



# Bajaj College of Science, Wardha

(Formerly known as Jankidevi Bajaj College of Science)
An Autonomous College affiliated to RTM Nagpur University, Nagpur
NAAC Reaccredited 'A' with CGPA of 3.21

C Reaccredited 'A' with CGPA of 3. (A Linguistic Minority College)

Prof. Pradip. V. Tekade Principal (Offg.)

Email: jbsciencewardha@yahoo.co.in pradiptekade@gmail.com

Date: 2/7 DEC 2022

Ref. No. BCS/

/20 -20

#### DECLARATION

This is to declare that the information and data furnished as supporting/additional document in the metric 3.7.1 Number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on -the-job training/ project work are true to the best of my knowledge and is verified by IQAC.

Dr. M. R. Chandrakar

**IQAC** Co-ordinator

Prof. P.V. Tekade Principal (Offg.)

Offi. Principal
Bajaj Collage of Science
WARDHA

Principal Office: 07152-230515, COE Office: 07152-230517, Admin Office: 07152-241696, Website: www.jbsw.shikshamandal.org



### Shiksha Mandal's

## Bajaj College of Science, Wardha

An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur





St. Xavier's College (Autonomous), Mumbai

**INVITES APPLICATION FOR** 

**Certificate Course in** 

# INDUSTRIAL WASTEWATER MANAGEMENT

Eligibility: UG, Graduate & PG Science Students

Seats: 50

Course Fee:

Rs. 350/- (Students of Parent Institute)

Rs. 500/- (Other Students)

Last date for Registration: 25<sup>th</sup> November 2021

**About Certificate Course:** 

https://drive.google.com/file/d/1JCQ8ty

Yzjq0J4E93HQVLioWGdvJAidz0/view?u

sp=sharing

Registration Link:

https://forms.gle/e5AvxA9PkP8HRrnz6

**Patrons** 

Dr. O. A. Mahodaya

Principal, Bajaj College of Science, Wardha

Dr. Rajendra Shinde

Principal, St. Xavier's College, Mumbai

**Course Facilitators** 

**Dr. Pradip Tekade** 

Head/In-charge, Dept. of Chemistry, Bajaj College of Science, Wardha Mr. Marazban Kotwal

Head, Dept. of Chemistry St. Xavier's College, Mumbai

**Course Coordinators** 

Dr. Mahejabeen Haque Bajaj College of Science, Wardha +91-7028308023 Dr. Abhilasha Jain St. Xavier's College, Mumbai +91-7506270677

About: St. Xavier's College, Mumbai https://xaviers.edu/main/

**About:** Bajaj College of Science, Wardha http://jbsw.shikshamandal.org/



# Bajaj College of Science, Wardha (Autonomous) Department of Chemistry

In Association with





### Skill based Certificate Course On "INDUSTRIAL WASTEWATER MANAGEMENT"

#### **Specifications of Course:**

| A) Nature                         | - Certificate Course                           |
|-----------------------------------|--|
| B) Duration                       | - 60 hrs                                       |
| C) No. Of Students to be admitted | - 50   |
| D) Fee Proposed                   | - <b>350/-</b> (Students of Parent Institutes) |
|                                   | - 500/- (Other Students)                       |

#### I. COURSE OVERVIEW:

This course provides an understanding of various processes involved in the treatment of wastewater generated due to the anthropogenic activities prior to its discharge into the environment or its re-use. This course aids to understand various terminologies used in industrial wastewater treatment and to acquaint with different stages involved in treatment of industrial wastewater.

### II. PREREQUISITE(S): UG/PG

#### **III. COURSE OBJECTIVES:**

The objective of the course is to impart knowledge and skills to the learner to:

- 1. Distinguish between the quality of domestic and industrial water requirements.
- 2. Understand the industrial process, water utilization and wastewater generation.
- 3. Impart knowledge on selection of treatment methods for industrial wastewater.
- 4. Gain knowledge on different techniques and methods for minimizing the generation.
- 5. Application of physicochemical and biological treatment methods for recovery, reuse and disposal of industrial wastewater.

#### IV. COURSE OUTCOMES:

After completion of this course, the student will be able to demonstrate the knowledge and will have the ability to:

- 1. Identify environmental standards that apply to both direct and indirect industrial discharges.
- 2. Develop an overall treatment strategy for an industrial waste stream.

- 3. Specify design criteria for physical, chemical, and biological unit operations and processes necessary to treat an industrial wastewater.
- 4. Define and reason about fundamental concepts of wastewater treatment.
- 5. Design, conduct experiments and the ability to analyse the wastewater quality.
- 6. Select the most appropriate technique to control and treat industrial pollution.
- 7. Enhanced skills of the students will increase their employability in the related industries.

#### **Mode of Teaching:**

The theory lectures and practical sessions of the course will be conducted via Online mode i.e. Pre-recorded video lectures and/or online lectures.

### Shiksha Mandal's

Establishment Year: 1962

# Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur (A Linguistic Minority College) Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bengalore College with Potential for Excellence, UGC, New Delhi Star College Scheme by DBT Govt. of India, New Delhi

office/Fax : (07152) 230515 Admn. Off. : (07152) 241696 : (07152) 255070 Library

E-mail :josciencewardha@yahoo co in website: jbsw.shikshamandal.org

Jamnalal Bajaj Marg

Civil Line

Wardha - 442 001 (Maharashtra)

Uni. College No.: 802 Jr. College No. : 07-01-003

Ref No. J.B.C./ /2020 -2021

Date:13/04/2022-

# Certificate

This is to certify that the work presented under Project entitled "A Potential Use of Banana (Musa balbisiana) Tree and its Parts in Cosmetic and Textile Applications: A Review" is the own work of Mr. Ashwin Ravidas Tawekar Conducted in the P.G. Department of Chemistry, Bajaj college of Science, Wardha& MGIRI,

Wardha.

Date: 13/06/2022

Place: Wardha

Internal Supervisor

Mr. Vikas Choudhary External Supervisor

RCI, MGIRI, Wardha

ShikshaMandal's Establishment Year: 1962

# Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur
(A Linguistic Minority College)
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with Potential for Excellence, UGC, New Delhi
Star College Scheme by DBT Govt. of India, New Delhi

Office/Fax : (07152) 230515 Admn. Off. : (07152) 241696 Library : (07152) 255070

E-mail Theorems wandard inhouse in website: jbsw.shikshamandal.org



Jamnalal Bajaj Marg

Civil Line

Wardha - 442 001 (Maharashtra)

Uni. College No. : 802

Jr. College No. : 07-01-003

Ref No. J.B.C./ /20 -20

Date B/06/2023-

# Certificate

This is to certify that the work presented under Project entitled "Macro and micronutrients in agriculture: their applications, role, effect, and doses. A Review" is the own work of Mr. Gaurav Gulab Gurnule conducted in the P.G. Department of Chemistry, Bajaj college of Science, Wardha & MGIRI, Wardha.

Dr. Pradip V. Tekade Internal Supervisor

Dr. Pradlp. V. Tekade Head/Incharge

Department of Chemistry

Mr. Vikas Choudhary

External Supervisor

RCI, MGIRI , Wardha

r. Om A. Mahodaya

Principal

Bajaj College of Science, Wardha

#### ShikshaMandal's Establishment Year 1962

# Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur (A Linguistic Minority College) Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Rangalore College with Potential for Excellence, UGC, New Delbi Star College Scheme by DBT Govt. of India, New Delbi

Office/Fax (07152) 230515
Admir. Off.: (07152) 241696
Library (07152) 255070
E-ovall absolutowardha@yahoaxosin
website: jbsw.shikshamandal.org



Jamnalal Bajaj Marg Civil Une Wardha - 442 001 (Maharashtra)

Uni. College No.: 802 jr. College No.: 07-01-003

Ref No. J.B.C./

/20 -20

Date: / /20

# Certificate

This is to certify that the work presented under Project entitled "Biodegradable, Sustainable, Efficient Biocomposite Phosphyrated Chitosan Modified Flame Retardant with Agro Waste Product: Banana Pseudostem" is the own work of Miss Ayushi Nitin Deshmukh Student of Fergusson college, Pune (Department of chemistry) who successfully carried out mentorship summer project of INSPIRE SHE Programme for 49 Days (7 weeks) (Date of commencement: 27/09/2021 and Date of completion: 15/11/2021) in the Department of Chemistry, Jankidevi Bajaj college of Science, Wardha.

Project Supervisor
(Dr. Akhil V. Nakhate)

Dr. P. V. Tekade

Hsad ARAGEE

Baja, Compa of Salance WARDHA Project Co-Supervisor

(Dr. P. V. Tekade)

Dr. Om A Mahadaya

Tablis differences

Wardho.

## FERGUSSON COLLEGE, PUNE

DEPARTMENT OF CHEMISTRY

### NO OBJECTION LETTER FOR UNDERGOING SUMMER PROJECTS OF INSPIRE SCHOLARSHIP

Name of student:

AYUSHI NITIN DESHMUKH

Roll no: 4222

Student id: 673331

College: Fergusson college (Autonomous), Pune

Duration of visit for summer project: from 27/09/2021 tol5/11/2021

Name of institutions in full where mentorship research project will be undertakent

Jankidevi Bajaj College of Science, Wardha

Name, Designation, Phone no, Email of Research advisor at mentor institution:

DR. AKHIL V. NAKHATE

Professor

9323081346

akhiln30@gmail.com

Date: 23/11/2021

Signature of student:

The department has no objection to undertake project in above institution.

N-15 . Large Signature of Head of Department



Government of India Ministry of Science & Technology Department of Science & Technology Innovation in Science Pursuit for Inspired Research (INSPIRE)





Velcome Miss Ayushi Nitin Beshmukh VR Number: 201900006412



Change Password Update Profile

Select Language.

Scholarship - Mentorship Application List

- Apply For Mentorship

Name of Scholar Application Reference Number Title of the Project Name Of Research Supervisor Broad Area of Research Project Host Institute Flame Retardant Jankideyi Bajai Banana Pseudostem show flame Miss: Dr Akhil V Nakhate DST/INSPIRE/02/2019/010034 from Banana College of AyushiDeshmukh retardancy Pseudostem Science Wardha

# MAHARASHTRA STATE BOARD OF SECONDARY & HIGHER SECONDARY EDUCATION, PUNE

#### NAGPUR DIVISIONAL BOARD

Advisory Note to the Candidate for Eligibility in Scholarship for Higher Education (SHE) component under INSPIRE Schome

It is declared/certified that personne Ayussi Nivik

of Seat No. 8081069 and waving College Index Number 0754094
is eligible for award of Scholarship for Higher Education (SRE) under Innovation in Science
Pursuit for Inspired Research (INSPIRE) by virtue of performance within top IV of the school
Board at Class XII level in the examination held during the academic session ending March
2015.

Derformance in top 1% in Class XII Board examination and followed by encolment into education in Basic and Natural Science course at B. Sc./Integrated M. Sc. Or MS level shall make you eligible for consideration in INSPIRE Scholarship for Higher Education of Jot valued at No. 88,600 per year for tive years.

After enrolling yourself into Banheler or Integrated Masner's level programme in Basic and Matural Science courses given at http://www.inspire.dat.gov.in/SHE html (Select Blank format Option -Endorsement Certificate) in any University or College in India, recognized by UGC, India, you are advised to register in Scholarship for Higher Education (SHE) through online registration at www.online-inspire.gov.in and apply with required documents through CNLTHE MODE only, as and when this scheme is opened/announced for submission of application.

Scholarship under SHE would be granted, if you have applied for it through DMLINE mode only. Application sent was post and other OFFLINE modes will be summarily rejected. As the number of Scholarship under SHE are fixed w. r. t. large number of eligible students from various Educational Boards, the repositioning of out-off may take place.

Please note that this Advisory Note is issued to you for intimation only. It is meither a selection letter of INSPIRE-SHE scholarship nor any quarantee to offer the meid scholarship to you by IMSPIRE PROGRAMMS DIVISION.

Lakhanen

Secretary
Maharamhtra State Board Of Secondary & Higher
Secondary Education, Pune
WAGDUM DIVISIONAL BOARD

ISignature With Seal)

To Principal Jankidevi Bajaj College of Science, Wardha Through: Head of Department Department of Chemistry. Application: Regarding Research Project Work under DST - Inspire schodarchip programe Respected Sir, I am a student of Pargusian College, Pune and Studying in find your (2021-22). I have been awarded with DSI programe - Inspire Scholarship for Higher Education. In this , I have to do inentorship programs and Submit Receased Project. Hence I am writing to you this application. I want to do my Research project in your prestigious cellege in Chemishy Department for of to 6 weeks. So, please give my permission to do. thank you Ayushi Deshmukh Pomartes Moh: 9823746570 Email Hayushi deshmukt 40@ gmail com (10 h 2/10/2021 Dr. A. V. Mukhote will be
mentioners political has to pay
the standard fees only

the provided to provided

The provided to provided At. Fine/heavy chemicals has be pricined by the condidate



Deccan Education Society's

## FERGUSSON COLLEGE

PUNE - 411 004, MAHARASHTRA, INDIA.



An Autonomous College (under Savitribai Phule Pune University, Pune) (ID No. PU / PN / AS / 902 / 1885). NAAC Accredited "A" Grade; CGPA 3.62 on 4 point scale

College of Excellence (UGC) | Special Heritage Status by UGC | DST FIST Supported College | DBT - STAR College

FCP/310/2021-22

To,

Dr. Om Mahodaya, Principal, Bajaj College of Science, Wardha

Subject: Letter of Intent (Loi)

Dear Sir.

Warm greetings from Fergusson College (Autonomous) Pune!

Thank you for the collaborative activities in academics. Hereby, I am sending you the hard copy of Letter of Intent (LoI) for your kind perusal.

Yours sincerely,

Dr. Ravindrasing Pardeshi,

Principal,

Fergusson College (Autonomous) Pune Principal

Fergusson College(Autonomous Pune-411 004.



