



Loyola Academy (Autonomous), Secunderabad

Affiliated to Osmania University, established in 1978 Autonomous College (1992 UG & 2010 PG)
College with Potential for Excellence (2006) NAAC Accredited with 'A' grade in the 3rd Cycle
(2019) NIRF 2021: College (Rank-band: 151-200)

IQAC –REPORT-2019-20. M.SC.BIOTECHNOLOGY DEPT.

Department of MSc Biotechnology- details of activities

DATE	ACTIVITY	PLACE	NO STUDENTS PARTICIPATED
2/03/2019	Distribution of books & stationery to school children at FRIENDS FOUNDATION, Hyderabad	CHOWDARIGUDA	06
4/03/2019	walkathon conducted by CARE HOSPITALS	HYDERABAD	03
10/03/2019 11/03/2019	PULSE POLIO PROGRAMME	ALWAL	2018-2019 BATCH
13/03/2019	BACK TO SCHOOL	NEW BOWENPALLY	04
14/03/2019	BLOOD DONATION CAMP	HYDERABAD	03
30/03/2019	STUDENT PARTICIPATION IN VIRTUAL LEARNING WORKSHOP AT KESHAV MEMORIAL ARTS&SCIENCE COLLEGE	NARAYANGUDA	06
11/05/2019	STUDENT PARTICIPATION IN VILLAGE ADOPTION PROGRAM (konaipally & maisireddypally)	ALWAL	05
21/04/2019	AB BAS-Social evil program NMBT girls student participation	LOYOLA ACADEMY	02

2/08/ 2019	INSPIRESESSION:CAREER DEVOLPOPMENTTALTALKBY H.AMBIKA(ALUMNII)	LOYOLA ACADEMY	CLASS
28 AUGUST	INSPIRE SESSION: CAREER TALK BY NANDINI,NAVIDA,ATHIYA(ALUM NII)	LOYOLA ACADEMY	CLASS
3 SEP 2019	INSPIRESESSION CAREERDEVOLOPMENT TALK BY SOUMYA(ALUMNII)	LOYOLA ACADEMY	CLASS

INDUSTRIAL VISIT:

DATE	INDUSTRY	PLACE
16 MARCH 2019	SHIVA SHAKTI	SR NAGAR
4 SEP 2019	HINDUSTAN COCO COLA	MIYAPUR
24 SEP TO 26 SEP	NCMR-NCC S KF BIOPLANTS NFCCI MITCON BIOTECH	PUNE

- **Paryavaran samrakshan abhyaas program 2019:**

NMBT&AMBT Student & staff participation in environmental awareness activity.

- **MEMORANDUM OF UNDERSTANDING:**

The Dept. Of M.Sc.Biotechnology has entered an MOU With Prathista biotech pvt.Ltd.in the month of April 2019. For a period of 5 yrs.

Out comes: Student Exchange,Industry vist,

Faculty Training on Intrumentation, Collabarating for seminars

- **FACULTY PARTICIPATION IN SEMINARS/ WORKSHOPS 2019**

Ms. S. Dhavala, attended a national level faculty development programme on **MOOC's for blended teaching and learning** conducted by Loyola College, Chennai on 6th &7th September 2019



Mr. V.V.S. Chalapathi Rao .D.GURUDEVI, Dr,Sirisha S.Dhavala attended Faculty Development Programme on RESEARCH METHODOLOGY conducted by Loyola Academy, Alwal,Secunderabad on 28 th January 2020.

Mr. V.V.S. Chalapathi Rao D.GURUDEVI, Dr,Sirisha S.Dhavala attended Faculty Development Programme on MOODLE conducted by Loyola Academy, Alwal,Secunderabad on 14th ,15th febraury 2020.

- **VILLAGE ADOPTION PROGRAM MAY 11TH 2019**

- A VISIT TO VILLAGES

We the students of AMBT have visited few villages as a Part of village adoption program organized by the PLANET of LOYOLA ACADEMY on 11-05-19 along with the members of NCC.



It was a social outreach program meant to improve the Daily lives of the people in remote villages by lending a helping Hand .As a part of this program we have visited kanukunta, Maisireddy Palli and konaipally villages where we donated few Basic requirements like chairs, desksto Gram Panchaya tand benches, chairs, white board etc. to Government schools. There were few motivating speeches given by Rev Fr Dr P. Anthony SJ to encourage the villagers to collaborate and strive for the development of the village.

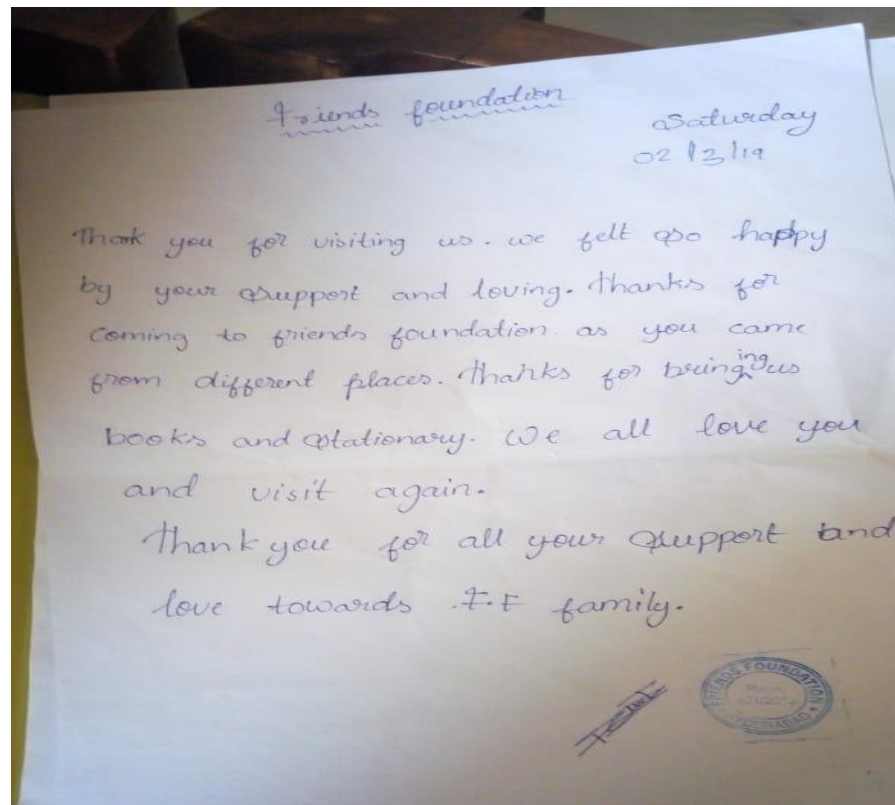
The representatives of the villages were warm and welcoming. The college has provided transport facilities for the students to reach the villages and few refreshments on our way

The experience of this tour was fantastic and unforgettable. We feel blessed to be a part of this program and it has given us a Better understanding of the problems faced by the rural people. villages and few refreshments on our way.



