

**A comparative study of efficiency of Ultraviolet radiation,
Ultrafiltration and Reverse osmosis water treatment methods on
elimination of coliform bacteria in drinking water.**

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the
requirement of award for the degree of Bachelor of Science in microbiology 2022-2023

By

SHANA KADAR CP

(EMAUSMB029)



DEPARTMENT OF MICROBIOLOGY

EMEA COLLEGE OF ARTS AND SCIENCE, KONDOTTY

Affiliated to The University of Calicut

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P.O.Kumminiparamba-673638

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CERTIFICATE

This is to certify that JUMANA HASEEN P (EMAUSMBO47), ASMATHUL NITASHA (EMAUSMBO38), SHANA KADAR CP (EMAUSMBO29), BASILA AK (EMAUSMBO40), SAIMA YOOSUF KOLLASSERY (EMAUSMBO14), AYISHA RASHNA A (EMAUSMBO22), HAFA JABIN T (EMAUSMB025), NAISHANA KC (EMAUSMBO09), a bonafide students of EMEA College of Arts & Science, Kondotty, has done the project entitled **“A COMPARATIVE STUDY OF EFFICIENCY OF ULTRAVIOLET RADIATION, REVERSE OSMOSIS AND ULTRAFILTRATION WATER TREATMENT METHODS ON ELIMINATION OF COLIFORM BACTERIA IN DRINKING WATER.”** submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of **Mr. Jaseel OC** of Ecosafe Envirotech water testing lab during the academic year 2022-2023.

Dr. Shiji Thomas

Head of the Department

Department of Microbiology

EMEA College of arts and science,

Kondotty

External examiner

- 1.
- 2.

**BIOCONTROL POTENTIAL OF BACILLUS SPECIES ISOLATED FROM
SOIL SAMPLES AGAINST MOSQUITO LARVAE**

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement
of award for the degree of Bachelor of Science in microbiology 2022-2023

By

Shamla.M

(EMAUSMB048)



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This is to certify that MUHAMMED MUSTHAFA SAHAL AK (EMAUSMB033), AMRUTHA.K (EMAUSMB035), SHAMLA.M (EMAUSMB048), AMANA.VK (EMAUSMB001), ARATHI.P (EMAUSMB020), a bonafide students of EMEA College of Arts & Science, Kondotty, has done the project entitled "BIOCONTROL POTENTIAL OF BACILLUS SPECIES ISOLATED FROM SOIL SAMPLES AGAINST MOSQUITO LARVAE" submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of DR.SUDHA S of Merit biolabs,Kochi during the academic year 2022-2023.

Dr. Shiji Thomas

Head of the Department

Department of Microbiology

EMEA College of arts and science,

Kondotty

External examiner

- 1.
- 2.

CHOCOLATE STAIN REMOVAL EFFICACY OF AMYLASE EXTRACTED FROM BACTERIA

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement of award
for the degree of Bachelor of Science in microbiology 2022-2023

By
SHIDAN K

(EMAUSMB052)



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This is to certify that AYSHA MINU.K (EMAUSMB002), RIFANA.NK (EMAUSMB011), RUSDA FEMI.P (EMAUSMB028), HANEENA.K (EMAUSMB007), SHIDAN.K (EMAUSMB052), a bonafide students of EMEA College of Arts & Science, Kondotty, has done the project entitled "**CHOCOLATE STAIN REMOVAL EFFICACY OF AMYLASE EXTRACTED FROM BACTERIA**" submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of **DR.SUDHA S** of Merit biolabs,Kochi during the academic year 2022-2023.

Dr. Shiji Thomas

Head of the Department

Department of Microbiology

EMEA College of arts and science,

Kondotty

External examiner

1.

2.

SCREENING OF PLANT GROWTH PROMOTING TRAITS OF ISOLATED ENDOPHYTES

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement
of award for the degree of Bachelor of Science in microbiology 2022-2023

By

HIBA V

(EMAUSMB046)



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This is to certify that Akhila Kancholipadikkal (EMAUSMB018) Aiswarya.M (EMAUSMB034) Fathima Rinsha.PT (EMAUSMB041), Fathima Safa Erukulangara (EMAUSMB042), Fida Abdul Rasheed (EMAUSMB044), Hiba Shirin (EMAUSMB008), Hiba .V (EMAUSMB046) and Rifa Nazer.K (EMAUSMB012) bona-fide students of EMEA college of Arts & Science Kondotty, has done the project work entitled “**Screening for plant growth promoting traits of isolated endophytes** ” Submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of Dr.Akhilesh .VP ,Amplicon biolabs kinfra, kakkanchery during the academic year 2022-2023.

Dr. Shiji Thomas

Head Of the Department

Department of Microbiology

EMEA College of arts and science,

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External examiner

- 1.
- 2.