Date: 07-09-2021

वजाज विज्ञान महाविद्यालय वर्षा

आवक क. 428

दिनांक 11 ]09/2024



#### Deccan Education Society's Fergusson College (Autonomous) Pune



Shiksha Mandal's Bajaj College of Science, Wardha

Deccan Education Society's
Fergusson College (Autonomous), Pune
Internal Quality Assurance Cell and Career Facilitation Center

### Parties to the Letter of Intent (LoI)

Party 1: Deccan Education Society's, Fergusson College (Autonomous), Pune

Address: Fergusson College Road, Deccan Gymkhana, Pune 411004, Maharashtra (hereinafter referred to as "College")

Contact Person: Dr. Ravindrasing G. Pardeshi, Principal Fergusson College, Pune, contact Number: (020) 67656000; (020)67656603; (020)67656199

Email id: principal@fergusson.edu; cfc@fergusson.edu

Website: https://www.fergusson.edu

Party 2:

Shiksha Mandal's, Bajaj College of Science (Autonomous), Wardha

Address: Jamnalal Bajaj Marga, Civil Lines, Wardha-442001

Contact Person: Dr. Om Mahodaya, Principal, Bajaj College of Science,

Wardha

Contact No.: 07152-230515, 243851, 255070

Email: jbsclencewardha@yahoo.co.in

Website: jbsw.shikshamandal.org

### 1. Purpose

With intent to have more effective use of each of their resources and provide each of them with enhanced opportunities to grow and strengthen, the Parties shall collaborate for Skill based Training, Internship, Placement, Higher Education, Research and any other area in Academics.

### 3. Validity

The validity of the Letter of Intent shall be three years from the date of this letter or early termination of the same. Either Party can terminate this collaboration by giving prior 30 calendar days' notice, in writing, to the other Party.

### 4. Scope of Collaboration

- (i) Strengthen Graduate Attributes The budding graduates from the College could play a key role in technology upgradation, innovation and competitiveness of an industry. This collaboration between the Parties will benefit the student community.
- (ii) Curriculum Design and Development Party 2 will provide its valuable inputs to the College in framing the syllabile for a particular Academic Programme and also help in enhancing teachinglearning processes by providing training to the teachers and students and bring innovations in teaching-learning methods. The Party 2 will also help in customizing syllabil which will enhance industry readiness of students.
- (iii) Industrial Training and Visit Party 2 shall permit faculty and students of the College to visit its their industry set ups/ processing plants and other such facilities and involve them in its Industrial Training programs.
- (iv) Internship and Placement of Students Party 2 will assist the College in providing a platform for internship and placement ofstudents.
- (v) Research and Development Both the Parties will, jointly, carry out research activities under the scope of the College, which can be defined mutually between the Parties.
- (vi) Skill Development Program Party 2 shall provide training on the emerging technologies in order to bridge the skill gap and make the students ready for the industry.
- (v) Guest Lectures/ Industry Guidance
   Party 2 shall provide necessary support to deliver guest lectures and guide students of the College on technology trends and industry requirements.
- (vi) Faculty Development Program Party 2 shall train the faculties of the College for imparting industrial exposure/training.
- Both the Parties shall obtain the internal approvals/consent / permission/ licenses, as may be applicable and required, to offer the programs/activities on the terms specified herein.
- There will be no financial commitment on part of the College to take up any program mentioned in this Letter of Intent.
- Intellectual Property
   Nothing contained in the Letter of Intent shall by express grant, implication,

estoppel or otherwise create in either Party any right, title, interest or license in or to the intellectual property (including but not limited to know-how, inventions, patents, copyrights and designs) of the other Party.

#### Relationship between the Parties

- 1. The Parties shall be acting as independent contractors, and the relationship established under this LoI shall not be construed as partnership.
- 2. Neither, Party is authorized to use the other's name in any way, to make representations or create any obligations or liability expressed or implied on behalf of the other Party, without the prior written consent of the other
- 3. Neither Party shall have, nor represent itself as having any authority under the terms of this LoI to make any agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit or to extend credit on behalf of the other Party.

Any difference of opinion or dispute that may arise at any time during the period of collaboration and thereafter, the Parties would endeavor to resolve such disputes amicably. However, in case the Parties are unable to resolve the same amicably, such difference(s)/dispute(s) shall be referred to and finally settled by arbitration in accordance with the provisions of Arbitration and Concillation Act, 1996. The Parties shall mutually appoint 1 (one) arbitrator for the arbitration proceedings. The seat of arbitration shall be Pune. The language of the arbitral proceeding shall be English. The arbitral award shall be final and binding on the Parties.

ACCEPTED FOR DECCAN EDUCATION SOCIETY'S FERGUSSON COLLEGE (AUTONOMOUS) PUNE

ACCEPTED FOR SHIKSHA MANDAL'S BAJAJ COLLEGE OF SCIENCE

WARDHA

Signing Authorities of both the parties

Dr. Ravindrasing Pardeshi

Fergusson College (Autonomous

Fergusson College(Autonomous

Pune-411 004

Dr. Om MahodayaBalal College Of Science,

Bajai College of Science (Autonomous) Wardha

3











### Dr. Prashant Ghansham Borkar

of

## Jankidevi Bajaj College of Science, Wardha, Maharashtra

has undergone Innovation Ambassador training (Advanced Level, Total 16 Sessions of 30 contact hours) conducted by MoE's Innovation Cell & AICTE during the period from  $30^{\hbox{th}}$  June -  $30^{\hbox{th}}$  July 2021 in online mode.

Prof.Anil D.Sahasrabudhe

Chairman AICTE Dr. Abhay Jere

Chief Innovation Officer MoE's Innovation Cell











Dr. Bhavana Vishwas Mohite

of

Jankidevi Bajaj College of Science, Wardha, Maharashtra

has undergone Innovation Ambassador training (Advanced Level) conducted by MoE's Innovation Cell & AICTE during the period from  $30^{th}$  June -  $30^{th}$  July 2021 in online mode.

Prof.Anil D.Sahasrabudhe

Chairman, AICTE

Dr. Abhay Jere

CIO, MoE's, Innovation Cell











Dr. MAHEJABEEN HAQUE

of

Jankidevi Bajaj College of Science, Wardha, Maharashtra

has undergone Innovation Ambassador training (Advanced Level) conducted by MoE's Innovation Cell & AICTE during the period from 30<sup>th</sup> June - 30<sup>th</sup> July 2021 in online mode.

Prof.Anil D.Sahasrabudhe

Chairman, AICTE

Dr. Abhay Jere

CIO, MoE's, Innovation Cell











Abhimanyu Maheshwari

of

Jankidevi Bajaj College of Science, Wardha, Maharashtra

has undergone Innovation Ambassador training (Advanced Level) conducted by MoE's Innovation Cell & AICTE during the period from  $30^{th}$  June -  $30^{th}$  July 2021 in online mode.

Prof.Anil D.Sahasrabudhe

Chairman, AICTE

Dr. Abhay Jere

CIO, MoE's, Innovation Cell











## **AKHIL VITTHALRAO NAKHATE**

of

# Jankidevi Bajaj College of Science, Wardha, Maharashtra

has undergone Innovation Ambassador (IA) training 'Advanced Level' (Total 15 Sessions of 30 contact hours) conducted in online mode by MoE's Innovation Cell & AICTE during the IIC calendar year 2021-22.

Abhay Fre Dr. Abhay Jere

Chief Innovation Officer MoE's Innovation Cell Mr. Dipan Sahu

Assistant Innovation Director MoE's Innovation Cell

Date of Issue: 04-08-2021 E-certificate No: IA/Advance/102844

**IIC ID:** IC201810385

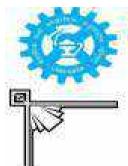




# CSIR-SUMMER RESEARCH TRAINING PROGRAM (CSIR-SRTP) 2020 ONLINE HAS THE FOLLOWING ACTIVITIES

Eminent Scientist Lectures, Special Sessions, Project specific classes, Elocution video, Poster designing, Essay writing, Assignments / Project works given by mentor/coordinator & Summer Research Project Completion Report

| CANDIDATE'S NAME: Dr. Bhavana Vishwas Mohite | SL NO . CSIR/SRTP/2020/NEIST/5155 |
|--|-----------------------------------|
| GRADE:S                                      |                                   |
| HOST INSTITUTE: CSIR-NE                      | EIST                              |
| MENTOR'S NAME: Dr.Nidhi                      | Kaushik                           |
| REMARKS                                      | MENTOR                            |







# CERTIFICATE

Name: Dr. Bhavana Vishwas Mohite SI. No.: CSIR/SRTP/2020/NEIST/

has completed all the requirements of the CSIR-Summer Research Training Program (CSIR-SRTP) 2020 online during June to August, 2020 coordinated by CSIR-NEIST, Jorhat

-2,6

DR. G. NARAHARI SASTRY

DIRECTOR

CSIR NORTH EAST INSTITUTE OF

SCIENCE AND TECHNOLOGY

PROF. ALOK DHAWAN DIRECTOR CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH DR. SHEKHAR C. MANDE DIRECTOR GENERAL, CSIR SECRETARY, DSIR, GOVT. OF INDIA











# **JUNE TO AUGUST, 2020**

SI NO CSIR/SRTP/2020/NEIST/5895

NAME: Mohan Tukaram Kapse









# CSIR-SUMMER RESEARCH TRAINING PROGRAM (CSIR-SRTP) 2020 ONLINE HAS THE FOLLOWING ACTIVITIES

Eminent Scientist Lectures, Special Sessions, Project specific classes, Elocution video, Poster designing, Essay writing, Assignments / Project works given by mentor/coordinator & Summer Research Project Completion Report

CANDIDATE'S NAME: Mohan Tukaram Kapse SL. NO.: CSIR/SRTP/2020/NEIST/5895

GRADE: ......A

HOST INSTITUTE, CSIR-NEIST

MENTOR'S NAME: Dr. Nasir Ul Rasheed Rather



REMARKS

MENTOR







# CERTIFICATE

Name: Mohan Tukaram Kapse SI. No.: CSIR/SRTP/2020/NEIST/5895

has completed all the requirements of the CSIR-Summer Research Training Program (CSIR-SRTP) 2020 online during June to August, 2020 coordinated by CSIR-NEIST, Jorhat



DR. G. NARAHARI SASTRY

DIRECTOR
CSIR-NORTH EAST INSTITUTE OF
SCIENCE AND TECHNOLOGY

3 Mullamme

PROF. ALOK DHAWAN DIRECTOR CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH

DD SHEVHAD C MAND

DR. SHEKHAR C. MANDE DIRECTOR GENERAL, CSIR SECRETARY, DSIR, GOVT. OF INDIA















































































# **JUNE TO AUGUST, 2020**

SI NO CSIR/SRTP/2020/NEIST/4031

NAME NIKITA RAJESHRAO KHARE

SIR INDI









# CSIR-SUMMER RESEARCH TRAINING PROGRAM (CSIR-SRTP) 2020 ONLINE HAS THE FOLLOWING ACTIVITIES

Eminent Scientist Lectures, Special Sessions, Project specific classes, Elocution video, Poster designing, Essay writing, Assignments / Project works given by mentor/coordinator & Summer Research Project Completion Report

.... SL. NO.: CSIR/SRTP/2020/NEIST/4031 CANDIDATE'S NAME: NIKITA RAJESHRAO KHARE

GRADE: .....B

HOST INSTITUTE: CSIR-NEIST

MENTOR'S NAME: Dr. D. Sumitha













Name: NIKITA RAJESHRAO KHARE SI. No.: CSIR/SRTP/2020/NEIST/4031

has completed all the requirements of the CSIR-Summer Research Training Program (CSIR-SRTP) 2020 online during June to August, 2020 coordinated by CSIR-NEIST, Jorhat



DR. G. NARAHARI SASTRY

DIRECTOR
CSIR-NORTH EAST INSTITUTE OF
SCIENCE AND TECHNOLOGY

Mullamm

PROF. ALOK DHAWAN DIRECTOR CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH

e--- 9-----

DR. SHEKHAR C. MANDE DIRECTOR GENERAL, CSIR SECRETARY, DSIR, GOVT. OF INDIA





































































#### 

#### Fwd: Collaborative work

3 messages

Dr. Dhiraj Naik <naikdhiraj@gmail.com>

Thu, Jun 25, 2020 at 9:00 PM

To: Pradip Tekade <pradiptekade@gmail.com>, janki bajaj <jbsciencewardha@yahoo.co.in>

Sir,

Am forwarding an email response from Dr. Supprasanna, NABTD Division, BARC, Mumbai about joint collaboration between our college and RBCA. This is just at the initial stage. It might help for NAAC.

regards, Dhiraj

----- Forwarded message ------From: rasanna@barc.gov.in> Date: Thu, Jun 25, 2020 at 6:02 PM Subject: Collaborative work

To: <babasontakke@rediffmail.com>

Cc: <naikdhiraj@gmail.com>, Dr. Ashish Srivastava <ashish@barc.gov.in>, Ashish srivastava <ashishbarc@gmail.com>,

penna888 <penna888@yahoo.com>

The Principal,

Ramakrishna Bajaj College of Agriculture (RBCA),

Pipri, Wardha-442001

Maharashtra

Subject: Letter of collaboration

Dear Dr. Sontakke,

Our laboratory in NABTD, BARC is engaged in studying the effects of biostimulants such as thiourea and chitosan in crop plants. We are keen to study the effects on field grown cotton and pigeon pea grown under different cropping patterns. Since these are the major kharif crops of Vidarbha region, we would be happy to collaborate with Bajaj College of Science and Ramakrishna Bajaj College of Agriculture, Wardha, in undertaking these studies. BARC will offer technical support and advice on this research work. This joint research work will complement our priority research theme "Thiourea and chitosan-based technology for enhancing plant growth and stress tolerance." The outcome of this collaboration can be shared between both the institutions, and should help towards developing further collaborative research. From BARC side, Dr Ashish Srivastava will coordinate all the matters, and correspondence can be made with him.