We thank our Head of the department for motivating us and giving an opportunity to visit such a pleasant place. It was indeed very satisfying experience for us as we could bring smiles on children's faces however for a brief period. We realized that one must contribute and understand his/her social responsibilities towards the society.

FEEDBACK :



DONE BY:

T.JAHNAVI

P.NAVYA

M.SHIVANI

U.SHIVANI

E.SAI PRATHYUSHA

P.RAMYASRI

STUDENT PARTICIPATION IN WALKATHON BY CARE HOSPITALS , HYDERABAD

A walkathon conducted by CARE HOSPITALS, HYDERABAD was attended by Sweta, Priyanka and VeerANJI (UIDs - 111718516031, 111718516032, 111718516007) on 4th March 2019 at People's plaza. We reached there by 5:30am and the event began at 6:30am.

The main motive of the event was to raise an awareness regarding the organ transplantation and organ donation on the occasion of WORLD KIDNEY DAY. As a part of the event we were made to walk for 2km and do some exercise for fitness. Many nephrologists and neurologists

were called upon as guests for the event. We were given a lecture regarding healthy lifestyle and how to keep our system healthy. They also gave a small talk regarding importance of organ donation and transplantation.

The programme was really worth attending as we got certain new things to learn and good gather to opportunity to raise awareness regarding it.

The whole event was captured and telecasted by TV 9 CHANNEL .



REPORT ON STUDENT PARTICIPATION IN PULSE POLIO PROGRAMME

Students of Loyola Academy of NMBT attended a two day PULSE POLIO PROGRAMME on 10th March 2019 and 11th March 2019 as a part of PLANET Programme organized by Mr Stephen. Students gathered near Government Civil Hospital & Primary Health Care Centre at about 7 am.

The government of India launched the pulse polio immunization (PPI) programme to eradicate poliomyelitis from India.

DAY 1

We were given instructions about how to handle children and give them polio drops and many other instructions about the programme. Then we proceeded to our pulse polio programme location.

Every students were divided in groups and sent to different locations in the locality. Out of these students some were assigned to give polio drops and some were noting the details of how many children were given the drops.



DAY 2

On 2nd day we had a survey programme where in we were supposed to note down the house numbers who got the pulse polio done and then mark those house as DONE.

The whole programme was a huge success as we got a new exposure to such kind of activity and we knew how the pulse polio programme works.



STUDENT PARTICIPATION BLOOD DONATION

DATE:MARCH 14th 2019

STUDENTS PARTICIPATION IN BLOOD DONATION PROGRAM:



PURPOSE OF BLOOD DONATION

To explain the importance of giving blood and saving life of an individual as a social responsible person or a citizen.

HIGHLIGHTS OF BLOOD DONATION

To be responsible towards the society where we are living, M.sc biotechnology department, Loyola Academy, students namely Veeranjinaik, Pardhu ungurala, Chada Gopal Reddy individually have donated 1 unit blood at RAM HOSPITALS BLOOD BANK, SHAPUR NAGAR, JEEDIMETLA on 14th march 2019.

PROBLEMS FACED IN DONATING BLOOD

Initially we went to lion's club society of blood bank where blood donation was not taken by authorities due to insufficient equipment so, then we were guided by staff of lion's club to give blood on next day at Ram hospitals blood bank. Later we were instructed by hospital staff over in the process of blood donation.

STUDENTS PARTICIPATED IN BLOOD DONATION

Veeranji naik- 111718516007 Chada Gopal Reddy- 111718516034 Pardhu ungurala- 111718516038

REPORT ON 'ONE DAY NATIONAL LEVEL WORKSHOP ON VIRTUAL LEARNING – AN INNOVATIVE PATH TOWARDS ICT TEACHING'

CONDUCTED ON 30 MARCH 2019, organised by Dept of BIOTECH & PHYSICS in association with AMRITA VISHWA VIDYAPEETHAM, KERALA & Commissionerate of Collegiate Education, Government of Telangana at KESHAV MEMORIAL INSTITUTE OF COMMERCE & SCIENCES ,
NARAYANAGUDA, HYDERABAD – attended by the NMBT students.

M.DIVYA SREE- 01, VEERANJI NAIK- 07, E.PRATHYUSHA – 09, JAHNAVI – 04, GOPAL REDDY – 34, RAMYA – 22.

We attended to an national level workshop on VIRTUAL LEARNING at KMCS. It mainly concentrated on the virtual learning in labs for practical skills. The session went very peacefully and It was very informative for each and every student attended. It focuses to improve the practical skills of the student by performing experiments in the computer but not in labs. This way of practicals can improve the observation capacity of the student and can get detailed knowledge on each and every material involved in the experiment. This learning uses computers, there is no need to go labs and there will not be any fear of wasting the chemicals and apparatus. Practical can be run smoothly in respective computers or any gadgets like tabs, mobiles etc. virtual learning can save time and energy but improves the knowledge of the student. There is an online website for this ICT labs. A student must enrol themselves and can perform any experiment of his own at any place and any time. In the workshop they explained about these virtual labs in detail and how does it help the student in every aspect. We surely gained a lot of information and knowledge regarding these ICT learning. In fact we had hands on experience on how to use this way of practical learning. We operated on system and performed few biological experiments as well. Surely there labs implementation is a very innovative idea which is initiated by AMRITA VISHWA VIDHYAPEETHAM. It is such a marvellous idea to improve the practical skills not only theoretical knowledge. We gave feedback by representing our college during the closing ceremony. Overall it was such a wonderful experience attending the workshop.



