



THE ASSAM  
ROYAL GLOBAL UNIVERSITY  
GUWAHATI

# CRITERION 1

## CURRICULAR ASPECTS

METRIC NO.  
1.3.3

### B. Sc. (H) Biotechnology

Field Work / Research Project / Internship



A study on

**Antimicrobial activity of lemon peel on E. Coli**

A report submitted in partial fulfilment of the requirements for the Bachelor of Science in  
Biotechnology.

Offered by  
Royal School of Bio-Sciences

Submitted by:  
Shivangi Mishra (192151026)

Registration no. 1190584

Academic project guide:

Dr. Rupesh Gupta  
Associate Professor, Department of Biotechnology  
The Assam Royal Global University

*Examined*

*AP*  
*12/7/23*

*Forwarded*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

**ISOLATION, IDENTIFICATION AND CHARACTERIZATION OF BACTERIA  
FROM THE EFFLUENT WATER OF DHANBAD COAL MINES, JHARKHAND.**

A Project Report submitted

in partial fulfilment of the requirements for the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

Submitted by

**ASIFA RAHMAN (192151003)**

**L. MANJU SINGHA (192151012)**

**SWASWATI BORPUZARI (192151029)**

Under the guidance of

**Dr. RUPESH KUMAR**

Assistant professor

Department of Biotechnology

The Assam Royal Global University

Betkuchi, Guwahati - 781035

*Approved*  
*B*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

*Examined*  
*OPP*  
*12/7/23*



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

Department of Biotechnology

Royal School of Biosciences

Dr. Rupesh Kumar

Ph: +91-9508652508

Assistant Professor

Email: [rupesh.mbbt08@gmail.com](mailto:rupesh.mbbt08@gmail.com)

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### CERTIFICATE

This is certify that **Ms. Asifa Rahman** (Roll no. 192151003), **Ms. L. Manju Singha** (Roll no. 192151012), and **Ms. Swaswati Borpuzari** (Roll no. 192151029), students of **B.Sc.** final semester, **Department of Biotechnology** had undergone their project work entitled **“Isolation, identification and characterization of bacteria from the effluent water of Dhanbad coal mines, Jharkhand”**, under my supervision and guidance towards the partial fulfilment of the award of the degree of B.Sc. in Biotechnology under the Assam Royal Global University, Guwahati

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

Dr. Rupesh Kumar

(Supervisor)

Office address: The Assam Royal Global University, Ghy-781035

**Immunoinformatics and Bioinformatics-guided Approach towards the design of a multi-epitope vaccine against Norovirus.**

A Report submitted in partial fulfillment of the requirements for the degree of  
Bachelor of Science in Biotechnology  
offered by  
Royal School of Biosciences

Submitted by:

Name- Pallabi Roy  
Roll no.: 202151024  
Registration no.-:1200612

Name- Sunny Sen  
Roll No:202151035  
Registration no:1200623

Academic project guide:

Dr. Bhaskarjyoti Gogoi  
Assistant Professor  
Department of Biotechnology  
The Assam Royal Global University, Guwahati-781035

*main*  
*app*  
*12/7/23*

*Forwarded*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

## CERTIFICATE FROM THE SUPERVISOR



**ROYAL GLOBAL UNIVERSITY**  
GUWAHATI

**Dr. Bhaskarjyoti Gogoi, Ph.D., PGDBI**

Assistant Professor  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Ph. No: 9854346208 (M)  
Email ID: bgogoi1@rgu.ac

This is to certify that the work presented in the thesis entitled "*Immunoinformatics and Bioinformatics-guided Approach towards the design of a multi-epitope vaccine against Norovirus*" submitted to the department of biotechnology, School of Biosciences, The Assam Royal Global University in partial fulfillment for the award of the degree of Bachelor of Science in Biotechnology is a record of project work carried out by Ms. Pallabi Roy (Roll No of 202151024) and Mr. Sunny Sen (Roll No. 202151035) under my supervision. They have fulfilled the requirements of the rules and regulations related to the nature and prescribed period of research at The Assam Royal Global University.

All help received from various sources have been duly acknowledged.