With regards,

Dr Suprasanna

#### Dr. P. SUPRASANNA

Head, Nuclear Agriculture and Biotechnology Division, &

Professor, Homi Bhabha National Institute,

Bhabha Atomic Research Centre (BARC),

Trombay, Mumbai 400 085, INDIA;

Tel. 0091 22 25595423;

Email: prasanna@barc.gov.in;

penna888@yahoo.com, penna.suprasanna@gmail.com

Dr. Dhiraj Naik

**Assistant Professor** 

Department of Botany

Bajaj College of Science

(Formerly known as Jankidevi Bajaj College of Science)

Civil Lines

Wardha-442001, Maharashtra

India

To: sanjiv zade <sanjivszade@gmail.com>

Fri, Jun 26, 2020 at 6:55 AM

[Quoted text hidden]

To: "pgchem.borkar" <pgchem.borkar@gmail.com>

Tue, Aug 18, 2020 at 12:51 PM

----- Forwarded message ------

From: Dr. Dhiraj Naik <naikdhiraj@gmail.com>

Date: Thu, Jun 25, 2020, 9:00 PM Subject: Fwd: Collaborative work

To: Pradip Tekade <pradiptekade@gmail.com>, janki bajaj <jbsciencewardha@yahoo.co.in>

[Quoted text hidden]



#### MAHA PENCHLITIGERS IN THE HEART OF INDIA"



Office of the Chief Conservator of Forest & Field Director, Pench Tiger Reserve, Nagpur

# मुख्य वनसंरक्षक व क्षेत्रसंचालक, पँच व्याघ्र प्रकल्प, नागपूर यांचे कार्यालय

3rd Floor, Sanchar Laxmi Building (BSNL), Kasturchand Park, Nagpur-980009

Ph. No. / दूरध्वती क्र .०७१२-२५६०७२७ / २५६०७४८

E-mail / \$ - मेल: coffdpench?@mahaforest.gov.in

Website / वेबसाईट : www.mahapenchtiger.com

Safari Booking / सकारी व्यक्तिन: www.mahaecotourism.gov.in

Desk-6/Steno/ 3392

92 /2019-20

Date-27 /02/2020

To,

The Secretary
Department of Biotechnology
6th-8th Floor, Block 2, CGO complex
Lodhi Road, New Delhi-110003

Subject: Letter of collaboration

Sir/Madam,

I am happy to offer you my support for the proposal entitled as "Investigation on genetic diversity, local scale genetic structure and ex-situ conservation of Anogeissus sericea in disturbed forest patches of Gujarat, Rajasthan and Vidarbha, India".

This proposed research is a collaborative effort between Bajaj College of Science, Wardha and Office of the Chief Conservator of Forests and Field Director, Nagpur. My office will support the research staff of this project during field collection of seeds and leaf samples of A. sericea stands after following the due procedure.

Two collection sites are outside Maharashtra state. Under such circumstance, my office will communicate to Gujarat/Rajasthan Forest Departments and the State Biodiversity Boards (if needed) and facilitate the team of PI to collect the plant samples after following the due procedure. The collections will be done without any serious damage to the parent trees in all designated locations of the proposal. This proposed research will help to propagate the threatened forest tree species which will support the goals of Forest Department of Maharashtra as it is extremely sparsely distributed in Maharashtra state. The nursery plantlets which will be developed by Bajaj College of Science will enhance the possibility of reintroduction of threatened species into local habitat and to other forest patches.

I am looking forward to collaborating with Bajaj College of Science, Wardha on this and other forest tree projects.

Yours Sincerely,

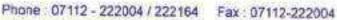
(Dr. Ravikiran Govekar) Chief Conservator of Forest & Field Director Pench Tiger Reserve, Nagpur.

# NABIRA MAHAVIDYALAYA, KATOL



## Distt. Nagpur (M.S.) Pin - 441 302

Graduation & Post Graduation in Arts, Commerce, Science & Management



Email: nmv.college@rediffmail.com Website: www.nabiramahavidyalayakatol.com



Ref. No. :

Date: 24-12-2019

To.

The Principal, Bajaj college Science, Wardha, Wardha-440010

Dear Sir.

M.Sc.Sem,IV (Chemistry) students have to earry out the **Project work** in their PG course, They may carry the work at any of the national /regional/private research institute/organization.

We are in consideration to consign three PG students to your reputed institution for their project work under **Dr.Pradip Tekade** (Associate professor, J.B.Seience College, Wardha) supervision from 26 Dec. to 26 Jan. 2020. We assure you that they will show good manners. It would be a huge favor for us and we shall be thankful to you. Name of students are as follows.

- 1) Miss. Shubhangi S.Pande
- 2) Miss. Ruchita S. Raut
- 3) Miss. Sonal R. Rewatkar

Kindly permit the students for the project work.

P.G. Department of Chemistry Nabira Mahavidyalaya, Katdi Principal Nabira Mahavidyalaya Katol

#### ShikshaMandal's

# Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur (A Linguistic Minority College) NAAC Reaccredited 'A' Institution (CGPA 3.21) College with Potential for Excellence, UGC, New Delhi

Office/Fax: (07152) 230515 Admn. Off.: (07152) 241696 Library: (07152) 255070 E-mail: jbsciencewardha@yahoo.co.in website: jbsw.shikshamandal.org



Jamnalal Bajaj Marg Civil Line Wardha – 442 001 (Maharashtra) Uni. College No. : 802 Jr. College No. : 07-01-003

## Certificate

This is to certify that the work presented under Project entitled "Synthesis of hydrotalcite (LDH) by conventional and mechanochemical method; its application in base catalysed reactions like aldol condensation." is the own work of **Miss Shubhangi Pande** conducted in the P.G. Department of Chemistry, Bajaj college of Science, Wardha.

**Project Supervisor** 

Dr. Pradip V. Tekade

Head/Incharge

**Department of Chemistry** 

Project Co-Supervisor

Dr. Akhil V. Nakhate

Dr. Om A. Mahodaya

Principal

Bajaj College of Science, Wardha

#### ShikshaMandal's

### Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur (A Linguistic Minority College) NAAC Reaccredited 'A' Institution (CGPA 3.21) College with Potential for Excellence, UGC, New Delhi

Office/Fax: (07152) 230515 Admn. Off: (07152) 241696 Library: (07152) 255070 E-mail: jbsciencewardha@yahoo.co.in website: jbsw.shikshamandal.org



Jamnalal Bajaj Marg Civil Line Wardha – 442 001 (Maharashtra) Uni. College No. : 802 Jr. College No. : 07-01-003

### Certificate

This is to certify that the work presented under Project entitled "Activated CaAl-LDH, Solid Base Catalysts Prepared And Showed Its Application In The Aldol Condensation Reaction Between Benzaldehyde And Acetone" is the own work of Miss Ruchita Raut conducted in the P.G. Department of Chemistry, Bajaj college of Science, Wardha.

Project Supervisor Dr. Pradip V. Tekade

Head/Incharge

Department of Chemistry

Project Co-Supervisor

Dr. Akhil V. Nakhate

Dr. Om A. Mahodaya
Principal

Bajaj College of Science, Wardha

#### ShikshaMandal's

### Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur (A Linguistic Minority College) NAAC Reaccredited 'A' Institution (CGPA 3.21) College with Potential for Excellence, UGC, New Delhi

Office/Fax: (07152) 230515 Admn. Off.: (07152) 241696 Library: (07152) 255070 E-mail: jbsciencewardha@yahoo.co.in website: jbsw.shikshamandal.org



Jamnalal Bajaj Marg Civil Line Wardha – 442 001 (Maharashtra) Uni. College No. : 802 Jr. College No. : 07-01-003

### Certificate

This is to certify that the work presented under Project entitled "Synthesis and Characterization of Hydrotalcite and their application as a Base Catalyst for Aldol Condensation Reaction." is the own work of **Miss Sonal Rewatkar** conducted in the U.G. Department of Chemistry, Bajaj college of Science, Wardha.

**Project Supervisor** 

Dr. Pradip V. Tekade

Project Co-Supervisor

Dr. Akhil V. Nakhate

Head/Incharge

Department of Chemistry

Dr. Om A. Mahodaya

Principal

Bajaj College of Science, Wardha

### Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNU, Nagpur
(A Linguistic Minority College)
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with potential for Excellence, UGC, New Delhi

# "STUDY OF MODIFIED NATURAL THICKENER VERSUS SYNTHETIC THICKENER IN TEXTILE PRINTING"

In the partial fulfilment of the requirement for the degree of

MASTER OF SCIENCE

In CHEMISTRY
(FACULTY OF SCIENCE AND TECHNOLOGY)

Submitted by

Miss Priya B, Kadu M. Sc. Chemistry (Sem-IV)

Under the Guidance of

Internal Supervisor

Dr Pradip V. Tekade Associate Professor (M.Sc., Ph. D., NET, SET, GATE) **External Supervisor** 

Dr. Manoranjan Patnaik
Dy. Director (Chemical)
Industries Division), MGIRI, Wardha



P.G. DEPARTMENT OF CHEMISTRY,
BAJAJ COLLEGE OF SCIENCE,
WARDHA – 442001 (M.S.) INDIA
2019-2020



# Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNU, Nagpur (A Linguistic Minority College)

Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore

College with potential for Excellence, UGC, New Delhi

Star College Scheme by DBT Govt.of India, New Delhi

Office/Fax

: (07152) 230515

Jamnalal Bajaj Marg

Admn. Off

: (07152) 241696

Library Email

: (07152) 255070

Civil Lines

: jbsciencewardha@yahoo.co.in

Wardha-442001 (Maharashtra) Uni. College No. 802

: jbsw.shikshamandal.org Website

Jr. College No. 07-01-003

Ref No. J.B.C./

/20 - 20

Date:

/ /20

### Certificate

This is to certify that the work presented under project entitled "Study of natural modified thickener versus synthetic thickener for . textile printing" is the own work of Ms Priva B. Kadu conducted in the P.G. Department of Chemistry, Bajaj Science College, Wardha and Chemical Industries Division, MGIRI, Wardha.

Dr Pradi

Internal supervisor /Heo-d

Dr M. Patnaik

External Supervisor

Dr. Nita Mohaansi

Henry Co-ordinator

Department of Chemistry

Dr Om A. Mahodaya

Principal

Bajaj Science College,

Wardh

#### Shiksha Mandal's

## Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNU, Nagpur
(A Linguistic Minority College)
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with potential for Excellence, UGC, New Delhi

PROJECT REPORT ON

"Synthesis And Characterisation Of Thickener For Textile Printing"

In the partial fulfilment of the requirement for the degree of

MASTER OF SCIENCE In CHEMISTRY (FACULTY OF SCIENCE AND TECHNOLOGY)

> Submitted by Ms. Mamta R. Chandak M. Sc. Chemistry (Sem-IV)

Under the Guidance of

Internal Supervisor

Dr Pradip V. Tekade

Associate Professor
(M.Sc., Ph. D., NET, SET, GATE)

External Supervisor

Dr. Manoranjan Patnaik

Dy. Director (Chemical)

Industries Division), MGIRI, Wardha



P.G. DEPARTMENT OF CHEMISTRY, BAJAJ COLLEGE OF SCIENCE, WARDHA – 442001 (M.S.) INDIA 2019-2020



### Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNU, Nagpur
(A Linguistic Minority College)
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with potential for Excellence, UGC, New Delhi
Star College Scheme by DBT Govt.of India, New Delhi

Office/Fax

: (07152) 230515

Admn. Off :

: (07152) 241696

Library

: (07152) 255070

Email Website : jbsciencewardha@yahoo.co.in

: jbsw.shikshamandal.org

Jamnalal Bajaj Marg

Civil Lines

Wardha-442001 (Maharashtra)

Uni. College No. 802

Jr. College No. 07-01-003

Ref No. J.B.C./

/20

- 20

Date:

/20

### Certificate

This is to certify that the work presented under project entitled "
Synthesis and characterisation of thickener for textile printing" is the
own work of Ms Mamta R. Chandak conducted in the P.G. Department of
Chemistry, Bajaj Science College, Wardha and Chemical Industries Division,
MGIRI, Wardha.

Dr. Pradip W Tekade Internal supervisor

Dr. Nita P. Mohabansi

Head

Department of Chemistry

Dr. M. Patnaik

**External Supervisor** 

Dr. Om A. Mahodaya

Principal

Bajaj Science College,

Wardha

### Bajaj College of Science, Wardha

(Formerly known as Jankidevi Baja) College of Science, Wardha)

Autonomous College

A Linguistic Minority College

Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with Potential for Excellence, UGC, New Delbi

Office/Fax : (07152) 230515 Admn. Off. : (07152) 241696 Library : (07152) 255070

: (07152) 255070

E-mail: jbsciencewardha@yahoo.co.in website: jbsw.shikshamandal.org

Ref No. J.B.C./

/2019-2020



Jamnalal Bajaj Marg,

Civil Line

Wardha - 442 001 (Maharashtra)

Uni. College No. : 652

Jr. College No. : 07-01-003

Date: // / / 0/2019

To Dr R K Gupta, Director, MGIRI, Wardha

Subject: Proposal for functional MoU between Bajaj College of Science and MGIRI, Wardha.

Dear Sir.

We are proud to have a committed National Institute under the Ministry of Micro Small & Medium Enterprises, Govt. of India i.e 'MGIRI' in Wardha, which is serving in rural entrepreneurs and enterprises by developing new technologies keeping Gandhian vision to support, upgrade and accelerate the process of Rural Industrialization in the country.

Our parent institution 'Shiksha Mandal, Wardha', the pioneer educational institution of Central India was established in 1914 by late Shri. Jamanalal Bajaj, Shri Shrikrishnadas Jajoo and others with the sole aim of providing quality education. It has also been awarded with the First Ideal Institution Award by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in August 2015. Bajaj College of Science (BCS), Wardha was founded in 1962 by Shiksha Mandal, Wardha, which imparts science education to more than 1,500 students from Junior College to Ph.D. At present BCS is an Autonomous College with Linguistic Minority status.