ESTD. 1940



KESHAV MEMORIAL INSTITUTE OF COMMERCE AND SCIENCES

(Affiliated to Osmania University)

Narayanaguda, Hyderabad - 500 029.



One Day National Level Workshop

Certificate Of Participation

This is to certify that Dr / Mr / Ms M. Divya SREE of
LOYOLA ACADEMY university / college HYDERABAD

has participated / presented poster in One Day National Level Workshop on **"Virtual Learning - An Innovative Path towards ICT Teaching"** held on 30th March 2019, organized by Department of Biotechnology and Physics in association with Amrita Vishwa Vidyapeetham, Kerala and Commissionerate of Collegiate Education, Government of Telangana.

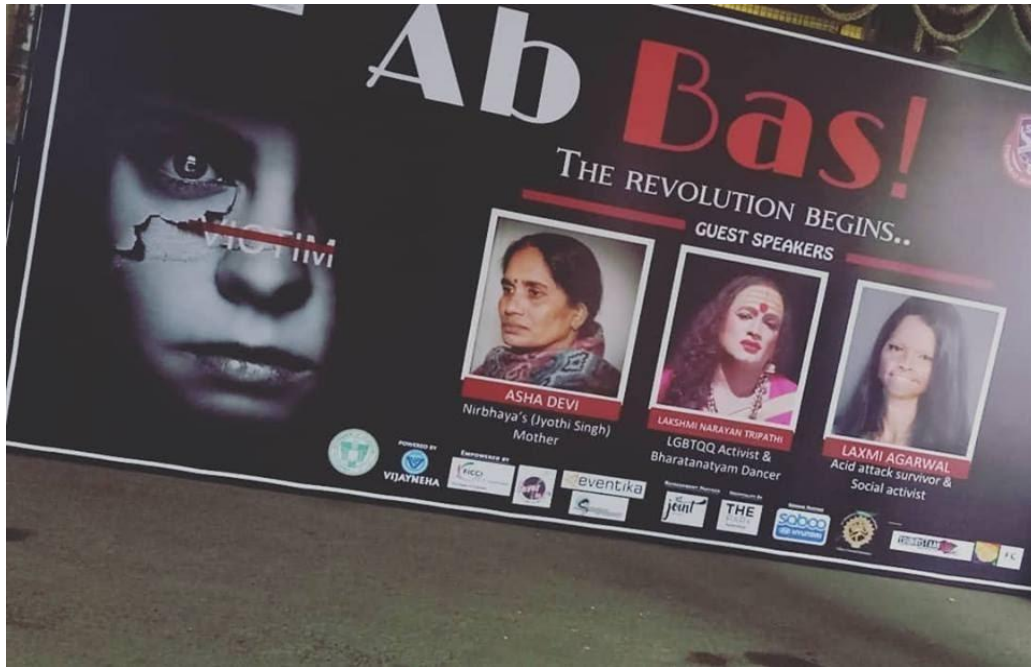
Sreeletha
Mrs. G. Sreelatha
Co-Convener

Kavitha
Ms. Kavitha Varak
Convener

J. Nageswara Rao
Dr. J. Nageswara Rao
Principal

REPORT ON GIRLS STUDENTS

ATTENDING AN EVENT ON SOCIAL EVILS - AB BAS...!!!



21st April 2019 –

AB BAS!!! Was an event that aimed at giving out the message that 'Society and women need to stop victimizing the latter. Instead, they should fight their unforgiving circumstances and come out winners.'The focus topics were - Women against rape, acid attack and fight for rights. For each category they had a guest speaker -

1. Women against Rape: Mrs. Asha Devi (Nirbhaya's Mother)
2. Women against Acid attacks: Ms. Lakshmi Agarwal (Activist for Acid Attack Survivors)
3. Women to Fight for Rights: Ms. Laxmi Narayan Tripathi (renowned LGBTQ activist)



The initiative to go for this event was taken up by the college management. 20-25 students of UG and PG of various departments actively participated to go for this event accompanied by Stephen sir and Sailaja mam.

The college bus started at 5 pm and we reached there by 6pm. This programme was organized under the supervision of CYBERABAD POLICE.

The event ended at about 9:30pm and finally we came to our college by 10:30 pm safely. The whole event was worth attending.

I dont know how much we can (personally me) could contribute to women empowerment but listening to these women will surely ignite any meek soul.

And its true that the society puts a stigma on women for these heinous crimes on her and liberates these criminals to find their next prey.

Only if people could take a moment to empathize the agony of these victims could these monstrous acts be stopped.

From our UG department (Msc Biotechnology) Sweta Mukherjee (111718516031) and Priyanka Kushwaha (111718516032) of AMBT had participated in this event.



I . INSPIRE SESSION 2019(student development&progression)

INTERACTIVE LECTURE ON CAREER DEVELOPMENT DATE; 2^N AUGUST 2019

On 2nd August 2019 , we the students of NMBT had a small interactive session with our senior Heerkar Ambika (pass out) in our classroom at about 11:45 am. She spoke a few words about her experiences in Loyola Academy , her academics , dissertations and at the same time she motivated us on how to study for academics, prepare for various entrances exams and how and where to work for our dissertation. Since she has got placed in one of the esteemed institute named “UNIQUE BIOTECH LTD” in R&D department situated in GENOME VALLEY. She also spoke on how to focus on our placements and scholarships and carry on with our lab works meticulously . This interactive session was planned by our HOD sir Mr V.V.S CHALAPATHI RAO sir. We were motivated by our senior and hope to pass out with flying colors .



Alumni Heerkar Ambika Interacting with students

II.INSPIRESESSION2019(STUDENTDEVOLOPMENT&PROGRESSION)

TITLE OF THE PROGRAM : AWARENESS ON JOB OPPURTUNITIES IN BIOTECH INDUSTRY AND R&D INSTITUTIONS

DATE: 28TH AUGUST 2018

On 28th august 2019 three of our Alumni Nandini,Niveda,Athiya attended our class during 4th and 5th hours to enlighten us for our career and future aspects of Biotechnology.

