# Progress and Challenges of Developing a Vaccine for COVID-19

A Dissertation Report Submitted

for partial fulfilment of the degree of

B.Sc. Biotechnology (Hon's) VI Semester (2021-2022)

Submitted by

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## HERBAL COSMETICS

A Dissertation Report

Submitted

In partial fulfilment of the requirement for the award of the degree of Bachelor of science

In

Biotehcnology



By

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# PRODUCTION OF BIOFUELS FROM MICROALGAE

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Dessertation report

On

# PANCREATIC CANCER AND ITS TREATMENT THROUGH

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# MEDICINAL PROPERTIES OF CURCUMA LONGA

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### "HUMAN PAPILLOMAVIRUS (HPV) AND CERVICAL CANCERpathogenesis, epidemiology, challenges and vaccines"

A Dissertation Review Paper

Submitted

In partial fulfillment of the requirement for the award of the degree of Bachelor of Science

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# "HUMAN PAPILLOMAVIRUS (HPV) AND CERVICAL CANCERpathogenesis, epidemiology, challenges and vaccines"

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#### A

### DESERTATION REPORT

ON

"MICROBIAL DEGRADATION OF PLASTICS: SUSTAINABLE APPROACH TO TACKLING ENVIRONMENTAL THREATS"

Submitted in fulfillment of the requirement for degree of

BACHLEOR OF SCIENCE

IN

BIOTECHNOLOGY

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# "BIOCHEMICAL MECHANISM RELATED TO CORRELATION BETWEEN PHYSICAL ACTIVITY AND DEMENTIA"

A Dissertation Review Paper

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In partial fulfillment of the requirement for the award of the degree of

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In

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ru Ghasidas Vishwavidyalaya, Bilasour (C G )

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#### **Dissertation Project**

On

### "NANOPARTICLES FOR DRUG DELIVERY IN CANCER TREATMENT"

In partial fulfillment of the degree of UG

B.Sc. Biotechnology (Hon's) 6th semester

(2021-2022)

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#### "POLYCYSTIC KIDNEY DISEASE"

A Dissertation Report
Submitted
In partial fulfillment of the requirement for the award of the degree of
Bachelor of Science
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Biotechnology



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- 13. How to keep your kidneys healthy
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#### **Project Proposal**

On

# "PHYTOCHEMICAL STUDY OF CISSUS QUADRANGULARIS"

Submitted to

Department of Biotechnology

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)



**Submitted By** 

ROHIT KUMAR MISHRA Enrolment No. GGV/15/3144 Examination Roll no. 20402050

Under the Supervision of

Dr. RajatPratap Singh Assistant Professor Guru Ghasidas Vishwavidyalaya Koni (495009) Bilaspur (C.G.)

April 2022



#### Department of Biotechnology

#### Guru Ghasidas Vishwavidyalaya, Bilaspur, (C.G.)

(A Central University Established by the Central University Act,2009 No. 25 of 2009)

#### Certificate

This is to certify that Mr- Rohit Kumar Mishra.,, (Enrollment No. – GGV/15/3144, Roll No - 20402050) has submitted his project proposal entitled PHYTOCHEMICSAL STUDY OF CISSUS QUADRANGULARIS under the supervision of Dr. RajatPratap Singh toward partial fulfillment of degree of Master of Science in Biotechnology.

The project proposal is original and has not been submitted anywhere else for this or any other degree.

Date: 06/04/2022

Place: Bilaspur

Dr. RajatPratap Singh Supervisor Assistant Professor

Associate Professor & विभाग स्थित, जैव प्रौद्योगिकी विभाग Head, Department of Biotechnology गुरू घासीदास विश्वविद्यालय, बिलासपुर (छ.ग.)