Most of our faculty have Ph.D, and NET/SET qualification. They are currently working on Major and Minor Research Projects. Projects are also regular part of UG and PG syllabus. To enhance our research activity, our aff and students need exposure, guidance as well as training from reputed national institutions. A step to move ahead in this direction could be achieved by having a functional memorandum of understanding (MoU) with your esteemed institution, MGIRI Wardha, which would be of interest to both the institutions.

So, I request you to consider our proposal to have a functional MoU between Bajaj College of Science, Wardha and MGIRI, Wardha.

Your positive response in this direction would be highly appreciated and awaited.

Thanking you in anticipation.

(Dr Om Mahodaya)

Procipal





### महातमा गांधी ग्रामीण औद्योगीकरण संस्थान

#### Mahatma Gandhi Institute for Rural Industrialization

(स्हम लघु और मध्यम उद्यम मंत्रालय आरत सरकार के अधील एक राष्ट्रीय प्रस्थान) (A National Institute under the Ministry of Micro, Small and Medium Enterprises, Govt. Of India)

मगनवाडी, वर्धा - 442001, महाराष्ट्र, भारत

Meganwadi, Wardha - 442001, Maharashtra, India

दूरभाष ж. Ph. 07152-253512, रूपक ж. Fax. 07152-240328

ो सेन E-mail director mgiri@gmail.com वेदसाईट Websile <u>www.mgiri.org</u>

No. MGIRI/RCI/2018-19/125

दिलांक/Date: 19/07/2018

To

The Principal

J B Science College, Wardha.

Subject: Use of Abbe Refractometer for analysis of honey sample.

Sir,

This is inform you that we need to test a honey sample with Abbes' refractometer. This is available in your institute as per the information given by Dr. Pradip Tekade, Dept. of Chemistry. It is requested to permit us to use the refractometer for said purpose.

With regards.

Yours sincerely

(Or. M Patnaik) Deputy Director

RCI Division

#### Shiksha Mandal's

#### Bajaj College of Science, Wardha

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

#### Report of Spoken Tutorial Program of IIT, Bombay

(Session 2019-20)

Shiksha Mandal's Bajaj College of Science, Wardha is always keen to provide quality education to the students and also to enrich them with additional skills. For this, institute has started providing the learning facilities, in the form of Spoken Tutorial of IIT Mumbai, to the students to acquire software knowledge which is available online. Also, to make it more productive, we have added this activity in the college timetable and received satisfactory results. This activity is mandatory for all second year undergraduate students.

In the academic session 2019-20, total 1093 students/participants were enrolled in 18 training programs including two Faculty Development Programms. In the difficult time of COVID-19 pandemic, institute was instrumental in keeping learning process continued not only to the students of the college but to the students and faculty from other areas including one international participant through faculty development program organized by Departments of Electronics and Chemistry.

| : Workshop/Ti | raining Statistics |                             |              |          |                                  |             |
|---------------|--------------------|-----------------------------|--------------|----------|----------------------------------|-------------|
| State         | Venarastica        | Tipe                        |              |          | Total number of Wartshop Testeby | 111         |
| City/Fown     | Marchia            | Fore                        |              | 543      | Total executor of leatings       | (1)         |
|               | How                | 1200                        | 22000        |          | Partic Scores Count              | 1915        |
| Hotton Type   | Cofetal            | Date Marge                  | 3013-07-01   |          | Total pirticipant (wirner)       | 484         |
| lavitories    | 1969               |                             | 2020/05/11   |          | Fotal participants (mer)         | 589         |
| Onpertment    |                    | Unagoligo  Gospho  Institut | ed OPendayAn | ouriege. | 1291                             | Q Days that |
|               |                    |                             |              | -        | a                                | Disaportal  |

Dr. P. A. Saudagar Co-ordinator, STIIT



### भारतीय प्रौद्योगिकी संस्थान मुंबई

पवड़ : मुंबई-400 676, भारत

Indian Institute of Technology Bombay Powal, Mumbal-400 076, India сунти/Phone (+91-22) 2572 2545

GURI/Fax

(+91-22) 2572 3480

पेबसाइंट/Website: www.iitb.ac.in



#### Letter of Association

Date: 31st August 2018

To,
The Principal,
JANKIDEVI BAJAJ COLLEGE OF SCIENCE, WARDHA
Maharashtra

We are happy to announce the ASSOCIATION of Knowledge Partner Spoken Tutorial Program, IIT Bombay with JANKIDEVI BAJAJ COLLEGE OF SCIENCE WARDHA.

The Program is a part of the National Mission on Education through ICT, MHRD, Govt. of India, to spread IT Literacy all over India. We are promoting the learning and usage of Free & Open Source Software (FOSS), through an Audio-Video teaching tool, viz, 'Spoken Tutorial'.

We support and motivate colleges to train students on Basic Computer Skills, Software and IT. The course and the training is offered for Rs. 25,000 per year to all the Colleges.

You are making an outstanding contribution of using ICT based teaching and learning methodology for students of your College.

HT

Yours Sincerely,

Shyama Iyer

National Coordinator, Training Spoken Tutorial, IIT Bombay





July 18, 2019

### Supervisor's Certificate

This is to certify that the work entitled in the thesis titled "Role of Epigenetic regulators and Hedgehog signaling in Caveolin1 gene expression" submitted by Ayushi D. Chaudhary is a record of original research carried out by her under my supervision and guidance in partial fulfilment of the requirements of summer intenship program. Neither this thesis nor any part of it has been submitted earlier for any degree or diploma to any institute or university in India or abroad.

Prof. Samir Kumar Patra

Supervisor

#### FOR SUMMER INTERNSHIP PROGRAMME 2019 at NIT ROURKELA

Date: 03-05-2019

To The Chairman Summer Internship Programme 2019 NIT Roarkela, Odisha Roarkela - 769008

#### Recommendation

of M.Sc. 1st year Microbiology

for summer internship with fellowship at NII Rourkela to h

Department

for summer internship with fellowship at NIT Rourkela to be held during 20.05.2019 to 20.07.2019. He she will the join the programme if selected\*\*

deludere

Dr. Ms. S. S. Khandare (Signathead Pant of Marrobislos) pt.)

Name of the Institution J.B. college of science, wordha.

Office Seal:



\*\* If selected, the student should immate his her confirmation of policing within stipulated time. After confirming if not pained, the same information will be stored with NII Rowekets for frame reference. By signing this form you also confit that there is no accordance occivity during this period or period or vollege institute that mee closh with this internality dates.

Note: Please take a print out of this form, fill up properly, get signed and stamped by the HOD, seen it and applical it.

Report submitted to

### National institute of technology, Rourkela



Submitted by
Ayushi D. Chaudhary
Msc 1yr, Department of microbiology
J.B. Sciences college,wardha

Under the guidance of Prof. SAMIR KUMAR PATRA

Department of life sciences National institute of technology, Rourkela Orissa 2019-2020





### राष्ट्रीय प्रौद्योगिकी संस्थान NATIONAL INSTITUTE OF TECHNOLOGY राउरकेला, ROURKELA-769008, ओडिशा, ODISHA



Dr. Vidya Devi Negi, Ph.D., Assistant Professor, Dept. of Life Science, NIT Rourkela, Odisha, email deviv@nitrkl.ac.in

#### CERTIFICATE

This is to certify that the work in the thesis title "Putative SH3 domain-containing protein's (YgiM) role in Salmonella infection" submitted by Aditya Vilas Bhaskarwar is a record of original research carried out by him under my supervision and guidance in partial fulfillment of requirements of a summer internship program. Neither this thesis nor any part of it has been submitted earlier for any degree or diploma of any institute or university in India or abroad.

Vidya Devi Negi

Dr. Vedya Devi Negs, Ph.D. Assistant Professor Department of Life Science National Institute of Technology

19:07:2019

#### EGRST MARKEN DEFENSHIP PROGRESSMIT 2019 at \$11 foot label 1/3

16 03 05 2019

Luc Chairman Summer Internship Programmy 2019 NTI Romacha, Odesha Romacha - 769008

#### Recommendation

in M.Sc. 1st year Microbiology

for summer interestion with fellow-line at SCL Rourhola to be beladuring 20.05,2019 to 20.07,2019. He she will the join the programme of selected.

Columbate

Dr. Ms. S. S. Khandara Charleton Dept dissidentialization

Name of the Ment of the Days Dr. Ms Sukar S. Khandare

Name of the Institution J.B. College of science wardha

Office Seal:



The magnification of the context of the forms of the property and against an according to the context of the co

as in manufaction makes

Report submitted to

### National institute of technology, Rourkela



Submitted by
Aditya V. Bhaskarwar
Msc Iyr, Department of microbiology
J.B. Sciences college,wardha

Under the guidance of Prof. Vidya Devi Negi

Department of life sciences National institute of technology, Rourkela Orissa 2019-2020





Internal Epbx : 1416 Phone: +91-20-25695195 Fax : +91-20-25695301

### Savitribai Phule Pune University

(Formerly University of Pune)

### Department of Instrumentation Science

Ganeshkhind , Pune 411007.

E-mail: hod\_disc@unipune.ac.in URL: www.unipune.ac.in

Date: 13 June, 2019

#### TO WHOMESOEVER IT MAY CONCERN

This is to certify that Mr. Aniket Chandrashekhar Nagrale has done his internship in nanoparticle synthesis at Savitribai Phule Pune University, Pune from 6th May 2019 to 17th June 2019.

He has worked on a project titled 'Synthesis and Characterization of ZnSe nanoparticles by hydrothermal method '. This project was aimed to study different applications of nanoparticles.

During the internship he has learned handling various laboratory equipments and analyse the result. He has demonstrated good design skills with a self-motivated attitude to learn new things. His performance exceeded expectations and was able to complete the project successfully on time.

We wish him all the best for his future endeavours.

Dr. Shweta D Jagtap

To:

Dr. Vasant Chabukswar Nowrosjee Wadia Callege, 19, Bund Garden Rd. Sangamvadi, Pune Maharashtra 411001

Subject: Application for the Inspire Internship Programme.

Respected Sir.

I am Naincy Shravan Kumar Jalan, second year 8.5c. student of Bajaj College of Science, Wardha writing, this application to request you to mentor me for inspire internship programme. Sir. I would like to apply for a summer internship with inspire under your mentorship. While I have the pure science as background, my emphasis is on chemistry and innovations in it. It would be the golden apportunity for me to learn the current trends in the subject under your guidance which will be helpful for advancing my career.

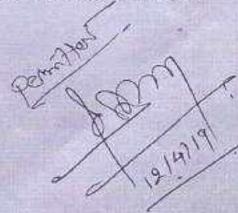
I am keen to learn something in the field of nanochemistry which is changing this world by means of its smart applications. Sir, during my graduation, I did some project in our college under the supervision of faculty in the chemistry department. The work was facused on the Organic Dye Synthesis from the herbs available in our region and also I tried my hands on making the natural soaps.

Sir, I have enclosed my resume highlighting my education and extra curriculum and a copy of inspire fellowship award for your reference. My exams will be over by the end of first week of May 2019 so that I can join you from the second week of May at your place. I would be grateful to you for accepting my request.

Sincerely.

Naincy Jalan

12/2/10



one Oracle Mark short copy will be accepted Internet copy of Mark shoet will not be accepted. Autorization of Parformance Reports and Mark-sheets: I Audition of the year, subclarable for any academic year shall be paid to the archolar unity after the evaluation/approval of (i) Performance report and (ii) Mark Sheet percel basis or beclamentars in one academic year) of B.So. (B.S. Ser, M.Sc./er, M.S. or M.Sc. course for previous executive year) a) The Echolar shall submit above (at Ga) referred documents altogether. Echolarship will not be processed in once any one of the aforementational documents is not genettett. granders are solved to suprish their yearly Mark shoets and performance related documents on-time, preferably within 2 months of announcement of yearly results to account the payment of acholerated by DST-INSPIRE. However, assigning in view the diverse time accounts of the examinations of investoring account the payment of acholerated by DST-INSPIRE. However, assigning in view the diverse time accounts of the examinations of investoring accounts. are porcelled a freshman period of feetine (12) months to sidere truit Performance Report and Mark-sheets for a given completed access or year ending June entry year. As on searche, 2014 batch annoted student is expected to authorit the First Year Performance Report and First Year Mark Sheet below 30th June 2016. This amengy can be believed by other bindtims for the release of the INSPIRE Scholarship. d) if a school does not submit his/her school Performance Reports and Mark-sheets for two consecutive academic years, the other of schoolanguage is a program. a) Provisional Mark-shoots will just be considered. a. Research Projects Mentorship for Scholers: The main objective of \$655 REJSHE program is to excourage young students to pursue Received as a career of order to bouncie scientro values and develop scientific tumper, the scholars are required to error in a Research Project every year. To avail the morning year, the scholars are expected to do project work under a Research Supervisor (Memor) during summer vacation period, in any recognized Universities or high design Research Laboratories Culture of their choice outside their parent institutions either in India or abroad. The acholer may avail institutional arrangement or arrangement or arrangement. Meritar to carry out this. Consumption required to carry out project work, if recommended by the Mentor, will be paid from the Mentorship Court, wither to the meritars where project work is pursued or to the Scholar directly. (III.1) For anything doing a project in India. The expurses related to make, accomposition and consumable expenses are reinformed to the stated with the investoration grant, Please note that no fixed expenses are covered by this grant, as the students receive achdisratip during this period. The DST-INSPIRE shall make provision of Rs. 20,000) per arrivin as Mentorahip Grant to each INSPIRE School to carry summer vacation research work every year. The minimum terrure of the project must be as to eight weeks. The duration of the project must be clearly mentioned in the project report. The Mentorship Grant shall be reimbursed either to the mentoring institutions as a bench the to economicate the INSPRES scholar or descrip to the Scholar to carry out research work. After completion of the project work at the institute of Children's of Research Laboratory under a Research Supervisor (Mentor), the conditions should submit the following documents to the DNT for reinforcement of the Membership Share. (a) A latter steeled by the Research Supervisor and Frantación where the scholar la annoted for the project. Duration of the project is done of commencement and dats of completion must be mentioned in the certificate. (b) A report curring the objectives and results of frisher project, The acticians are requested to specify clearly to whom the mentioning grant must be removement Membring treatment or activities.