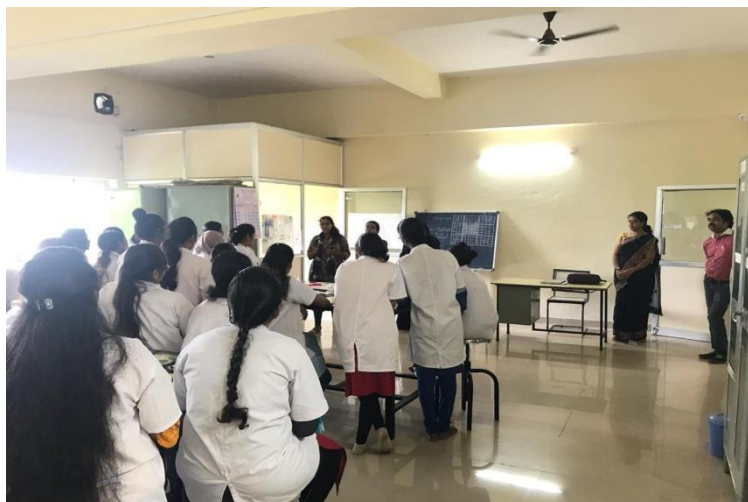
They discussed regarding placements and about where they have applied whether off campus or through college placements .They shared their views on our college labs and how efficiently our academic curriculum have benefitted them in getting good placements.

They personally spoke regarding where they have applied for jobs and are waiting for the results of interview to be declared.

Niveda and Nandini and Athiya – VIVO BIOTECH (CAMPUS PLACEMENT)

Nandini and Athiya- GRETISOL AND ATRIA BIOSCIENCES
(CHENNAI-OFF CAMPUS).

We were really thankful to our seniors for this knowledgeable talk and also highly obliged to our HOD sir and faculty members for arranging this interactive session.



ALUMNI INTERACTING WITH NMBT STUDENTS

III. INSPIRESESSION2019(STUDENTDEVOLOPMENT&PROGRESSION

TITLE: INSPIRE SESSION:CSIR NET AWARENESS TALK DATE: 31ST AUGUST 2019

An interactive session was conducted by our HOD sir on 31st August. Dr.Dinesh came to attend and address the students about the various entrances after MSc and about career prospects of biotechnology. He discussed about the entrances for PhD and how to have a good grasp on the subject and how to study for entrances. He shared his experiences on how he used to study and how he cracked his NET entrances.

We were very thankful to him to guide us for our future.



DR. Dinesh interacting with NMBT students

IV. INSPIRE SESSION 2019

TITLE: INSPIRE SESSION ON CAREER DEVELOPMENT & HIGHER STUDIES

DATE: 3RD SEPTEMBER 2019

On 3rd September 2019 one of our senior (SOU MYA A92016 passed out student) pursuing integrated Msc-PhD at London University attended our class during 3rd hour to enlighten us for our career and future aspects of Biotechnology abroad.

She discussed regarding higher studies and about where she have applied for PhD courses. Currently she is doing her higher studies on BIONFORMATICS AND COMPUTER BIOLOGY .She shared her views on our college labs and how efficiently our academic curriculum have benefitted her in getting good placements. She is also getting scholarship of Rs 10000 per month. Her credit score was 7/9 hence she got the seat there.

She has even published 2 abstracts and 4 journals and is performing meticulously in her academics.

Her admission was possible after she received a reference from her project guide while doing her dissertation. She also spoke to us about the university and how we can also pursue our higher studies there.

We were really thankful to our senior for this knowledgeable talk and also highly obliged to our HOD sir and faculty members for arranging this interactive session.



INDUSTRIAL VIST 2019

TITLE: SHIVASHAKTI BIO TECHNOLOGIES LTD. DATE: 16TH MARCH 2019

An educational trip to SHIVA SHAKTI INDUSTRIES was carried out on 16th march 2019 by Loyola Academy. 36 Students of M.Sc Biotechnology (AMBT) were accompanied by their respective lecturers. The trip started at 8 am and we reached there by 10:45 am. As soon as we reached there we were briefed about the industry by Dr. KSR Murthy ,Principal Scientist (Shivashakti Labs).

Vision:

To be a global corporation that empowers and enriches farming communities by providing the Best Agro Solutions.

Values:

Customer Delight

Ethical Business Practices Commitment &

Honesty Responsibility & Responsiveness

Respect, Relationship & Caring Positive

Attitude

Their main focus is on TISSUE CULTURE of teak plants. For that they have well equipped labs and efficient workers to carry out the production.



AN INDUSTRIAL VISIT TO SIVA SHAKTHI INDUSTRIES,PATANCHERU, HYDERABAD

They also focused on the fermentation technology producing various products.

We were also taught about their fertilizer unit, labs which they have and about their turnover in the market especially in the field of agriculture. The educational trip was worth the visit. We are very thankful to our lecturers Dr. SirishaS.Dhavala Father Anand and also towards our HOD Mr. Chalpathi Rao to arrange such a programme for us.

I. INDUSTRIAL VIST 2019

TITLE: VISIT TO COCA COLA INDUSTRY DATE: 4th SEPTEMBER 2019

Students of NMBT were accompanied by their lecturers Mr.VVS Chalapathi Rao and Mrs. Guru Devi to the coca cola industry on 4th September 2019. The bus started at about 10 am with all the 35 students of NMBT. At 11am we reached HINDUSTAN COCA COLA INDUSTRY .We were supposed to wear head cover and nose mask and then enter industry premises without our cellphones.

An industrial visit to Hindustan Coca-Cola Beverages Pvt.Ltd that offers varied range of drinks which are manufactured with high hygienic and quality standards.

The Industrial Visit comprises the following aspects of Coca Cola India

1. Understand the bottling & concentrate dilution process.
2. Witness the stringent Quality Control measures and Total Quality Management system.
3. Networking with like-minded students and professionals.

The industry was setup in 1886.

It comprises of 300 manufacturing units of which 54 are there in India.

