double Core).

Dr Jiji Jacob

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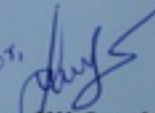
CHANGANASSERY, KERALA

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "*Profiling of multidrug-resistant bacterial isolates present in chicken meat*" is the record of the bonafide work carried out by Mr. Alan J Scaria in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Dr. Vincy Mary Varghese**, Assistant Professor, Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfillment of the requirements for the award of the degree of Bachelors of Science in Zoology and Industrial Microbiology (Double Core).

For,

Dr. Jiji Jacob

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “Antimicrobial property of grape peel extract against antibiotic resistant wound pathogen” is the record of the bona fide work carried out by Ms. Sinta Sunil in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Arsha Johns**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfillment of the requirements for the award of the degree of Bachelors of Science in Zoology and Industrial Microbiology (Double Core).

Dr Jiji Jacob

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “**Extraction, Purification And Characterization Of Pigment Producing Bacteria From Soil**” is the record of the bonafide work carried out by Ms. Sreya Treasa Skariah, in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, Mahatma Gandhi University, under the supervision of **Mrs. Arsha Johns**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Dr Jiji Jacob

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "ANALYSIS OF ANTIMICROBIAL EFFECTS OF ESSENTIAL OILS FROM CITRUS PEELS AGAINST FOOD BORNE PATHOGENS" is the record of the bona fide work carried out by Mr. Nevin Lijo, in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, Mahatma Gandhi University, under the supervision of Mrs. Shema Jacob, Assistant Professor, Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Dr. Jiji Jacob

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “**Isolation of amyolytic bacteria and it’s detergent activity**” is the record of the bona fide work carried out by Ms. Nancymol Baiju in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Shema Jacob**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

For,

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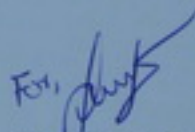
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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled **“Extraction of piperine from black pepper and its antimicrobial properties on respiratory pathogen”** is the record of the bona fide work carried out by Ms. Melna Mariam George in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Ramlath Beegam.L.**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

For, 

Dr Jiji Jacob

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Antibacterial activity of Nutmeg, Clove and Cinnamon on respiratory pathogen**" the record of the bona fide work carried out by Ms. Anna Joy, in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, under my supervision and guidance and is submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core). I further certify that the work is original and data presented in the dissertation are based on her own observations and no part of this dissertation has formed the basis for the award of any degree earlier.

Mrs. Riya Alex

Assistant professor

Department of Microbiology & Biochemistry

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Changanassery, Kottayam, Kerala, India-686101

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled “**Antibacterial Activity of Pineapple Peel Extract And Calcium Hydroxide Paste Against Tooth Decaying Organisms** ” is the record of the bona fide work carried out by Mr. Tojo George, in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, Mahatma Gandhi University, under the supervision of Mrs.Anju Yohannan, Assistant Professor, Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanassery, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

Dr.Jiji Jacob

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**Isolation of Siderophore producing bacteria and it's application**" is the record of the bona fide work carried out by Ms. Aiswarya Lekshmi S in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Dr. Sweety K Ennacheril**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).

For: 

Dr Jiji Jacob

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DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY



CERTIFICATE

This is to certify that the dissertation entitled "**POTENTIAL ANTIBACTERIAL ACTIVITY OF PARTIALLY PURIFIED BROMELAIN FROM PINEAPPLE CORE EXTRACTS AGAINST FOOD PATHOGEN**" is the record of the bona fide work carried out by Ms. Anna Joy in the Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, Mahatma Gandhi University, under the supervision of **Mrs. Aleena Elizeba Titus**, Assistant professor Department of Microbiology & Biochemistry, St. Berchmans College (Autonomous), Changanacherry, and submitted in partial fulfilment of the requirements for the award of the degree of Bachelors of Science in Industrial Microbiology and Zoology (Double Core).


Dr Jiji Jacob

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