(6.2) For structures doing a project Abroard. Southest at 4<sup>th</sup> or 5<sup>th</sup> year of the Scholystep why be blowed to carry our research project to any institute. Conversity: Laboratory abroad by utilizing the Nanturalish Grant available for live years on pro-residence. If the exponenting fraction paye any abpend or travel grant, only the Chamcoccurrence between the support received from all sources put together and actual expendence of the probability from the Mandorship Grant. The DGT-BICEPEC scale make provision of For 20,000- per arrow or (fla 1,00,000)- in 5 years) as Mericratin Grant to INSPIRE Robeing carry summer vacation research work abroad. The Mericratin Grant shall be resoluted within to the merioding institutions as a bench like to eccuminated to INSPIRE school or directly to the School to carry our research work, in case a School does not utilize this grant in any year during the renum of PASPIRE Schoolings, it can be carried forwarded until the completion of the lemms of PASPIRE Schoolings. Student is enginee only to receive the expectation, which he has incurred for balling research work. There is no provision for reinforcement of the samuticant grant to the student. After completion of the project work at the Institute or University or Research Leboratory under a Research Supervisor (Menior), the candidate statud statute than following accuments to the DST for reprodusement of the Mentonnia Greek (a) A letter attended by the Research Supervisor and Head of Intifficial series the acticles is enrolled for the project. Duration of the project i.e. these of commencement and date of completion must be mentioned in the certificate (b) A report outsing the objectives and results of his/her project (c) Travel Bill (Air Fore Tickets, Boarding Pass). This is a stomporer personal above, no agreetive in required



#### INSPIRE Scholarship - Post-Offer Implementation Guidelines for Scholars

INSPIRE Scholarship, offered to pursue undergraduate (US) studies and continued up to post-granuate (PG) studies, is based on Class 12th standard economists (vs. 1%) of inspective Boards or within eligible rank in chosen few competitive examinators such as JEE (main), JEE (advanced), NEET (APNIT) and securing admissault is selected stream (in any of admires course or its combination out of 16 identified subjects) at any recognized colleges or universities or accidence institutions in the country.

syspens Schamming shall be requisted with the following guidelines:

- Node of Intimation to Scholar: All solicited candidates shall recover a Provisional Office letter on their web portal informing that they are selected by the activities the selected shall rejected shadents will stack the destroyed on Home page of HSPRIS website. The selected candidates have to upload the required documents on their web-portal in prescribed time period (i.e. time period mentioned in office letter) for tables consideration.
- 2. Confirmation of Scholarship Offer: A2 offers made initially shall be Provisional. The shall be confirmed based on the subjects/courses pursued in the B.Sc./B.S./M.S. N.S. And M.S. Course and upon submission of the Set year B.Sc./B.S./M.M.S. M.S. Anamaston Mark sheets by the Scholar. In case of otherwise, the Offer stands involded and no communication would be made security in this regard.
- Ne-administrator Change of College! University: Any charge or re-admission to profee College! University! Academic Institute within the same academic year is acceptable, provided the scholar pursues acceptable out of identified 18 nos. subject(s). The Otter would stand invalid in case this change or re-admission occurs in the next academic year and fremom, or subject(s) pursued for are beyond the 16 identified audients. In such a case, there will be no scope for restoration of the offer and no communication would be made expansively to Scholar.
- 4. Gap Year between B.So. and M.So.: After completion of three years of 6.Sc. program, students may you M.So. course (Matural and Basic Sciences only as per felt) snywhere in the country. The substanting will be discontinued in case of one year break or Gap between B.Sc. and M.Sc. course.
- 5. Opening 5 Submission of Bank Account: Scholars are required to open a regular Bank Account within branch of State Bank of brain, exclusively on Scholar's name. Specing of Jove No may be adversed only in case of Minor Scholars as under Cultiman, CVG). The scholars must account the Accounts details in the specified format Discussion for postal crity; elempt with the soil attended photocopy of front page of Bank Pulsabook and Audhaum or Austrian Entrament sup, within 120 days of this Other.
- A maximum period of 120 days would be interest to a screet for the component flare Appoint related formalities and the offer of the activisaries would start convenied in case the activisaries to automate second period. Adeque, all date, the names of such setours shall be notified of the website www.online. Incline, govern or convenied Scholamary's and no further communication with the World separately to such scholars. All Scholars are also requested in viol their webported regularly to see notifications on their Accounts mixed states and its large webported with one month of such notification.
- 5. Payment and Continuation of Scholarship: The Scholarships for his and 2<sup>nd</sup> years are paid together at the second year of the scholars' undergraduate course. The Scholarship is paid on the basis of following:

| Year of Scholarship | Osain   | Occurrents to be submitted   |  |
|---------------------|---|--|--|
| Fini                | Dated on (i) Class XII Board Marks and (ii) continuation<br>in second year course in the identified eclance subject(s)<br>at the UO level.              | Charles and the second control of the second |  |
| Second              | Based on Performance in First Year B.Sc. /6.S/irr<br>M.Solint, M.S. Exams.  |  |  |
| Third               | Based on Performance in Second Year B.Sc. /B.S./int.<br>M.Sc./inc. M.S. Exams   | Second Year B.Sc. /B.S. fm, M.Sc./m, M.S. (I) Performance report and (II) Original Mark-sheet Copy.  |  |
| fourth              | Based on performance or Third year & Sc. (6,5,7m).  M. Sc. (nr. M.S. exams and joining M. Sc. course in the identified science subjective) at PG level. | (i) Third year B.So. 78.5.7nt M.Sc.firt. M.S. Performant<br>Reports and Original Nack-sheet Copy & (ii) M.Sc.<br>Erroknest Certificate.  |  |
| Fith.               | Based on performance in First year M.Sc. (scarce or Fourth year Int. M.Sc./fot. M.S. exams (as the case may be)   | First year M.Sc. or fourth year left, N. Sc. Int. N. S.<br>Performance Report and Original New aheaf Copy.   |  |

b) For continuation of INDPIRE Scholarship. The scholar shall III place in all adopted in first artural, and (ii) secure observants 50% marks or 7.0 GPA (on a 10.0 point scale) in higher annual scanningform (or 2 semestics) in it ibs. Classical ib. 5, incl. M.Sc. first M.Sc. or M.Sc. examinations every scaderoic year, faving which the advolarable for the cost arcderoic year will not be pass. If the gracing to percentage conversion tector formula is not provided along with the mark sheet, then the CGPA will be evaluated on 10.0 point scale.

c) In case of B.Sc. Horsons, for continuous of INSPIRE Surciarship, the scholar shell (I) pass in all subjects in test attempt, and (II) secure minerum 60% manual of 7.0 GPA (on a 10.0-point scale) in testing secure scale in testing secure in a scholar ship for the next scale into the past.

taking which the section of could not allend the service any of the services examination as in that year, the INSPIRE Schwiership for the next ecodemic year without be paint, at the section has lessed in the next to read ecodemic year, provided the action's scalabling performance in next ecodemic year is within the aforesaid eligibility.

However, echologistip will be released in the next to read ecodemic year, provided the actions's scalabling performance in next ecodemic year is within the aforesaid eligibility.

norm memorals at 30 and 31.

a) The materials of MSPERE Scholership in the years. Except integrated MSc or Hispatics MS course, the acrolleship shell continue at PS level only after successful controlled at 55 and 55 course, for another two years or are year, depending upon the course pursued at the US level. The Scholer needs to materials dies completion of 3 years 55 course, for another two years or are year, depending upon the course pursued at the US level. The Scholer needs to materials dies accessing performance as per cause 55. So and porture only the identification at the Continuation of scholership at the PO level scance percentage with a proposed scholership and no representations at all the entertained in this regard.

## GOVERNMENT OF INDIA MINISTRY OF SCIENCE & TECHNOLOGY DEPARTMENT OF SCIENCE & TECHNOLOGY Technology Chayes, New Metrouil Road, New Debt - 118018



Date: 23/95/2018

Subject: Provisional Offer of INSPIRE Scholarship for students of 2017 Balch

Dear Mas Naincy Stravan Jalan.

On the basis of your application automitted under Scholarship for Higher Education (SHE) component of the achieve, Innovation in Belance Pursuit for Inaptred Research (INSPERE), I am deligited to inform that you have been provisionally selected for the award of INSPERE Scholarship for the period starting 2017, which is the year of your enrollment in 8 Sofer, MSc. or let, M.S. Course, Your INSPERE Scholarship Registration Number is 2017/90051105.

The final selection for echolarship will be subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of norms as lated in the Post Offer Implementation Guidelines, which is subject to the satisfaction of the Post Offer Implementation Guidelines, which is subject to the satisfaction of the Post Offer Implementation Guidelines, which is subject to the Post Offer Implementation Guidelines and the Pos

The bild around of the Scholarship is Rs 80,000/ per arrum, out of which Rs 60,000/ as subcleaving it Rs 5000 per worth and Rs 20,000/ per year shall be reimpursed for expenses lowereds pursued measured internation in research/expenses traditions. The maximum arrun of the Scholarship is five years, or until the completion of M.Sc. / Int. MS course, whichever is earlier provided you continue to maintain academic excellence and performance. Please note that is stated cornor aveil more than one scholarship at any time. Further, on acceptance of the INSPIRE scholarship is student, switching over to other government scholarship schemes including IOVPV, is not allowed at any stage without the due permission of the DST.

The Schelanthy will be provided directly to you through the State Bank of India (SBI) to your bank account. To facilitate the brandle or Scholanthio to your bank account, you are received to open a normal Savings Dank Account in your name only, at any branch of State Bank of India (SBI) in the country, having no limit of snah transfer (Jaschan, Klosk, Zero Balance Opening Account or similar type account may please avoided). Please note that join account in Series other man BIII will not be accounted thron opening of the Savings Bank account et SBI, you may please fill up the pro-1gms available on the online web porter with the mouster information.

This is provident offer of schourship on the basis of equivasion submitted by you, but togethe granted or scholarship you have to uplead the following documents on your web ported only in prescribed time frame as the following below.

#### Stage 1:

Submission of Account Details. The obtains have extends the Account getgin in the specified format through the orbits only stong with the self-ettested photocopy of frost page of Bank Paresbook and Azothear card or Applicant Stip, within 120 days of the Other After the supility of 120 days from the date of provisions offer. The orbits access to the vectorial would be passed this of Rank Account related format less and other documents would be possible. The offer of the actorisation to years would asked and no representation will be entertained in this regard.

#### J. Stage 2:

Submission of 8.5c. First year Documents. The students who have successfully uprovided the back details torrection as mentioned at Stepe 1 would only be allowed to proceed butter for stope 2. A maximum period of 365 days (1 year) from the date of offer would be allowed to the scholar for the submission of yearly Performance Reports and Mark Sheets of 1st year 8.5c.) Int. M.S. Course through uploading on the webports only. The webports will be closed after the society of 355 days from the date of offer and further uploading of documents will not take place. If may be coted that the offer all scholarship would stand generated in used the scholar falls to submit the arrows must within the time period.

- The advoluments will be processed for release to those students only who have successfully upleaded the documents as mentioned at Stage 1 and Stage 2 within adjusted time land.
- w. The documents sent by post are not accepted under Scholarship of Higher Education (SHIII) programme.

For any assistance during perime submission of documents, you can write to treater progression in or call 0120-4079200 (Mon-Sec, 10AM to 50M),

With best regards.

Ms. Tamanna Arera Scientist C PLSPIRE Programme DIVINON

To.
Mise Naincy Shravan Jalan
Cio showan
Hawadarpura Near Gearth Shravan
Wantha - 442001 MAHARASHTRA

This is a computer generolast letter, no aggressive is required

## Department of Science and Technology [INSPIRE Program]

# Performance Report / Certificate from the Principal of the College/Director or Registrar of the Institute or University for continuation of the INSPIRE Scholarship

INSPIRE Registration No: 201700051105

It is certified that Norths Mainty Shuavankunacus Jalan solution of Ahnavan Kunaau Jalan Jalan Shuavan Kunaau Jalan is an Inspire Scholar of J. B. Shience College Links in Manatha (Name of the College University/Institute) and his her performance is Sutisfactory or Not satisfactory (strike-off whichever is not applicable) in the First /Sex and /Third year of B.Sc /Integrated M.Sc /M/S or First year of M.Sc. for continuation of Inspire Scholarship. (strike-off whichever is not applicable)

I recommend that his/her INSPIRE Scholarship may be Continued or Discontinued in the

It is also certified that the student is NOT receiving scholarship from any source other than the Department of Science and Technology, Government of India.

Signature with Rubber stamp of the Puble

(Principal of the College/Director of Religion of College of

Place Haydha

he Lagitute or University)

Date 06/07/2018

Note: Attach self-intested gopy of Marks-Sheet of the Annual/Semester examination of B.Sc. /Int. M.Sc. or M.Sc. course.

### Maharashtra State Board of Secondary and Higher Secondary Education, Pune-04

NAGPUR

Divisional Board MAGPUR

Advisory Note to the Candidate for Eligibility in Scholarship for Higher Education (SHE) component under INSPIRE scheme.

It is declared/certified that

CALAN NAINCY SHRAVANKUMAR

Seat No. NO51127

Hr. Sec. School No.