No part of this thesis has been submitted elsewhere for award of any degree.

Date 20/6/23

Bhaskar

(Bhaskarjyoti Gogoi)

Approved

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

Address: Betkuchi, (Opposite to Tirupati Balaji Temple), Guwahati-781035, Assam (India)



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

A Study On

Immunoinformatics and Bioinformatics-guided Approach towards the design  
of a multi-epitope vaccine against

"Marburg virus"

(Marburg virus disease is a highly virulent disease  
that causes haemorrhagic fever)

A DISSERTATION SUBMITTED TO THE DEPARTMENT OF BIOTECHNOLOGY, THE ASSAM ROYAL  
GLOBAL UNIVERSITY FOR THE PARTIAL FULFILMENT OF THE DEGREE OF BACHELORS OF SCIENCE IN  
BIOTECHNOLOGY


Offered by

ROYAL SCHOOL OF BIO-SCIENCES

Submitted by


Name: Antariksh hazarika  
Roll no : 202151005

Name: George lalramjao sail  
Roll no : 202151017

  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

Name: Bhargavh hazarika  
Roll no : 202151009

Name: Ritusmita Deori  
Roll no : 202151028

  
12/07/23

A study on

**"Evaluation of the antioxidant and phytochemical parameter of three  
different plant species from Assam"**

A Report submitted in partial fulfilment of the requirements  
for the degree of Bachelor of Science in Biotechnology

Offered by

ROYAL SCHOOL OF BIO-SCIENCES

Submitted by:

*Jeba Sania*  
Name: Jeba Sania

Registration No.: 1200606

Roll No.: 202151018

*Marjo Ete*  
Name: Marjo Ete

Registration No.: 1200611

Roll No.: 202151023

*Priyank Barman*  
Name: Priyank Barman

Registration No.: 1200614

Roll No.: 202151026

*Pratyush Borah*  
Name: Pratyush Borah

Registration No.: 1200613

Roll No.: 202151025

*Saranga Deka*  
Name: Saranga Deka

Registration No.: 1200619

Roll No.: 202151031

*Sukumar Baishya*  
Name: Sukumar Baishya

Registration No.: 1200622

Roll No.: 202151034

*Ranjan Kalita*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Gty-35, NH-37, Assam

Academic project guide:

**Dr Ranjan Dutta Kalita**

Associate Professor and Head of the Department.

Department of Biotechnology.

*Examined*  
*OP*  
*12/1/23*





ROYAL GLOBAL UNIVERSITY

Royal School of Biosciences

Department of Biotechnology

Dr. Ranjan Dutta Kalita.

Email: rdkalita@rgu.ac


Associate Professor and Head of the Department.

Ph: 191-8876861445

*To whom it may concern*

This is to certify that **Miss. Jeba Sanla** (Roll No. 202151018), **Mr. Marjo Ete** (Roll No. 202151023), **Mr. Priyank Barman** (Roll No. 202151025), **Mr. Pratyush Borah** (202151026), **Mr. Saranga Deka** (202151031) and **Mr. Sukumar Baishya** (202151034) of **B.Sc. Biotechnology** under the Department of Biotechnology, The Assam Royal Global University, Guwahati carried out their final semester dissertation work entitled "*Evaluation of the antioxidant and phytochemical parameter of three different plant species from Assam*" for the partial fulfillment of the award of the degree of Bachelor of Science in Biotechnology under The Assam Royal Global University, Guwahati. Their behavior was found satisfactory during the dissertation work.

I wish them all the very best in their future endeavors.