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Introduction
Review Of Literature
Hypothesis-
Objective-
Material& Methods
Expected Outcome-
References

#### A

# DISSERTATION PROJECT ON "LIGNIN DEGRADATION THROUGH BACTERIA"

Submitted in partial fulfilment for award of the degree of Bachelor of Science in Biotechnology

Submitted By

Manish Kumar Ratnakar

B.Sc.-VISemester

Enrollment No. - GGV/19/3220



Under the supervision of **Dr. Madan Sonkar** 

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Session 2021-22



## GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.) (A CENTRAL UNIVERSITY ESTABLISHED BY CENTRAL UNIVERSITIES ACT 2009 NO.25 OF 2009)

#### FORWARDING CERTIFICATE

This is to certify that MANISH KUMAR RATNAKAR has carried out the project in the Department of Biotechnology, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.) on the topic "LIGNIN DEGRADATION THROUGH BACTERIA". This project is submitted for the requirements for the degree of B.Sc. in BIOTECHNOLOGY and forwarded to examiner for evolution. I wish him every success in his life.

Dr. REMARINATT

## Table of content

### Abstract

## Introduction

### Literature Review

- Lignin
- Purpose of lignin degradation
- Characteristics of bacterial lignin degradation
- Bacteria involved in lignin degradation
- Bacterial enzymes involved in lignin degradation
- Mechanism of lignin degradation
- Formation of bio products from lignin products
- Challenges in bacterial lignin degradation

#### Conclusion

### Reference



#### **GURU GHASIDAS VISHWAVIDYALAYA**

# GENOME EDITING TECHNOLOGY

A Project Dissertation
In partial fulfillment of the degree of int. UG B.Sc.
Biotechnology (hon's) VI semester
(2021-2022)

Under the mentorship of <u>Professor Dr. DK</u>

<u>Parihar sir</u>

Dept. of Biotechnology Guru Ghasidas Vishwavidyalaya Bilaspur CG



Department Of Biotechnology Guru Ghasidas Vishwavidyalaya (C.G.) (a central university established by central university act 2009 no. 25 of 2009) DK PARIHAR SIR

#### **CERTIFICATE**

This is to certify that the dissertation entitled "GENOME EDITING TECHNOLOGY" is an authentic record of review writing work done by SUSHMA GHRITLAHRE, a student of B.Sc. (hon's) Biotechnology VI semester, Department of Biotechnology of this university.

Date:-

Day:-

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#### **Dissertation Project**

On

# "APPLICATION OF MICROBIAL EXOPOLYSACCHARIDE AS THERAUPEUTIC AGENTS"

In Partial fulfillment of the degree of UG

B.sc. Biotechnology (Hon's) VI semester (2021-2022)

Submitted by

PRIYA SONI

Roll no. 19202235 Enrollment no.-GGV/19/3298

Under the supervision of

Mrs. ALKA EKKA

Assistant Professor
Department of Biotechnology
Guru Ghasidas Vishwavidyalaya
Bilaspur (C.G.)



Department of Biotechnology

Guru Ghasidas Vishwavidyalaya

Bilaspur (C.G.)

(2021-2022)

#### Department of Biotechnology

## Guru Ghasidas Vishwavidyalaya, Bilaspur, (C.G.) INDIA

## (A Central University established by Central University Act 2009 No.25 of 2009)

Dr. Renu Bhatt

Office-07752-260405

Associate Professor and Head

#### CERTIFICATE

This is to certify that the dissertation entitled "APPLICATION OF MICROBIAL EXOPOLYSACCHARIDE AS THERAPEUTIC AGENTS" is an authentic record of research work carried out by PRIYA SONI, a student UG Biotechnology (Hon's) VI Semester in the Department of Biotechnology of this University.

Date:

Place: Bilaspur

विभिनिधित, जैव प्रौद्धागिकी विभाग Head, Department of Biotechnology गुरू घासीदास विश्वविद्यालय, बिलासपुर (छ.ग.) ज्याप Ghasidas Vishwavidyalaya, Bilaspur (C G

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  - 3.8 Drug delivery system
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- 5 Conclusion

### **COVID-19 AND THEIR DRUG APPROCH**

Α

**Project Dissertation**In partial fulfilment of the degree of

UG B.Sc. Biotechnology (Hon's) VI semester (2021-22)

Submitted by MANISHA KOTHARE GGV/18/3138

18202029

Under the supervision of **Dr. DHANANJAY SHUKLA** 



Department of Biotechnology Guru Ghasidas Vishwavidyalaya Bilaspur (C.G) 2021-22



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Date: 1/16/1/ Place: Koni, Bilaspur

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विभागाध्येक्ष, जैव प्रौद्योगिकी विभाग Head, Department of Biotechnology गुरू घासीदास विश्वविद्यालय. बिलासपुर (छ.ग.) uru Ghasidas Vishwavidvalava, Bilasour (C.G.)