07 01 003 - Date of Birth

for award of Scholarship for Higher Education (SHE) under Innovation in Science Pursuit for Inspired Research (INSPIRE) by virtue of performance within top 1% of the School. Beard at Class XII level in the examination held during the academic session coding March 2017.

Performance in top 1% in Class XII Board examination and followed by enrolment into education in Basic and Natural Science courses at BSc/Integrated MSc or MS levels shall make you eligible for consideration of INSPIRE Scholarship for Higher Education of Golf valued at Rs. 80,000 - per year for five years.

In case of enrolling yourself into Bachelot or Integrated Master's level programmes in Basic and Natural Science courses at http://www.inspire-dst.gov.in/SHE.html (Select Blank Format Option-Endorsement Certificate) in any University or College in india, recognized by UGC, India, you are advised to register in Scholarship for Higher Education (SHE) through on-line registration at www.online-inspire.gov.in and apply with required documents through ONLINE MODE only, as and when this scheme is opened/announced for submission of application.

Please note that this Advisory Note is assured to you for infametion only. It is neither a selection letter of INSPIRE SHE scholarship. nor has guarantee to offer the said scholarship to you by INSPIRE PROGRAM DIVISION.

Divisional Southery



### National Centre for Microbial Resource

Member of WFCC, An IDA under Budapest Treaty, DNR of MoEF

राष्ट्रीय अविशास विकास केंद्र | National Centre for Cell Science

28 June 2019

#### To whom it may concern

Ms. Kalyani Badhiye has worked in my laboratory for the period of two months from 20 May to 28 June 2019. She has been a thorough impresser throughout the period of her stry by performing better each time and showersing her versatility during her course performed various experiments including preparation of culture media, isolation of rhizobia from pea and chickpea root nodules, purification of bacterial cultures by streaking, gel electrophoresis, polymeruse chain reaction (PCR), and identification of bacteria using MALDI-TOF MS.

During this time, it became immediately evident that Ms. Kalyani is a bright student and an ambitious learner on a pursuit of faultlessness. She would compel herself to perform better at each task and push her limits to yield the best results. She is sincere and intelligent with cordial behavior as an amenable team member. She has always been a great support to her fellow students in their research work. Based on my observation, she clearly has the interest to excel in the field of research and based on her performance, she has the ability to achieve success. If you need any more information about Ms. Kalyani, please do not hesitate to contact me.

Yours sincerely,

Dr. Prayeen Rabi

Scientistand In-charge, MALDI-TOF MS facility.

National Centre for Microbial Resource.

National Centre for Cell Science, Puhe

Phone: +91 20 25329023; e-mail: praveen@nees res in, proveen\_rahi22@yahoo.co.in







# SUMMER RESEARCH FELLOWSHIP PROGRAMME CERTIFICATE

This is to certify that Mr Kartik Ghanshyam Gohhe worked on a project entitled "Exoplanets: Methods of detection and analysis" during May - June 2019 as a Summer Research Fellow under the supervision of Dr R. Sridharan, Indian Institute of Astrophysics, Bengaluru. The Summer Research Fellowship Brogramme is jointly sponsored by TASc (Bengaluru), INSA (New Delhi) and NAST (Allahabad).

M-RIN. NOT

Place: Bengaluru Date: 02-07-2019

M.R.N. Murthy Chairman, Science Education Panel



INDIAN AGADEMY OF SCIENCES

C. V. Raman Avenue, Post Bux No. 8005, Raman Research Institute Campus, Sadashivanagar, Bengaluru 560 080, INDIA

### SCIENCE ACADEMIES' SUMMER RESEARCH FELLOWSHIP PROGRAMME



Indian Academy of Sciences Bengaluru



Indian National Science Academy New Delhi



tional Academy Sciences, India Prayagraj

Contact Address Indian Academy of Sciences
P B No 8005
C V Raman Avenue
(near Melitin Circle)
Sadashivanagar P O
Bengaluru 560 080

Telephone:

080-2266 1207 080-2266 1202 080-2266 1221 Fax: 080-2361 6094

cinterf@las ac in Website: www.as.ac.in

#### C S Ravi Kumar

Assistant Executive Secretary & Coordinator, Science Education Programme

02 July 2019

Mr Kartik Ghanshyam Gokhe Shri Swami Samarth Nagari Behind New Arts College Murarka Layout Wardha 442001 [Maharashtra]

Email: kgokhe1@gmail.com

Dear Mr Gokhe.

We are happy that you have successfully completed the summer fellowship awarded to you. We hope that this has been a useful experience and will help you to shape your career in science.

The Academy would like to present you with complimentary copy of the Academy publications "C V Raman - A Memoir".

We would like you to keep in regular touch with the Academy about your career. Your page in our website will therefore remain open for the next few years. You can access it using the same userid and password provided to you. Please use this page to let us know about your career whenever you have something significant to report.

Wishing you the best in your career,

Yours sincerely,

C S Ravi Kumar



### सेन्टर फॉर मेटिरियल्स फॉर इलेक्ट्रॉनिक्स टेक्नोलॉजी (सी-मेट)

(वैज्ञानिक संस्था, इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी पंत्रालय, फारत सरकार)

पंचवटी, ऑफ डॉ. होमी भाभा मार्ग, पायाण, पुणे - ४११ ००८, भारत

CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET) (Scientific Society, Ministry of Electronics & Information Technology (MeitY) Govt. of India)

Panchwali, Off. Dr. Homi Bhabha Road, Pashan, Pune - 411 008, INDIA.

Tel. : +91-020-2589 8390, 2589 9273, 2589 8141

Fax ; +91-020-2589 8180 / 2589 8085

E-mail : cmetp@cmet.gov.in Web = http://www.cmet.gov.in

Date: 10/10/2017/1192

(1)

To, The Principal Jankidevi Bajaj College of Science, Wardha-442001,

Dear Sir,

With reference to your letter (J.B.C./1318/2017-18 dated 07/10/2017), I would like to give inprinciple acceptance to officially collaborate with your institute Jankidevi Bajaj College of Science, Wardha for the proposed certificate course - Nanosense' in which students can visit our institute for two days during course. This collaboration would be instrumental in promoting the interdisciplinary nanotechnology at your institute.

I, along with the other members of C-MET, Pune will provide ample amount of time to your students during their visit in our institute during the certificate course 'Nanosense' subject to availability of time and resources. I am appointing Dr. Sudhir Arbuj, Scientist from my institute as a co-ordinator for this 'Nanosense' programme who will further communicate with your co-ordinator Mr. G. V. Lakhotiya and will take care of the visits of students from your institute. As per the feedback and demand, we can extend this series of 'Nanosense' twice a year. I ensure you to provide scientific input (and mentoring)' but will not have any duties associated with your regular curriculum.

Further, in keeping mind the mission to promote and facilitate research for skill development. I am extending my hands to promote the research culture in the semi-urban area like Wardha and welcome the students for student internship programme under which the talented students (UG/PG) from your institute can plan a short-term internship in the field of material science and electronics technology at our place. This collaboration will not only help the society but also set the new trend of collaboration between a dedicated research institute like C-MET, Pune and academic institute like Jankidevi Bajaj College of Science, Wardha.

I look forward for this collaboration for next three years, subject to the conditions mentioned in the letter.

Sincerely,

Dr. Bharat B Kale Director, C-MET Pune

CENTRE POR CONTROL (CART)
(Writing of Control (Cart))



### सेन्टर फॉर मेटिरियल्स फॉर इलेक्ट्रॉनिक्स टेक्नोलॉजी (सी-मेट)

(वैज्ञानिक संस्था, इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय, भारत सरकार) पंचवटी, ऑफ डॉ. होमी भाषा मार्ग, पत्राण, पुणे - ४११ ००८, मारत.

### CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET) (Scientific Society, Ministry of Electronics & Information Technology (MeitY) Govt of India)

Panchwati, Off. Dr. Horni Shabha Road, Pashan, Pune - 411 008, INDIA.

Tel. : +91-020-2589 8390, 2589 9273, 2589 8141

Fax : +91-020-2569 8180 E-mail : cmetp@cmet.gov.in Web : http://www.cmet.gov.in

### CERTIFICATE

This is to certify that the work incorporated in the present report entitled 
"Synthesis and Characterization of Metal Organic Frameworks specifically MIL53 (Aluminium)" was carried out by Ms. Urvi Gupta graduate student of Bajaj .

College of Science, Wardha-442001 under my supervision. The work is carried out at C-MET Pune during summer internship (May 2019 to July 2019). Other material obtained from other sources has been duly acknowledged in this report.

Suppos (07/20)

Dr. Sudhir S. Arbuj

Guide

C-MET, Pune



## NCCS

### राष्ट्रीय कोशिका विज्ञान केन्द्र

### National Centre For Cell Science

जैवप्रीद्योगिकी विभाग, भारत सरकार का स्वायत्त संस्थान

(An Autonomous Institution of the Department of Biotechnology, Government of India)

NCCS/AC/ST-06/IAS-2019/981

Date: 12.07.2019

#### TRAINING COMPLETION CERTIFICATE

This certificate is awarded to Ms. Trupti Murkute for successful completion of Summer Internship programme-2019 from 10.05.2019 to 12.07.2019 under the guidance of Dr. J. Joseph, Scientist 'F', NCCS, Pune.

Project Title: "Studying the in vitro interaction between the nucleoporin Nup358 and Ago2".

मोसमी गोसावी / Mosami Gosavi त. अधिकारी 'क' / T. Officer 'A' शैक्षिक कक्ष / Academics



To,
Mr. Trupti Murkute,
Summer Trainee-IAS

Shitsha Mandal's

### Jankidevi Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNU, Nagpur
(A linguistic Minority College)

Reaccreduated A Institution (CGPA 3.21),NAAC (UGC), Banglore
College with potential for Excellence, UGC, New Delhi

#### A PROJECT REPORT ON

### "PURITORMANCE PROPERTIES OF MODIFIED CORN STARCH AS AN LAMINATING ADHESIVE".

In the partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE

In CHEMISTRY

(FACULTY OF SCIENCE AND TECHNOLOGY)

#### Submitted by

Miss. Harshada Ashishrao Chikhalkar M.Sc Chemistry (Sem-IV)

Under the Guidance of

#### Internal Supervisor

Dr. Pradip V. Tekade

Incharge
Department of Chemistry
Associate Professor
(M.Sc., Ph.D., NET, SET, GATE)

### External Supervisor

Dr. Manoranjan Patnaik

Dy. Director Chemical Industry Division , MGIRI, Wardha.



P.G. DEPARTMENT OF CHEMISTRY,

JANKIDEVI BAJAJ COLLEGE OF SCIENCE, WARDHA- 442001 (M.S.) INDIA 2018-19



Shiksha Mandal's Establishment Year 1962

### Jankidevi Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur
(A Linguistic Minority College)

Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with Potential for Excellence, UGC, New Delhi
Star College Scheme by DBT Govt. of India, New Delhi

Office/Fax (07152) 230515 Admn. Off (07152) 241696 Libsary (07152) 255070 E-mail

website (bow shikshamandal.org



jamnalai Bajaj Marg Civil Luce Wardha - 447 001 (Maharashtra) Uni College No. 802 Jr. College No. 97 01 403

Ref No. J.B.C./

/20 -20

Date 22/64/2013

### Certificate

This is to certify that the work presented under Project entitled "Performance properties of modified Corn starch as an laminating adhesive" is the own work of Miss. Harshada Ashishrao Chikhalkar conducted in the Chemical based Industry Division MGIRI Wardha and P.G. Department of Chemistry, Jankidevi Bajaj college of Science, Wardha.

Place: Wardha

Date:

Internal pervisor Dr. P. V. Takade

Incharge Department of Chemistry

Depart of the Books 4. B. College of the WARDER Mouhalm External Supervisor

Dr. M.Patnalk
Dy. Director
Chemical Based Industry
Division, MGIRI, Wardha

Dr. Om Mahodaya Principal

J.B.College of Science, Wardha

PRINCIPAL

4, B, College of Science

WARDHA

Shiksha Mandal's

# Jankidevi Bajaj College of Science, Wardha

Autonomous college affiliated to RTMNL, Nagpur

(A linguistic Minority College)

Reaccrediated 'A' Institution (CGPA 3,21),NAAC (UGC), Banglore

College with potential for Excellence, UGC, New Delhi

A

PROJECT REPORT ON

"MODIFICATION AND CHARACTERIZATION OF STARCH AS AN ADHESIVE"

In the partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE
In CHEMISTRY
(FACULTY OF SCIENCE AND TECHNOLOGY)

Submitted by Miss. Sakshi Shyam Kawle M.Sc Chemistry (Sem-IV)

Under the Guidance of

Internal Supervisor
Dr. Pradip V. Tekade
Associate Professor
(M.Sc., Ph.D., NET, SET, GATE)

External Supervisor

Dr. Manoranjan Patnaik

Dy. Director (Chemical
Industries Division) MGIRI,

Wardha



P.G. DEPARTMENT OF CHEMISTRY, JANKIDEVI BAJAJ COLLEGE OF SCIENCE, WARDHA- 442001 (M.S.) INDIA 2018-19 Shiksha Mandal's Establishment Year 1962

## Jankidevi Bajaj College of Science, Wardha

Autonomous College affiliated to RTMNU, Nagpur
(A Linguistic Minority College)
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangalore
College with Potential for Excellence, UGC, New Delhi
Star College Scheme by DBT Govt of India, New Delhi

Office/Fax : (07152) 230515 Admin. Off. : (07152) 241696 Library : (07152) 255070 E-mail absolutions with his yahoo count website : jbsw-shikshamandaLorg



Jamnalal Bajaj Marg Civil Line Wardha - 442 001 (Maharashtra) Uni. College No. - 802 Jr. College No. : 07-01-003

Ref No. J.B.C./

/2018 - 2019

Date: 22/4/2019

### Certificate

This is to certify that the work presented under Project entitled 
"MODIFICATION AND CHARACTERIZATION OF STARCH AS AN ADHESIVE" is 
the own work of Miss. Sakshi Shyam Kawle conducted in the P.G. Department of 
Chemistry, Jankidevi Bajaj college of Science, Wardha.