**BIOSYNTHESIS OF SILVER NANOPARTICLE USING
Plectranthus amboinicus (Panikoorkka) AND IT'S ACTIVITY
AGAINST WOUND PATHOGEN**

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement
of award for the degree of Bachelor of Science in microbiology 2022-2023

By

Rushda.V

(EMAUSMB013)



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This is to certify that RUSHDA.V(EMAUSMB013), HADHIYA AREEKADAN (EMAUSMB045), SHIFNA.K(EMAUSMB030), ABDUL HASEEB.K(EMAUSMB032), APARNA.P. SASI (EMAUSMB037), FATHIMA SHAHANA.K.T(EMAUSMB006) a bonafide students of EMEA College of arts and science, Kondotty has done the project entitled “**Biosynthesis of silver nanoparticles using *Plectranthus amboinicus* (panikoorka) leaf extract and its activity against wound pathogen**” Submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of Dr.SUDHA S of Merit biolabs,Kochi during the academic year 2022-2023.

Dr. Shiji Thomas

Head Of the Department

Department of Microbiology

**EMEA College of arts and science,
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External examiner

- 1.
- 2.

ISOLATION OF CELLULOLYTIC BACTERIA FOUND IN SUGARCANE BAGASSE

Project work submitted to UNIVERSITY OF CALICUT in partial
fulfilment of the requirement of award for the degree of Bachelor of
Science in microbiology 2022-23



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This is to certify that Girithar Mahaadhevan (EMAUSMB053), Athulya. Mk (EMAUSMB021), Aneesha.C. (EMAUSMB036), Aparna.Kp (EMAUSMB019), Mursheedha chonari (EMAUSMB026), Fathimathul mufeeda.p (EMAUSMB043), Smrithi (EMAUSMB049), Aswathi.C (EMAUSMB039) bonafide students of EMEA College of Arts & Science, Kondotty, has done the project entitled “ISOLATION OF EFFICIENT CELLULOLYTIC BACTERIA FOUND IN SUGARCANE BAGASSE” submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of DR.AKHILESH of amplicon biolabs, Kinfra during the academic year 2022-2023.

Dr. Shiji Thomas
Head of the Department
Department of Microbiology
EMEA College of arts and science,
Kondotty

External examiner

- 1.
- 2.

**PARTIAL CHARACTERIZATION OF PYOCYANIN FROM
PSEUDOMONAS AERUGINOSA, AND ANALYSIS OF ITS
ANTIMICROBIAL POTENCY AGAINST FOOD PATHOGENS**

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement
of award for the degree of Bachelor of Science in microbiology 2022-2023

By

**SUMAYYA
(EMAUSMB031)**



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This is to certify that SUMAYYA (EMAUSMB031), BINSHA SHARIN KK (EMAUSMB003), FATHIMA SHABEEHA PM (EMAUSMB024), DEEPIKA (EMAUSMB023), FARSHIDA NOURIN K(EMAUSMB004), MUHAMMAD HISHAM LATHEEF KP (EMAUSMB017) a bona-fide students of EMEA College of arts and science , Kondotty has done the project entitled "PARTIAL CHARACTERISATION OF PYOCYANIN FROM *PSEUDOMONAS AERUGINOSA*, AND ANALYSIS OF ITS ANTIMICROBIAL POTENCY AGAINST FOOD PATHOGENS" Submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of Dr. Sudha S of Merit Biolabs, Kochi during the academic year 2022-2023.

Dr. SHIJI THOMAS

Head Of the Department

Department of Microbiology

EMEA College of arts and science,

Kondotty

External examiner

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2.

**ISOLATION OF PATHOGENIC BACTERIA FROM KITCHEN
SPONGES AND ANALYSIS OF ANTIMICROBIAL ACTIVITY
OF DISH WASHING AGENTS**

Project work submitted to UNIVERSITY OF CALICUT in partial fulfillment of the requirement
of award for the degree of Bachelor of Science in microbiology 2022-2023

By

**RIMSHINA KP
(EMAUSMB027)**



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This is to certify that FATHIMA HIDA NP (EMAUSMB005), SHANA JABIN P(EMAUSMB015), NOORA CK(EMAUSMB010), MOHAMMED ADIF PK (EMAUSMB016), RIMSHINA KP(EMAUSMB027), a bonafide student of EMEA College of Arts & Science, Kondotty, has done the project entitled “**ISOLATION OF PATHOGENIC BACTERIA FROM KITCHEN SPONGES AND ANALYSIS OF ANTIMICROBIAL ACTIVITY OF DISHWASHING AGENTS**” submitted to The Calicut University in partial fulfillment of the requirement for the award of Bachelor of Science in Microbiology under the guidance and supervision of **DR.SUDHA S** of Merit biolabs,Kochi during the academic year 2022-2023.

Dr. Shiji Thomas

Head of the Department

Department of Microbiology

EMEA College of arts and science,

Kondotty

External examiner

1.

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