  
(Dr. Ranjan Dutta Kalita)  
Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

  
Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

Address: Department of Biotechnology, The Assam Royal Global University,

Guwahati-781035, India

A study on  
"Production of commercial grade fruit beer from Citrus limon"

A Report submitted in partial fulfilment of the requirements for the degree of  
Bachelor of Science in Biotechnology


Offered by  
ROYAL SCHOOL OF BIO-SCIENCES

Submitted by:

Name: Abdul Mustakim  
Registration No.: 1200589  
Roll No.: 202151001

Name: Chahek Agarwala  
Registration No.: 1200600  
Roll No.: 202151012

Name: Tryambak Thakuria  
Registration No.: 1200625  
Roll No.: 202151037

  
Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Bettkuchi, Ghy-35, NH-37, Assam

Academic project guide:  
Dr. Debajit Borah  
Associate Professor  
Department of Biotechnology

  
12/7/25



THE ASSAM

ROYAL GLOBAL UNIVERSITY

Royal School of Biosciences  
Department of Biotechnology

Dr. Debajit Borah  
Associate Professor

email: dborah89@gmail.com  
dborah@rgu.ac  
Ph: +91-9706394994

Date: 12.06.2023

*To Whom It May Concern*

This is to certify that **Mr. Abdul Mustakim** (Roll No. 202151001), **Ms. Chahek Agarwala** (Roll No. 202151012), and **Mr. Tryambak Thakuria** (Roll No. 202151037) of **B.Sc. Biotechnology** under the Department of Biotechnology, The Assam Royal Global University, Guwahati carried out their final semester dissertation work entitled "*Production of commercial grade fruit beer from Citrus limon*" for the partial fulfillment of the award of the degree of Bachelor of Science in Biotechnology under The Assam Royal Global University, Guwahati. Their behavior was found satisfactory during the dissertation work.

I wish them all the very best of their future endeavors.

*Dr. Debajit Borah*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

*Dr. Debajit Borah*

(Dr. Debajit Borah)

Dr. Debajit Borah  
Associate Professor  
Department of Biotechnology  
Assam Royal Global University  
Guwahati-781035, Assam

Address: Department of Biotechnology, The Assam Royal Global University, Guwahati-781035, India

A study on  
"Production of commercial grade beer from the extract of Zingiber officinale"

A Report submitted in partial fulfilment of the requirements for the degree of  
Bachelor of Science in Biotechnology

Offered by  
ROYAL SCHOOL OF BIO-SCIENCES

Submitted by:

Name: Akanksha Sarmah  
Registration No.: 1200590  
Roll No.: 202151002

Name: Dhritismita Malakar  
Registration No.: 1200601  
Roll No.: 202151013

Name: Madhusmita Baruah  
Registration No.: 1200610  
Roll No.: 202151022

Name: Smaily Dutta  
Registration No.: 1200620  
Roll No.: 202151032

*Approved*  
B  
Head of the Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Bettuchi, Ghy-35, NH-37, Assam

**ACADEMIC PROJECT GUIDE:**  
**DR. DEBAJIT BORAH**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF BIOTECHNOLOGY**

*Examined*  
AP  
14/7/23



THE ASSAM

ROYAL GLOBAL UNIVERSITY

Royal School of Biosciences  
Department of Biotechnology

Dr. Debajit Borah  
Associate Professor

email: dborah89@gmail.com  
dborah@rgu.ac  
Ph: +91-9706394994

Date: 12.06.2023

### To Whom It May Concern

This is to certify that Ms. Akanksha Sarmah (Roll No. 202151002), Ms. Dhritismita Malakar (Roll No. 202151013), Ms. Madhusmita Baruah (Roll No. 202151013) and Ms. Smaily Dutta (202151032) of B.Sc. Biotechnology under the Department of Biotechnology, The Assam Royal Global University, Guwahati carried out their final semester dissertation work entitled "Production of commercial grade beer from extract of *Zingiber officinale*" for the partial fulfillment of the award of the degree of Bachelor of Science in Biotechnology under The Assam Royal Global University, Guwahati. Their behavior was found satisfactory during the dissertation work.

I wish them all the very best of their future endeavours.

*Dr. Debajit Borah*

Head of Department  
Department of Biotechnology  
Royal School of Biosciences  
The Assam Royal Global University  
Betkuchi, Ghy-35, NH-37, Assam

*Dr. Debajit Borah*

(Debajit Borah)

Dr. Debajit Borah  
Associate Professor  
Department of Biotechnology  
Assam Royal Global University  
Guwahati-781035, Assam

Address: Department of Biotechnology, The Assam Royal Global University, Guwahati-781035, India