Dr. Prodip V.

Tekade

Internal Superviser

(M.Sc., Ph.D., NET, SET, GATE)

ed I Frenchatas

Man Ally Dr. M. Patnaik

Dy. Director (Chemical Industries Division)MGIRI, Wardha Dr. Om A. Mahodaya

Principal

Jankidevi Bajaj College of Science, Wardha

PRINCIPAL

U. S. College of Science

WARDHA

#### Shiksha Mandal's

#### Bajaj College of Science, Wardha

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

#### Report of Spoken Tutorial Program of IIT, Bombay

(Session 2018-19)

Shiksha Mandal's Bajaj College of Science, Wardha is always keen to provide quality education to the students and also to enrich them with additional skills. For this, institute has started providing the learning facilities, in the form of Spoken Tutorial of IIT Mumbai, to the students to acquire software knowledge which is available online. Also, to make it more productive, we have added this activity in the college timetable and received satisfactory results. This activity is mandatory for all second year undergraduate students.

In the academic session 2018-19, total 471 students were enrolled in 23 training programs. The major trainings were offered in the following FOSS categories-ChemCollective Virtual Labs, ExpEYES, Arduino, LaTeX, CellDesigner and Python.

| Workshop/To   | raining Statistics |     |             |            |     |                                  |     |
|---------------|--------------------|-----|-------------|------------|-----|----------------------------------|-----|
| States        | Hanaranon          | 8   | Typo        |            | 3   | Total number of Wakasap Training | 18  |
| Chartenia     | Wantin             | - 3 | Fore        | (FEEE      | - 2 | Total number of frieds (e)       | 131 |
| and the       |                    |     |             |            |     | Participent Court                | 471 |
| ultition Type | Openper:           |     | Unite Range | 1015-07-05 |     | Total participosis oranicsi      | 287 |
| (240b)000     | 1961               |     |             | 2013-02-31 |     | Total proficipous profic         | 150 |
| Depositores   |                    | - 2 | Linnanogo   |            |     |                                  |     |

Incharge / Co-ordinator
Department Of Computer Sciences
Bejoj College Of Science, Wardha

Dr. P. A. Saudagar Co-ordinator, STIIT



### भारतीय प्रौद्योगिकी संस्थान मुंबई

पवई, मुंबई-400 076; भारत

Indian Institute of Technology Bombay Pewai, Mumbai-400 076, India event/Phone

(+91-22) 2572 2545

there/Fax

(+91-22) 2572 3480





#### Letter of Association

Date: 31st August 2018

To,
The Principal,
JANKIDEVI BAJAJ COLLEGE OF SCIENCE, WARDHA
Maharashtra

We are happy to announce the ASSOCIATION of Knowledge Partner Spoken Tutorial Program, IIT Bombay with <u>JANKIDEVI BAJAJ COLLEGE OF SCIENCE WARDHA</u>.

The Program is a part of the National Mission on Education through ICT, MHRD, Govt. of India, to spread IT Literacy all over India. We are promoting the learning and usage of Free & Open Source Software (FOSS), through an Audio-Video teaching tool, viz, 'Spoken Tutorial'.

We support and motivate colleges to train students on Basic Computer Skills, Software and IT. The course and the training is offered for Rs. 25,000 per year to all the Colleges.

You are making an outstanding contribution of using ICT based teaching and learning methodology for students of your College.

BOMBAY

Yours Sincerely,

Shyama Iyer

National Coordinator, Training Spoken Tutorial, IIT Bombay

Shyana Tyer

# NCCS

### राष्ट्रीय कोशिका विज्ञान केन्द्र

### National Centre For Cell Science

जैवप्रौद्योगिकी विभाग, भारत सरकार का स्वायन संस्थान

(An Autonomous Institution of the Department of Biotechnology, Government of India)

#### To Whomsoever It May Concern

This is to certify that Dr. Ms. Suhas Khandare, Department of Microbiology, Jankidevi Bajaj college of Science, Wardha, worked in my laboratory during 21-05-2018 to 04-06-2018 as a trainee. She has learned the techniques of SDS-PAGE Electrophoresis, Cloning and Primer Designing.

Date:4/6/2018

Dr. Arvind Sahu

Scientist"G"

NCCS, Pune

# NCCS

# राष्ट्रीय कोशिका विज्ञान केन्द्र

## **National Centre For Cell Science**

जैवप्रौद्योगिकी विभाग, भारत सरकार का स्वायत्त संस्थान

(An Autonomous Institution of the Department of Biotechnology, Government of India)

Date: 01-06-2018

#### To Whom It May Concern

This is to certify that Dr. M. R. Chandrakar worked in Dr. M. K. Bhat's laboratory at NCCS during 21-05-2018 to 02-06-2018 as a trainee.

She has learned the basic techniques required to study Cytotoxicity i.e. Cell Culturing,

Cell Counting, Subculturing, Techniques to study Cell Viability and

Proliferation:MTT Assay and Western Blotting.

Dr.M.K.Bhat

Scientist 'G' and Dean, (Academics)

NCCS,Pune





# राष्ट्रीय कोशिका विज्ञान केन्द्र

#### National Centre For Cell Science

जीवग्रीचोमिकी विभाग, भारत सरकार का स्वायत्त संस्थान

(An Autonomous Institution of the Department of Biotechnology, Government of India)

Date: 1.6.2018

#### To Whom It May Concern

This is to certify that Dr.U.A.Malode-Bidwai worked in DR. M. K. Bhat's laboratory at NCCS during 21-05-2018 to 02-06-2018 as a trainee.

She has learned the basic techniques required to study Cytotoxicity i.e. Cell Culturing, Cell Counting, Subculturing, Techniques to study Cell Viability and Proliferation:MTT Assay and Western Blotting.

Scientist 'G' and Dean, (Academics) NCCS,Pune



# NCCS

# National Centre for Cell Science, Pune

(Autonomous Institute of Dept. of Biotechnology, Govt. of India)

This is to certify that

# Mr. Vaibhav Khandwekar

participated and successfully completed the Hands-on Training Workshop on

# Basic Cell Culture Technology

conducted by NCCS Cell Repository May 14th-17th, 2018

en la marda

Dr. Shekhar Mande Director p. V. Magnenker

Dr. Punam Nagvenkar Course Co-ordinator Peido

Dr. Rahul Patil Course Co-ordinator



# राष्ट्रीय कोशिका विज्ञान केन्द्र

## National Centre For Cell Science

जैवप्रौद्योगिकी विभाग, भारत सरकार का स्वायन्त संस्थान

(An Autonomous Institution of the Department of Biotechnology, Government of India)

4th June, 2018

#### Certificate

(To whomsoever it may concern)

This is to certify that, Dr. Prashant G. Borkar of Jankidevi Bajaj College of Science, Wardha (Maharashtra) has worked at NCCS in my laboratory from 21st May 2018 to 4st June 2018 as Visiting Faculty. During his stay at NCCS, he learnt some basics of cancer research and planned for long term R&D project "Development of new anticancer agents" in collaboration with me.

Dr. Gopal C. Kundu

Scientist-G.

Laboratory of Tumor Biology, Angiogenesis and Nanomedicine Research, National Centre for Cell Science (NCCS), Pune 411007, India.

# Jankidevi Bajaj College of Science, Wardha

## Department of Chemistry

To,

The Principal,

Jankidevi Bajaj College of Science, Wardha

Sir.

We are happy to inform you that one of our P.G. student Ms. Mansi Pande successfully completed the Internship Work under the supervision of Dr. Shweta Jagtap, Asstt. Prof, Dept. of Instrumentation Science, S. P. Pune University, Pune from 25th April 2018 to 30th May 2018.

Prof. Govinda Lakhotiya guided her in this regard.

(Dr. P. V. Tekade)

Co-ordinator, PG, Chemistry

## Savitribai Phule Pune University

( Fermerly kropers as)



Internal Ephx: 1416 Phone: +91-20-25695195 Fax: +91-20-25695301 University of Pune
Department of Instrumentation Science
(University Science Instrumentation Centre)
Geneshkhind, Pune 411007.

e-mail: hod@disc unipune ac in URL: http://disc unipune ac in

30/05/2018

#### Internship certificate

This is to certify that Mansi Sudhir Pande, a student of Masters of Science (Chemistry) of Jankidevi Bajaj college of Science, Wardha (Autonomous). R.T.M. Nagpur University, Nagpur worked on nanoparticle synthesis of zinc oxide compound and its humidity sensing application. Her internship work was held from 25th April 2018 to 30th May 2018 under the guidance of Dr. Shweta Jagtap, Asst. Professor, Dept. of Instrumentation Science, S.P. Pune University, Pune. She has successfully synthesized ZnO nanoparticles and has been able to present a good picture of concerned works.

Mansi Sudhir Pande possesses a good moral character and pleasing personality. I wish her every success in life.

Dr. Shweta Jagtap
Assistant Professor
Department of Instrumentation Science,
Savitribai Phule Pune University, Pune

Experiences year 1962

#### Shiksha Mandal's

## Jankidevi Bajaj College of Science, Wardha

Autonomous Callege
A Linguistic Minority College
Reaccredited 'A' Institution (CGPA 3-21), NAC (NGC, Bengalum College with Potential for Excellence, USC, Manager
Star Callege Scheme by DBT-Govt, of India, New Delhi Ranked 88th by NIRF, Manager MAD, New Delhi

Office/Fax : (07152) 730515 Admin. Off. : (07152) 741696 Library : (07152) 785070

E-mail: jbsciencewardha@lyahob.co.in. website: jbsw.shikshamandal.org

Ref No. 1.8.C J ) [76/2017-2018.



Jamoalal Bajaj Marg. Gwll Line

Wardha - 442 003 (Maharashtra) Uni. College No. : 802

Ir. College No. : 07-01-003

Date Z / //2/2017

To, Dr. Arti Shenware, Director, RG8C, RTMNU, Amravati Road, Naggur.

Madam,

Jankidevi Bāja; College of Science was established in 1962 by Shāksha Mandāl, with the prime objective of catering science education at Wardha. It is Grant-in-aid College affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

The college is accredited by NAAC with the prestigious 'A' grade( CSPA of 3.21) and honoured with a status of College with Potential for Excellence (CPE) by UGC. New Defin and selected under 'Star College Scheme by Govt of India. Recently it is conferred with Autonomy status. It is a Linguistic Minority institution offering undergraduate, postgraduate and Ph.D. programme in science faculty.

Department of Life Sciences (Microbiology, Zoology, Botany, and Chemistry) runs both US and PG courses. To make our students more acquaint with current trend in research and to come across with research culture we are planning to visit your esteemed and well known institute in the month of January 2018, keeping in view the soothing academic communication with research institute and college which may holp to frame a bridge between them. It's a humble request to you to provide us date as per your convenience. Our students will be more fortunate if they get chance to visit your institute which has a strong inheritance. Hope for positive reply and oblige.

Regards.

Dr. Oron, Mahodaya

#### Shiksha Mandal's

## Jankidevi Bajaj College of Science, Wardha

Autonomous College
A Linguistic Minority Callege
Reaccredited 'A' Institution (CGPA 3.21), nonc (voct, tampolore
College with Potential for Excellence, voc. new paint
Stor College Scheme by DBT Govt. of India, New Delhi
Ranked 88th by NIRF, wastry of NRD, New Delhi

Office/Fax : (97352) 230515 Admn. Off. : (07152) 241696 Bbrary : (07152) 255070

E-mail: jbsciencewardha@yahoo.co in websito: jbsw.shikshamandal.org

Ref No. J.B.C.//6// /2017-2018

Jamnaləi iləjəj Marg, Civil Line

Wordho - 442 001 (Maharashtra) Uni. College No. : 802

Unt. College No. : 802 Jr. College No. : 07-01-003

Date 2\_/ //2 /2017

To,
Dr. M.S. Ladaniya
Director, Central Citrus Research Institute,
ICAR, Govt. of India,
Amravati Road, Nagour.

Sir/Madam.

Jankidevi Bajaj College of Science was established in 1962 by Shiksha Mandal, with the prime objective of catering science education at Wardha. It is Grant-in-aid College affiliated to Rashtrasant Tukadoji Maharaj Negpur University, Nagpur.

The college is accredited by NAAC with the prestigious 'A' gradel CGPA of 3.21) and honoured with a status of College with Potential for Excellence (CPE) by UGC, New Delhi and selected under 'Star College Scheme by Govt. of India. Recently it is conferred with Autonomy status. It is a Linguistic Minority institution offering undergraduate, postgraduate and Ph.D. programme in science faculty.

Department of Life Sciences (Microbiology, Zoology, Botany, and Chemistry) runs both UG and PG courses. To make our students more acquaint with current trend in research and to come across with research culture we are planning to visit your esteemed and well known institute in the month of January 2018, keeping in view, the soothing academic communication with research institute and our college which may help to frame a bridge between us. It's a humble request to you to provide us date as per your convenience. Our students will be more fortunate if they get chance to visit your institute which has a strong inheritance, Hope for positive reply and oblige.

Regards.

Dr. On A. Mahodaya

## Jankidevi Bajaj College of Science, Wardha

P. G. Department of Microbiology

Industry-Academia Meet: Rajiv Gandhi Biotechnology Centre (RGBC), Central Citrus Research Institute(CCRI), and Government Institute of Forensic Science, Nagpur.

2<sup>nd</sup> February 2018.