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#### A

#### DISSERTATION PROJECT ON

### "Waste Water Treatment and Electricity Generation by Microbial Fuel Cell (MFC)"

Submitted in partial fulfilment for award of the degree of Bachelor of Science in Biotechnology

Submitted By
Shubham Singh Rajput
B.Sc.-VI Semester
Enrollment No.- GGV/19/3381



Under the supervision of **Dr. Madan Sonkar** 

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Bilaspur, Chhattisgarh- 495009
Session 2021-22



## GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.) (A CENTRAL UNIVERSITY ESTABLISHED BY CENTRAL UNIVERSITIES ACT 2009 NO.25 OF 2009)

#### FORWARDING CERTIFICATE

This is to certify that SHUBHAM SINGH RAJPUT has carried out the project in the Department of Biotechnology, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.) on the topic "Waste Water Treatment and Electricity Generation by Microbial Fuel Cell (MFC)". This project is submitted for the requirements for the degree of B.Sc. in BIOTECHNOLOGY and forwarded to examiner for evolution.

I wish his every success in his life.

Dr. REXU BHATT

1500

विभागाच्यक, जैव प्रौद्योगिकी विभाग

Head, Department of Biolectinology

पुराधारिक विश्वविद्याम्य विदेशिक एक ग.)

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# MICROORGANISM: THE ULTIMATE RECLAMATOR OF ECOSYSTEM

PROJECT DISSERTATION
IN PARTIAL FULFILMENT FOR THE DEGREE OF
UG B.Sc. Biotechnology (Hon's) VI semester (2021-22)

Submitted by

MANISH KAUSHAL

Enrollment no. GGV/18/3136 Roll no. 18202026

Under the supervision of

Dr. AMITABH AHARWAR



GURU GHASIDAS VISHWAVIDYALAYA BILASPUR CHHATTISGARH

Department of Biotechnology

2021-22

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E-mail:bhatt1996@yahoo.com

Head of Department

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This is to certify that MANISH KAUSHAL has carried out undergraduate dissertation project worked on "MICROORGANISM: THE ULTIMATE RECLAMATOR OF ECOSYSTEM" under my supervision from January to April, 2021. During the project work he has learned most of the technique of biology.

Signature

Dr. RENU BHATT

विभागाध्यक्ष, जैव प्रौद्योगिकी विभाग Head, Department of Biotechnology गुरू घासीदास विश्वविद्यालय, बिलासपुर (छ.ग:) rru Ghasidas Vishwavidyalaya, Bilasour (C. G.

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## COVID-19: The Global Pandemic And Possible Aspects For Its Treatment

A Dissertation Report

Submitted

In partial fulfilment of the requirement for the award of the degree of

Bachelor of Science

in

Biotechnology



By

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B.Sc. (Hons.) VI Semester

Enrollment no. - GGV/19/3303

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Session 2021-2022

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This is to certify that Dissertation report on "COVID-19: The Global Pandemic And Possible Aspects For Its Treatment" is an authentic record of study reviewed by Priyanka Patel, a student of B.Sc. Biotechnology VI semester, Department of Biotechnology of this University.

Date- 07/04/2022 Place- Bilaspur.

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Dr. Renu Bhatt

Associate Professor and Head, Department of Biotechnology

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**Dr. VIKAS CHANDRA**Assistant Professor;

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#### CERTIFICATE

It is to certify that PRIYANKA PATEL, a student of B.Sc. VI semester, Department of Biotechnology, has completed her undergraduate dissertation report on "COVID-19; The Global Pandemic And Possible Aspects For Its Treatment" under my supervision and guidance. It is an authentic report of study reviewed by PRIYANKA PATEL.