Raw materials used for the production of soft drinks and fruit juice drinks- water , carbon dioxide , sugar and pulp. In Telangana itself 4 manufacturing units are present. The industry is headed by Factory Manager. We were given an insight to the coca cola production in a sequential manner and how the industry functions.

The total industrial visit was worth the visit and we gained a lot of knowledge about the functioning of the industry.

We are highly thankful to our HOD sir and other lecturers and students to make the industrial visit a success.



NMBT STUDENTS VISIT TO COCOCOLA COMPANY

ISIT 1:NCMR (National Centre for Microbial Resource): DAY 1: 25 SEP 2019

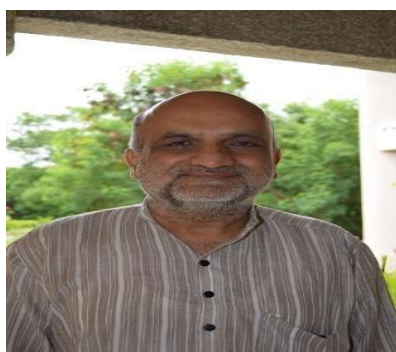
SESSION: MORNING

INTRODUCTION:

The Microbial Culture Collection, (Now called as National Centre for Microbial Resource, NCMR) in Pune, is India's microbial culture collection centre, recognized by World Federation for Culture Collections (WFCC), and has a status of International Depository Authority (IDA).

The Microbial Culture Collection is a national facility funded by the Department of Biotechnology(DBT), Government of India. The MCC is affiliated to National Centre for Cell Science (NCCS), Pune, India. It is an affiliate member of the World Federation for Culture Collections (WFCC) and is registered with the World Data Centre for Microorganisms (WDCM, registration number 930). The main objectives of MCC are to act as a national depository, to supply authentic microbial cultures, and to provide related services to the scientific community working in research institutions, universities and industries.

The MCC was recognized by the World Intellectual Property Organization (WIPO), Geneva, Switzerland as an International Depository Authority (IDA) in April 2011. The deposit of microorganisms under the Budapest Treaty is recognized to fulfill the requirement of patent procedure in 55 member countries.



Dr.Yogesh Shouche (principal investigator)

- Research experience of 28 years in the field of DNA conformation, microbial ecology, microbial molecular taxonomy and biodiversity.
- More than 150 publications in reputed journals of relevant area;

- Reviewed publications in International journals like FEMS Ecology, International Journal of Systematic and Evolutionary Microbiology, Microbial Ecology and others;
- Several national and international collaborations; more than 25 successful grant applications from various funding agencies; Seventeen students awarded PhD from University of Pune and Eight are currently registered; Twenty years of post-graduate teaching experience and five years teaching experience for M.Sc. students; Editor, Indian Journal of Microbiology; Editor, European Journal of Soil Biology; Invited to contribute chapter in Berge's Manual of Determinative Bacteriology; Entrusted with responsibility of Establishment of Microbial Culture Collection (MCC).

OBJECTIVES:

- The centre focuses on basic research in the areas of microbial diversity, microbial taxonomy, microbial genomics and proteomics etc.
- Isolation and identification of microorganisms from various environmental niches.
- Preservation of microbial biodiversity from niche areas as metagenomic libraries.
- Development of new strategies for isolation of "not yet cultured" microbes.
- To provide consultation services for patent deposits, preservation, propagation, bio-deterioration, industrial problems, biosystematics and microbial biodiversity issues etc.
- To serve as national facility for microbial culture collection, deposit and the supply of authentic microbial cultures.
- To serve as an International Depository Authority (IDA).
- To establish and conduct workshops, seminars, symposia and training programmes in the area of microbial identification, preservation and advanced areas of microbial taxonomy and phylogeny.

OUR EXPERIENCE:



We students of MSc Biotechnology, Loyola academy, Secunderabad have visited NCMR on 25th September 2019 with the confirmation given by Dr Srikanth.

Dr Mahesh assisted us by giving detailed information about NCMR, its development, techniques, and present research going on. Mainly microbial culture preservation from all over the world is carried out in NCMR. More than 2 lakh cultures are preserved every year.

LYOPHILISATION TECHNIQUE LAB:



Lyophilization, also known as freeze drying is a process used for preserving biological material by removing the water from sample, which involve freezing at -196°C liquid nitrogen drying under vacuum, at very low temperature. It is mainly used for long term maintenance of culture for further use in research and industry.

Plug freezing, shell freezing, evaporation freezing and pelletizing are the general procedure of bacterial preservation by lyophilization. Stock cultures are maintained at -80°C then later on subjected to lowest temperature for preservation.

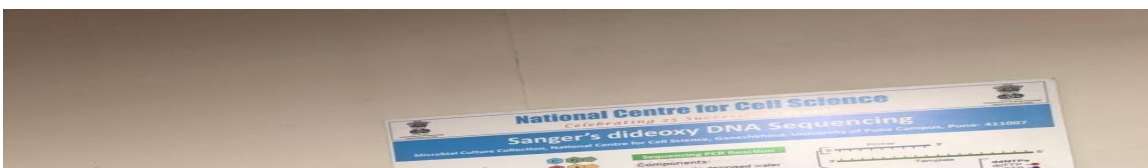
ANAEROBIC LAB:



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Anaerobic bacteria are cultured in specific conditions that grow only in the absence of oxygen in highly sophisticated Laminar Air Flow (L.A.F). Culture should be placed in an environment that is free of oxygen at 35°C for at least 48 hours before the plates are examined for growth. The media used in culturing anaerobic bacteria is treated with nitrogen gas and then oxygen level is checked by resazurine dye. If there is absence of oxygen, then the media in the test tube turns into colourless on reaction with resazurine dye.

DNA SEQUENCING:



DNA sequencing is the process of determining the nucleic acid sequence (the order of nucleotide in DNA). It includes any method or technology that is used to determine the order of the four bases adenine, cytosine, guanine, and thymine. Sangers sequencing also known as the “chain termination” method, was developed by Fred Sanger.