Report

Department of Microbiology has organized an educational tour under industry-academia programme on 2<sup>nd</sup> Feb.2018. Total 40 post graduate students of semesters II and IV along with PG Coordinator Dr. Ulka Malode and faculty, Mr. Suraj Kombe visited Rajiv Gandhi Biotechnology Centre and Central Citrus Research Institute Nagpur. Students get benefited by this tour since they come to know the working and different sectors in research institute. At Rajiv Gandhi Biotechnology Centre, students visited Central Research and Development laboratory, Gene Laboratory and Animal Tissue Culture Laboratory. The students came to know working of PCR, Horizontal Electrophoresis, Lyophilizer etc. Consultancy officer at Rajiv Gandhi Biotechnology Centre demonstrated the Production of Biofertilizer and biopesticides. Dr. Arti Shanware, Director of Rajiv Gandhi Biotechnology Centre addressed about mission, vision of RGBC and delivered a lecture on Liquid Biofertilizer.

Dr.C. N. Rao, Principal Scientist and Dr. Dhengre, Scientist at CCRI laborates the ongoing research work at Central Citrus Research Institute (CCRI). Students get acquainted with the various laboratories at CCRI such as Entomology Laboratory, Plant pathology and Nurseries. A live demonstration was arranged on the budding process of Citrus plants in nursery.

At Government Institute of Forensic Science, Prof. Milind Panchabhai addressed us about the Institute and make our visit feasible at different Laboratories by demonstratingFTIR, Research Microscope, U.V Visible Spectrophotometer, HPLC and Video Spectral Comparator (VSC) machine which is used for the analysis of Question Documents in Forensic Sciences.





Post Graduate students along with Staff Dr.U.A.Malode and S.V.Kombe gathered at college campus to start journey to Nagpur for Industry visit and Consultancy Officer at RGBC giving demonstration on Biofertilizer and Biopesticide Production





Consultancy Officer at RGBC giving demonstration on Biofertilizer and Biopesticide Production





Post Graduate students along with Staff Dr.U.A.Malode and S.V.Kombe during presentation on working of CCRI, Nagpur and Dr.Dhengre ,Scientist at CCRI demonstrating methods of biological pest control





Post Graduate students along with Staff Dr.U.A.Malode and S.V.Kombe at Nursery of CCRI, Nagpur





Technician at CCRI, Nagpur giving Demonstration on Budding of Citrus Plant and Dr. MilindPanchbhayee, faculty at Govt. Institute of Forensic Science, Nagpur addressing students





A lecture delivered by Dr.Arti Shanware, Director of Rajiv Gandhi Biotechnology Centre on Liquid Biofertilize and Vote of thanks delivered by Dr.U.A.Malode to Dr.Arti Shanware and team, Director of Rajiv Gandhi Biotechnology Centre, Nagpur





Students presenting a token of Love Dr.Arti Shanware and team, Director of Rajiv Gandhi Biotechnology Centre, Nagpur and Thanks giving letter and token of love on behalf of J.B.College of Science, Wardha given to Dr.C. N. Rao, Principal Scientist and Dr. Dhengre, Scientist at CCRI, Nagpur.



Thanks giving letter and token of love on behalf of J.B.College of Science, Wardha given to Dr. Khobragade, Director, Govt. Institute of Forensic Science, Nagpur

(**Dr. U.A. Malode**) P. G. Coordinator

Dept. of Microbiology

Shiksha Mandal's

# Jankidevi Bajaj College of Science, Wardha

Autonomous College A Linguistic Minority College Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Rengalore College with Potential for Excellence, UGC, New Delhi Star College Scheme by DBT Govt. of India, New Delhi Ranked 88th by NIRF, Ministry of HRD, New Debi

Office/Fax : (07152) 230515 Admn. Off.: (07152) 241696

Library : (07152) 255070

E-mail: jbsciencewardha@yahoo.co.in

website: jbsw.shikshamandal.org

Jamnalal Bajaj Marg,

Civil Line

Wardha - 442 001 (Maharashtra)

Uni. College No.: 802

Jr. College No. : 07-01-003

Date a) /0//2018

Ref No. J.B.C./ /2017-2018

To.

Mr. Vivek Mehrotra,

Vice president, H.R.

Uttam Galva Metallics Ltd.,

Bhugaon Link Road, Wardha.

1. B. College of Spience

MAINA

Dear Sir,

We are highly obliged to you and team of "Uttam Galva Metallics Ltd., Bhugaon Link Road, Wardha" for organizing industrial visit of P.G.(Chemistry) students of our college. Our students and faculty definitely get benefitted by this visit. We hope same cooperation from you in future also.

With regards

Dr. Om A. Mahodaya

Yours Faithfully

Principal,

(Striction) Bolol College of Science, Warding

# Jankidevi Bajaj College of Science, Wardha

Autonomous College
A Linguistic Minority College
Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Nampolore
College with Potential for Excellence, UGC, New Delhi
Star College Scheme by DBT Govt. of India, New Delhi
Panked 88th by NIRF, Ministry of HED, New Delhi

Office/Fax : (07152) 230515 Admn. Off. : (07152) 241696 Library : (07152) 255070

E-mail: jbsciencewardha@yahoo.co.in website: jbsw.shikshamandal.org

Jamnalal Bajaj Marg. Civil Line

Wardha - 442 001 (Maharashtra) Uni. College No. : 802

Ir. College No. : 07-01-003

Date 25/0//2018

Ref No. J.B.C./ /2017-2018

To, Mr. Vivek Mehrotra, Vice president, H.R. Uttam Galva Metallics Ltd., Bhugaon Link Road, Wardha.

Subject: Educational tour to your esteemed organization,

Sir,
Jankidevi Bajaj College of Science, Wardha was founded in 1962 by Shiksha Mandal Wardha, which imparts
Science education to more than 1500 students from Junior college to Ph.D. At present, our college is an
autonomous college with linguistic minority status.

Sir, about 35 students of M.Sc Chemistry are interested to visit your esteemed industry particularly research laboratories and sophisticated instrumentation centre. Three staff members would also accompany them.

We shall be highly obliged if you cormit us to visit your institute and convey the date of visit on 19<sup>th</sup> or 20<sup>th</sup> December 2017.

Contact Person: Dr. P.V.Tekade (pradiptekade@gmail.com, 9422556608/9673459736)

Thanking you.

Mead | Incherge
Department of Chemistry
1. B. College

Dr. Om A. Mahodaya

(Principal)

(Principal)

Jankodevi Bajal

College of Science, Wordha.

# JANKIDEVI BAJAJ COLLEGE OF SCIENCE, WARDHA (AUTONOMOUS) P.G.DEPARMENT OF CHEMISTRY (SR. COLLEGE)

INDUSTRY ACADEMIA MEET: UTTAM GALVA METALLICS LIMITED, WARDHA

DATE: 25<sup>TH</sup> JANUARY, 2018

#### Report

To inculcate Research, idea and to enrich knowledge of students about industrial work for job placement after completion of education, one day educational tour to Uttam Galva Metallics Ltd. Wardha was organized for P.G. students on Wednesday, 25th January, 2018. Thirty five students and four staff members visited to Uttam Galva Metallics Ltd., Wardha.

Uttam Galva Metallics Ltd. Wardha is one of the largest manufactures of cold rolled steel and galvanized steel in India. In this industry, the faculty and student visited to Quality Control (Q.C.) Division of Uttam Value Steels Limited (previously known as Lloyds Steel Industries Limited). Security instructor Mr. Amitendra Dwivedi delivered information regarding rules, regulations and safety aspect to the students and faculty. They provided safety helmet and Leather shoes to students and faculty. In QC division, we visited to following NABL Aggregated Laboratories.

- 1. Chemical Laboratory
- 2. Polishing Laboratory
- 3. Spectral Laboratory
- 4. Physical Laboratory
- 5. Q.C. Workshop
- 6. Environmental Laboratory

In Chemical Lab. Mr. K. Wadatkar demonstrated the strohlein apparatus. This apparatus is used to determine carbon and sulphur in metallic alloy. Information about tubular furnace, fume hood and operation procedure of macro weighting balance was also provided.

In Polishing lab, Mr. K. Wadatkar gave information about utility of polishing machine. This machine is utilized for the preparation of cube material of metallic alloy, required for the spectral analysis of metal alloy. In spectral laboratory, Mr. Wadatkar gave the demonstration and information about working and principle of Spectro Analytical Instrument. This instrument is

utilized for the analysis of various elements such as Sulphur, Nitrogen, Hydrogen, and Oxygen etc. in Metallic alloy.

Mr. Gosh gave information about Physical laboratory regarding different parameters i.e. Tensile strength, Compressive and Bend Properties, Impact test, Bending and Folding, Metal susceptibility in high and low temperature etc. Mr. Gosh demonstrated different types of physical testing Machine such as Rocked Hardness testing, Universal testing machine, Impact testing machine, Bending and folding machine and Erichsen Cupping Machine. He also gave information about handling and utility of liquid nitrogen for determination of strength capability of metal at low temperature. In Q.C. workshop, the instructor gave information of preparation of metal job for physical testing. We have collected information related to air and water pollution in the Environmental Laboratory and related to the test parameters to analyze various types of water and air pollutants released from the industry.

This tour enriched the knowledge of students about Industry and working of various sophisticated Instruments.



Visit to Uttam Galva Metallics Limited, Wardha





Demonstration of Metal Polishing in Polishing Lab.





**Demonstration of Physical Lab. Instruments** 





Demonstration in Chemical Lab. and Spectra Lab.

seath

H.O.D

Department of Chemistry istra

• Callege of Science

WAR!

Co-ordinator

P.G. Department of Chemistry
P. G. Departmentstry
J. B. College of WARDHA

Extratisfument Year 1982

Shiksha Mandal's

# Jankidevi Bajaj College of Science, Wardha

Autonomous College A Linguistic Minorlty College Reaccredited 'A' Institution (CGPA 3.21), RAAC (UGC), Rougelore College with Potential for Excellence, UCC, New Date Star College Scheme by DBT Govs, of India, New Delhi Ranked RSth. by NIRF, Ministry of HRD, New Debit

Office/Fax : (07152) 230515 Admn. Off.: (07152) 241696 : (07152) 255070 Library

F-mail: jbsciencewardha@yahoo.co.in

website: jbsw.shikshamandal.org

Jamnalal Bajaj Marg. Civil Line

Wardha - 442 001 (Maharashtra) Uni. College No.: 802

Jr. College No. : 07-01-003

Date 1 1 9 12017

Ref No. J.B.C./ 2017-2018

To

Dr P B Kale.

Director MGIRI, Wardha

Subject: Request to supervise project work of M. Sc. (Chemistry) students

The M.Sc. (Chemistry) students have to carry out the project work in their degree course. He/she may carry Dear Sir, the work at any of the national /regional/private research institute/organization. The project can be of following types.

A) Experimental Project Work; OR B) Field Based Project Work; OR C) Review writing based Project Work.

From this year we are in consideration to consign three/four PG students to your reputed institution for their project work under the stewardship of you and supervision/guidance of your collogues. The fees for carrying work prescribed by University is Rs. 1500/-per student. Students will be free for carrying their work at your institution in the afternoon session after their theory classes in the college. The detail guidelines are attached herewith (Appendix 1 ).Date of submission of synopsis of proposed work-15th September 2017 and Date of submission of dissertation -15th January 2017.

Kindly see the feasibility and do the needful.

Contact Person: Dr P V Tekade, Co-ordinator, PG (Chem), J B College of Science, Wardha; cell no. 9422556608

Thanking you!

Regards.

Om Mahodaya)

Principal

Copy to: Dr Maneranjan Patnaik, Deputy Director, Chemical Based Industries, MGIRI, Wardha

Cardindown New Chief

# Jankidevi Bajaj College of Science, Wardha

(A Lingwinic Minurity College) Reacceedited 'A' Institution (CGPA 1.21), see a.c. amount College with Patential for Excellence, our Nov Detail Star College Scheme by DBT the of take for Sold

Office/Fax : (07152) 230513

Admin. Off.: (07152) 341696

Library : (07152) 255670

E-mail : pisciencewardha synhon co in

website : jbsw shikshamandal org

Rof No. J.B.C. 12015 -2016

Semential Dapar Mary. Civil Line

Wardha - 442 001 (Mahamahira) Una College No. 1902

Jr. Callings No. : 07-03-303

Dots / 73016

## Certificate

This is to certify that the work presented under Project entitled "Preparation of soy-flour based adhesive and it's characterisation by DSC and TGA"is the own work of Ku. Shraddha P. Ingale conducted in the P.G. Department of Chemistry, Jankidevi Bajaj college of Science, Wardha and Chemical Industries Division MGIRI, Wardha

Dr. Pradip V. Tekade

Internal supervisor

Prof. V. B. Patil

Head

Department of chemistry

Dr. M. Patnaik

External supervisor

Dr. Om A. Manodaya

Principal

Jankidevi Bajaj College of Science.

Wardha

ShikshaMandal's

# Jankidevi Bajaj College of Science, Wardha

(A Linguistic Minority College) Reaccredited 'A' Institution (CGPA 3.21), NAAC (UGC), Bangulare College with Potential for Excellence, voc., New Debi Star College Scheme by DBT Gove of India, New Delhi

OthopPax 1 (07152) 2305) 5 Admn. Off. (07152) 341696 : (07152) 255070

E-mail: jhtc/encewwrtha@ynhoo.co.in website i jbsw.sbiksbumundal.org



Japanustat Buisi Marg Civil Line Wanthu - 442 003 (Maharashtra) Uni. College No. ; 182 Jr. College No. : 07-01-003

Ref No. J.B.C./

/20 -20

Date: 13/4/2018

## Certificate

This is to certify that the work presented under Project entitled "Study of nutrient transfer from soil to the plant biomass in different stages of plant development (Fenugreek)" is the own work of Mr. P. D. Lande conducted in the P.G. Department of Chemistry, Jankidevi Bajaj college of Science, Wardha and Chemical Industries Division, MGIRI, Wardha

Dr. Pradip V. Tekade

Internal supervisor

Mark

Prof. V. B. Patil

Head

Department of chemistry

Juns

External supervisor

Dr. Om A. Mahoosya Principal

Jankidevi Bojoj College of Science,

Wardha