Date- 07/04/2022
Place- Bilaspur.

Signature Chandra.

Dr. Vikas Chandra.

Assistant Professor
Department of Biotechnology

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## SARS: SEVERE ACUTE RESPIRATORY SYNDROME

A Dissertation Report Submitted for partial fulfillment of the degree of B.Sc. Biotechnology (Hon's) VI Semester (2021-2022)

Submitted by

#### PRIYANSHI PARMAR

Roll No.: 19202238

Enrollment No.: GGV/19/3306

Under the supervision of

#### Dr. VIKAS CHANDRA

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Department of Biotechnology Guru Ghasidas Vishwavidyalaya Bilaspur (Chhattisgarh), India (2021-2022)



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#### **CERTIFICATE**

This is to certify that the dissertation entitled "SARS: SEVERE ACUTE RESPIRATORY SYNDROME" is an authentic record of review writing work done by PRIYANSHI PARMAR, a student of B.Sc. (Hon's) Biotechnology VI Semester, Department of Biotechnology of this University.

DATE: 07/04/2022

PLACE: Bilaspur

Dr. Renu Bhatt

Head of Departme

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Guru Ghasidas Vishwavidyalaya

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## "STUDY ON SARS COV-2 VACCINES AND VACCINATION"

A Dissertation Report Submitted

In partial fulfilment of the requirement for the award of the degree of Bachelor of Science

in Biotechnology



#### By TATPARYA PATEL

B.Sc. (Hons.) VI Semester Enrollment no. - GGV/19/3423 Roll no. - 19202266

Under the Supervision of **Dr. VIKAS CHANDRA**Assistant Professor

April 2021-22

Department of Biotechnology School of Studies of Interdisciplinary Education and Research Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur, Chhattisgarh - 495009



#### Department of Biotechnology Guru Ghasidas Vishwavidyalaya, Bilaspur, (C.G.)

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#### **CERTIFICATE**

This is to certify that Ms. Tatparya Patel (Enrollment No.- GGV/19/3423, Roll No. 19202266) has carried out her Undergraduate dissertation work entitled "Study on SARS COV-2 vaccines and vaccination" under the supervision of Dr. Vikas Chandra from the month of March to April 2022 towards partial fulfillment of degree of Bachelor of Science in Biotechnology.

The work presented in the dissertation report is original and has not been submitted anywhere else for this or any other degree.

handra

Date: 07/04/2022

Place: Bilaspur

Dr. Vikas Chandra Supervisor

**Assistant Professor** 

Dr. Renu Bhatt Associate Professor & Head

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# BASIC UNDERSTANDING OF MIDDLE EAST RESPIRATORY SYNDROME

A Dissertation Report Submitted

FOR PARTIAL FULFILLMENT OF THE DEGREE OF

B.Sc. Biotechnology (Hon's) VI Semester
Submitted by

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# GENERAL STUDY OF AVIAN INFLUENZA VIRUS DISEASE

A Dissertation Report Submitted for partial fulfillment of the degree of B.Sc. Biotechnology (Hon's) VI Semester (2021-2022)

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## "THERAPEUTICAL POTENTIAL OF MEDICINAL PLANTS

A

Dissertation Report Submitted

In partial fulfilment of the requirement for the award of the degree of Bachelor of Science

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### MICROBIAL FUEL CELL

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## "MUCORMYCOSIS (BLACK FUGUS) INFECTION: A REVIEW"

A Dissertation report

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In

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#### BIODEGRADATION OF PESTICIDE

A

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A

Dissertation Project

On

# "MICROBIAL EXOPOLYSACCHARIDE: GREEN ALTERNATIVE FOR REJUVENATION OF ENVIRONMENT"

In partial fulfillment of the degree of UG

B.Sc. Biotechnology (Hon's) VI Semester

(2021-2022)

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A

Dissertation

On

"ANTIMICROBIAL RESISTANCE"

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## "HORMONES ,OBESITY AND CARDIOVASCULAR DISEASE(CVD)"