CONCLUSION:

We the students of MSc biotechnology have gained good knowledge and experience through the visit to NCMR, as it is one of the world’s best microbial culture and preserving centre. This visit has also enlightened our minds to go in research field. Dr Mahesh assisted us by giving all the possible information about NCMR. As token of gratitude we on behalf of Loyola Academy presented a memento to Dr Mahesh our guide throughout this visit.



VISIT:TO KF BIOPANTS,PUNE DAY

1: 25 SEP 2019

SESSION: AFTERNOON

INTRODUCTION:

Our second visit to the industry was to KF BIOPANTS, India’s largest plant biotech company at Pune, which was founded on 20/08/1992. A joint venture of kumar group and Florist Holland B V. Holland is a global provider of quality floricultural and ornamental plants, forestry plants and fruit plants. The company supplies 60 million plants annually for commercial cultivation in India and 30+ countries worldwide. With more than two decades of experience, KF Bioplants is associated with leading global companies. Its world class facilities are situated in Pune.



MISSION OF THE COMPANY:

Continuously exploring new frontiers for meeting rapidly changing needs, building relationships through value creation for all, rigorously maintaining adherence to well defined internal processes and norms is the mission of the company. KF Bioplants is a service organization delivering long lasting products that transform people's lives.

LEARNING OUTCOMES AND EXPERIENCES:

Industrial visits offer a great source to gain practical knowledge. We students of MSc Biotechnology, Loyola Academy, Secunderabad have visited KF Bioplants on 25th September 2019. Mr. Rohan Jadhav and Mrs. Deepali Mam have guided us through our entire visit.



Starting with giving introduction about the company, we had a very good experience and gained a lot of knowledge on plant biotechnology. They introduced their company by showing a short video and explained us regarding their works and goals. They gave us details regarding their company.collaborations and their processes. They made us motivated and interested in the field of plant tissue culture.

Later they took us to the green houses to show their plantations. They have wide variety of plantations of different species and they explained and showed us the setup of a green house. We gained a lot of knowledge on how is it maintained



We learnt a lot more such as we came to know that hybrids are more good and resistant and also different varieties can be grown with the help of plant breeding and crossing. We are also motivated to get ideas to culture new varieties in all types of plants.

INTERACTIONS WITH SCIENTISTS AND SCHOLARS:

They were very interactive and helped us to grasp information. We were overwhelmed and enthusiastic to interact with them. The scientists introduced different varieties of plants and taught us regarding different hybrids and their benefits. Moreover apart from the subject they also guided us for our career needs. They motivated us towards research and also enlightened us about various opportunities in plant tissue culture.



RESEARCH WORK:

KF Bioplants takes pride in conducting frontline research in areas of somatic embryogenesis, liquid culture, in-vitro propagation, and double haploid programme for hybrid seeds. It is committed to exhaustive testing for viruses as well as protecting genetic material under strictest confidentiality. The company believes in developing its knowledge base through trials and production of various plant species. Constant innovation is the key to future processes. It has developed a unique eco-friendly degradation of agar-agar, upgrading from autoclave to Enbiojet technology for faster media sterilization, LED lighting for energy conservation and streamlining of crucial processes to stay ahead of the industry.



DETAILS OF NEW TECHNIQUES AND METHODS: PROCESS:

Explore new frontiers in products and process improvement to meet rapidly changing customer needs.

Build relationships and enhance satisfaction levels with all partners through:

- Transparent systems
- Strict adherence to QMS(Quality Management system)
- Continuous improvement in effectiveness of QMS.

The company has introduced processes based on research carried out in the following areas:

- Somatic Embryogenesis
- LED Lighting
- Agar-Agar Degradation
- Double haploid programme
- Enbiojet

QUALITY AND PRODUCTS:

- KF Bioplants is a treasure trove of in vitro or hardened plants, perennials as well as ornamental. Constantly seeking to bring the best in the world to the growers, the company has tie-ups of the following commercially successful crops:
- Gerbera
- Carnation
- Limonium
- Alstroemeria
- Gypsophila
 - Ranunculus
 - Phalaenopsis
 - Zantedeschia
 - Rose
 - Lily
 - Strawberry
 - Pot plants of ornamental flowering and perennials
 - Vegetable seeds and seedlings.



CONCLUSION

Finally the visit helped us a lot and could learn lot more about plant tissue culture and its techniques. It helped us to enhance our skills and communication by interacting with people. This visit is beneficial for our future career in biotechnology as it taught us various techniques in plant biotechnology. Finally we thank our college for giving us a great opportunity to visit here as this provided us a vast exposure to plant tissue culture techniques.



Students exposure to new technologies

VISIT:3NFCCI (National Fungal Culture Collection of India)PUNE: DAY 2: 26 SEP 2019

SESSION: MORNING

INTRODUCTION:

The Department of Biotechnology, Loyola academy organized an Industrial visit to NFCCI (National Fungal Culture Collection of India) on 26th September 2019 for MSc (Biotechnology) 2nd year students. The visit was organized with the prior permission and guidance of Head of Department Mr. VVS Chalpathi Rao, along with the staff members, students of Loyola academy which made this visit a grand success. Father Ch. Anand Kumar and Ms. Dhavala Joseph teaching faculty of BT department accompanied with this industrial visit. Total 26 students of NMBT along with 2 faculty members have joined this industrial visit.



It was a good experience, which has provided exposure to the 2nd year students. The students are benefited in terms of the technical details and theoretical knowledge provided by the institute on an important part of introduction, importance of fungal strains and their preservation. They conducted around 1 hour sessions followed by lab visit which covered the following details:-

The presentation session was conducted by:

- 1) Dr. Sanjay K. Singh (Scientist & Coordinator, National Facility)
- 2) Dr. Rajesh Kumar K.C (Scientist (Micromycetes))
- 3) Dr. Abhishek Baghela (Scientist)
- 4) Mr. Deepak Kumar Maurya (Lab. Asst. C)

HISTORY OF NFCCI:

NFCCI is a deposit of valuable fungal cultures for scientific and industrial research under general deposit category. The visit was scheduled on 26th September 2019. Cultures deposited in NFCCI are preserved following appropriate procedure and handled with care. Research workers are encouraged to submit their strain on which their publication is based. NFCCI is a unique national facility established in 2008 by DST, New Delhi at Agharkar Research Institute, Pune. It is an affiliate member of World Federation for Culture Collections (WFCC) and is registered with the World Data Centre for Microorganisms (WDCM-932). This facility has been established with the overall aims to conserve fungi as genetic resource pools for future research, capacity

building in thrust area of taxonomy (HRD) and to provide service (s) in authentication of fungi. NFCCI is an exclusive repository holding over 2800 strains of different groups of fungi. The NFCCI has several competent scientific and technical staff who executes the responsibilities.