A Dissertation Report

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## PROJECT PROPOSAL ON

# ANTHROPMETRIC INDICATORS AS A TOOL FOR DIAGNOSIS OF OBESITY AND CARDIOVASCULAR DISEASES

# SUBMITTED TO THE DEPARTMENT OF BIOTECHNOLOGY GURU GHASIDA VISHWAVIDYALAYA, BILASPUR



IN PARTIAL FULFILLMENT FOR THE DEGREE OF

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BY

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#### A

#### **DESERTATION REPORT**

ON

"CHEMOTHERAPEUTIC DRUGS ON COLORECTAL CANCER"

Submitted in partial fulfillment of the requirement for degree of

BACHLEOR OF SCIENCE

IN

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This is to certify that the dissertation entitled "Epidrugs targeting the cancer" is an authentic record of research work carried out by Anjali Rathore, a student of B.sc Biotechnology (Hon's) VI Semester in the Department of Biotechnology of this University.

Date: 8 4 22 Place: Bilaspur

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## "POLYMORPHISM IN COLORECTAL CANCER"

A Dissertation Report

Submitted

In partial fulfillment of the requirement for the award of the degree of

Bachelor of Science

in

Biotechnology



#### By PRIYANKA RAO

B.Sc. (Hons.) VI Semester Enrollment no. - GGV/19/3304 Roll no. - 19202237

Under the Supervision of

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#### Project Dissertation Report On

# "Epigenetics: epidrugs targeting epigenetic modification in cancer"

Submitted for partial fulfilment for the award of degree of UG B.sc

Biotechnology

(Hon's) VI Sem

(Session 2020-2021)

Submitted by

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# **COVID-19 AND THEIR DRUG APPROCH**

Α

**Project Dissertation**In partial fulfilment of the degree of

UG B.Sc. Biotechnology (Hon's) VI semester (2021-22)

Submitted by MANISHA KOTHARE GGV/18/3138

18202029

Under the supervision of **Dr. DHANANJAY SHUKLA** 



Department of Biotechnology Guru Ghasidas Vishwavidyalaya Bilaspur (C.G) 2021-22



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  - 3.2.2. GHANAIAN GILOY VATI
- 4) CONCLUSION

# **COVID-19 AND THEIR DRUG APPROCH**

Α

**Project Dissertation**In partial fulfilment of the degree of

UG B.Sc. Biotechnology (Hon's) VI semester (2021-22)

Submitted by MANISHA KOTHARE GGV/18/3138

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    - 3.2.1. ASHWAGANDHA
    - 3.2.2. GHANAIAN GILOY VATI
- 4) CONCLUSION

### **Aloe Vera: A NATURAL HEALER**

### **Project Dissertation**

In partial fulfillment of the degree of
Int. UG/PG B.Sc. Biotechnology (Hons.) VI semester
(2021-22)

Submitted by

ANURAG AJGALLE

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(Head of Department)

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This is to certify that ANURAG AJGALLE has carried out Undergraduate dissertation project work on <u>"Aloe Vera: A NATURAL HEALER"</u> Under my supervision from April to June, 2021. During the project work. He has learn edmost of the technique of biology.

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## Maintaining Quality . Detoxification and Aloe Vera Gel > Fever > Sweating Inflammation, Swelling and Edema > Local Infection like Boils, Acne Diarrhea and Vomiting Sneezing and Coughing . Healing Crisis and Aloe Vera Gel Digestion and Aloe Vera Gel Microscopic Section of small Infection showing Villi Gut Filling Critical Facts that must be Understood · Oral Care and Aloe Vera Gel The Use of Aloe Vera in Dentistry Aloe Vera a Boon for Dentist Skin Care and Aloe Vera Gel Canary in Colamine Pollutants and The Skin Aloe Vera for Modern Times Aloe Vera in Covid-19 Antiviral activities of Aloe vera Molecular study of Aloe vera Composition of Aloe vera Leaf √ Structural composition √ Polysaccharides Composition ✓ Mannan √ Maloyl glucans ✓ Pectin substances ✓ Arabinan and Arabinogalactan ✓ Other polysaccharides Molecular Docking Protein preparation Generation of ligand dataset Molecular docking studies Discussion Conclusion · Reference