RESEARCH WORK OF THE INSTITUTE:

With adequate mycological expertise National Fungal Culture Collection of India offers various services to academia, research institution and industry in morphological & molecular identification of fungi, TVC/CFU analysis, deposition and accession of fungal culture and supply of authentic strain(s). In addition, authentication, deposit and accession of fungal specimens in Ajrekar Mycological Herbarium (AMH) are also accepted from Indian

researchers. These services are very well recognized by various academic & research institutions and private industries spread in more than 28 states in India.

- Deposit and accession of fungal culture in NFCCI
- Authentication of fungi (pure culture)
- Supply of authentic fungal culture (active culture)
- Deposit & accessioning of specimens in Ajrekar Mycological Herbarium (AMH)

DETAILS OF THE NEW TECHNIQUES/ METHODS, EQUIPMENTS OF THE INSTITUTE:

Pure cultures of fungi are becoming increasingly important in diverse fields such as agriculture, medicine and industrial biotechnology. Tropical fungal biodiversity deserves exploration and conservation in pure cultures as a pre-requisite to advance researchers in areas such as diseases, control, exploration for novel bioactive molecules and industrial enzymes. Our knowledge of tropical fungal biodiversity as well as availability of pure cultures for R & D process needs greater emphasis to be laid for future scientific advances in fungal-based technologies. The national facility comprising of following activities:

REPOSITORY: Receipt, verification, preservation, maintenance and accession of cultures are the core activities which are undertaken on routine basis. Conservation of diverse fungal strains under optimal conditions is undertaken following standard protocols, viz., preservation in glycerol, mineral oil, sterile distilled water and in lyophilized form. In addition, authentic strains are also preserved in liquid nitrogen (cryopreservation). Inventories and databases are developed to store relevant information on cultures maintained in NFCCI.

SERVICES: With the available expertise, services for morphological & molecular identification of fungal cultures, analysis for TVC/CFU, deposition and accession of fungal culture are provided. In addition, authentic fungal strains are also supplied to academia, research institutions and industries .



R & D:

The facility is also a Centre of active research focusing on diversity and taxonomy of fungi, which is a topic of great interest. Mycodiversity exploration, identification (by polyphasic approaches), characterization and documentation of micro and macro fungi of diverse taxonomic groups (incl. lichenized fungi) are undertaken. Concerted efforts are being made to bring into pure culture of diverse fungi including rare and less investigated taxa for conservation and biotechnological applications. In addition, screening of fungi of different taxonomic groups for polyketide pigments production and in-silico analysis is also undertaken to understand the involvement of polyketide synthase (PKS) in different biological processes of pigment production.

HUMAN RESOURCE DEVELOPMENT:

National level workshop is conducted to capacity building in thrust areas of fungal taxonomy and ex-situ conservation. However, individual training is also imparted on request.

INSPIRATION/MOTIVATION OUT OF OUR VISIT:

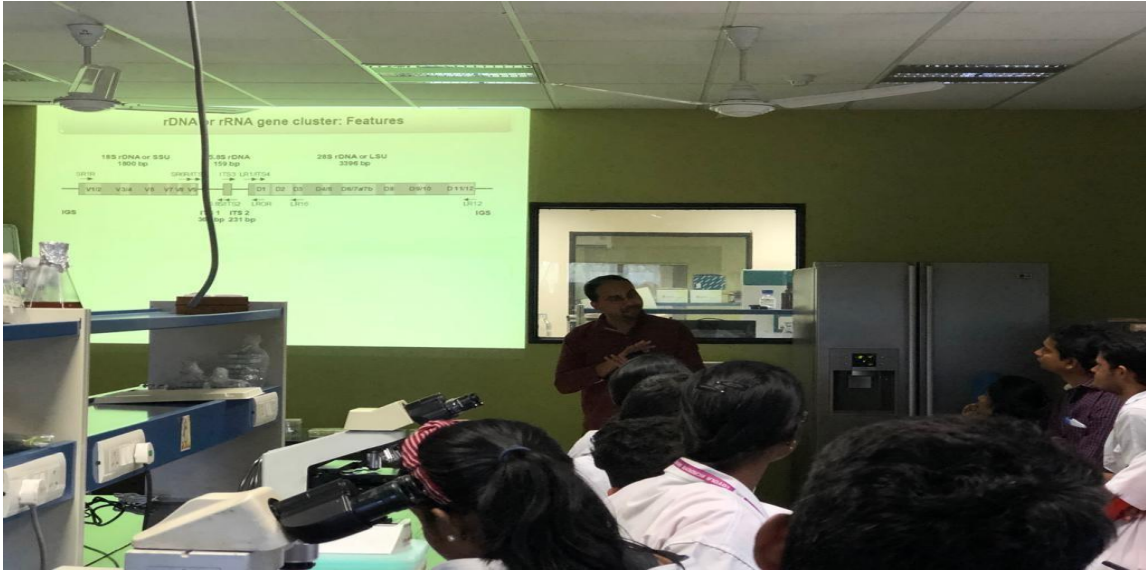
A visit to this institute offered us a great source to gain practical knowledge. DR. Rajesh kumar K.C (Scientist (Micromycetes)), Dr. Abhishek Baghela (Scientist) and Mr. Deepak Kumar Maurya (Lab Asst.) have guided us and motivated us in many aspects.

From starting about the introduction of institute and till the end, we had a good experience and have gained a lot of knowledge on microbiology. They gave the gist about the institute and then proceeded with the presentations regarding the fungal cultivation methods and how they are useful for future generations. They also explained us about how microorganisms can be used in the medical field. They have a wide variety of fungal cultures which are preserved since many years. This visit has inspired us to think innovatively and motivated us to focus our career towards research field.

STUDENTS' FEEDBACK

Industrial visit to NFCCI, Pune (Maharashtra) was organized by Loyola Academy for 2nd Year Students of Bio-Technology Department. The guiding staff on site were very supportive to all students. We are sure that this visit will help us in our future practical life and bring a positive change in our thinking and practical behavior regarding Education and career. We, the Students of 2nd Year Bio-Technology are extremely thankful to Head of Department Mr. VVS Chalpathi Rao, Father Ch. Anand Kumar, and Ms. Dhavala Joseph. Special thanks to members of NFCCI and all staff & students for providing a full-fledged support in all aspects during the entire visit.

EVIDENCES:





VISIT 4 :MITCON BIOTECHNOLOGY & PHARMACEUTICAL CENTER,PUNE

DAY 3: 27 SEP 2019

SESSION: MORNING

INTRODUCTION:

Our fourth visit was to MITCON BIOTECHNOLOGY & PHARMACEUTICAL CENTER, Pune, established as a technical consultancy organization in 1982 with head office at Pune, jointly by eminent institutions, now has spread across the country with its offices at Mumbai, New Delhi, Ahmedabad, Chennai, Bengaluru, Nagpur and Nanded, equipped with high speed communication network and State-of-the-Art infrastructure and 150 + employees. Over the last three decades, MITCON has gained proficiency in providing corporate solutions in Power Generation, Energy Efficiency, Renewable Energy, Ethanol, Distillery, Climate change and Environment Management Sector. Over the years, MITCON has diversified into providing services to Banking, Infrastructure, Textile and Biotechnology Sectors. MITCON provides to its client's customized solutions, including Pre-investment Services, Pre-Contract Engineering, Post Contract Project Management, Post Commissioning Witnessing, and IT based training courses besides variety of skill based professional training programs.



MISSION:

- Maximize clients 'Return on Investment' by ensuring maximum return on their project investments through commitment to innovative business process management, service excellence, dedication, determination, discipline, deadlines and efficient use of time, material and human resources.

- Maintain quality standards in various aspects of business at all stages to ensure that things are done right at the first time itself. The delays, duplication of work and wastage are eliminated from operations which in turn shall benefit the clients.

VISION:

- To build a profitable and sustainable business organization, provide secure global careers, personal growth and have a long lasting professional relationship.
- Our Philosophy- Doing small things innovatively and effectively that makes a big difference to our clients.
- To be one of the leading management consultants.

LEARNING OUTCOMES AND EXPERIENCES:

Industrial visits offer a great source to gain practical knowledge. We the students of MSc Biotechnology, Loyola Academy, Secunderabad have visited MITCON BIOTECHNOLOGY & PHARMACEUTICAL CENTER, PUNE on 26th September 2019. Mr. SagarBhor and Dr. Vishal Dawkar guided us through our entire visit.

Starting with giving introduction about the company, we had a very good experience and gained a lot of knowledge on biochemical analysis, immunology, microbial technology etc. They explained us regarding their works and goals. They gave us details regarding their company collaborations and their processes. They motivated us and interested in the field of biochemical analysis, immunology, microbial technology. They offer short term courses and placements in various fields like genetic engineering, plant tissue culture, bio-pesticides and bio-fertilizer production, microbial testing, fermentation technology, bioinformatics.



INTERACTIONS WITH SCIENTISTS AND SCHOLARS:

The interaction was excellent. They were very interactive and helped us to grasp information which they taught us attracting our attention. We were overwhelmed and enthusiastic to interact with them. Moreover apart from the subject they also guided us for our career needs. They motivated us towards research and also enlightened us about various opportunities in various fields of biotechnology.



RESEARCH WORK:

They conduct research activities on

- waste water treatment,
- immunology,
- molecular docking,

- formulations of bio-fertilizers and bio-pesticides,
- ELISA,
- microbial testing,
- drug designing,
- quality control and quality assurance test,



CONCLUSION:

Finally the visit helped us a lot and could learn lot more about Microbial analysis and its techniques. It helped us to enhance our skills and communication by interacting with people. It broadens our mind by looking at which area to choose in our future. They also encourage students for their project work. They also provide job facilities to the students. Similarly in many ways this visit is beneficial for our future career in biotechnology as it taught us various techniques in various fields of biotechnology. Finally we thank our college for giving us a great opportunity to visit here as this provided us a vast exposure to different techniques of biotechnology.



REPORT ON SITE SEEING:

PLACES VISITED DURING EDUCATIONAL TOUR 2019-20(PUNE,MAHABALESHWAR&LONAVALA):

PUNE:

DAY 3: 27 SEP 2019



1) DAGDUSHETHGANESHTEMPLE:

SHREEMANTDAGDUSHETHHALWAIGANPATI – the most endearing deity to the devotees. ShreemantDagdushethHalwaiGanpati is the epitome of pride and honor to the city of Pune. Devotees from every part of India and the world come here to pray to Lord Ganesha every year. Today, ShreemantDagdushethHalwaiMandir is not only one of the most highly revered places of worship in India but an institution that is actively engaged in social welfare and cultural development through

ShreemantDagdushethHalwaiSarvajanikGanpati Trust. The temple speaks of a long and glorious history. The deity of Lord Ganesha was incepted by ShriDagdushethHalwai and his wife Lakshmibai way back, when they lost their only son to the plague epidemic. Every year, the Ganpati festival was celebrated with deep faith and enthusiasm, not only by Dagdusheth's family but the entire neighbourhood.

2) SHANIWAR WADA:



Pune, Maharashtra, India. Built in 1694, when the Peshwas were at the height of their power during the Maratha War. Following the Maratha War in politics in the 18th century, but the surviving



JNANA-DEEPA VIDYAPEETH:

Jnana-DeepaVidyapeeth (JDV) is a Pontifical institute for philosophy and religion located at Pune, India. Established by the Jesuits in Kandy (Sri Lanka) in 1893, it was transferred to Pune (India) in 1955. Catering primarily to the formation of candidates to the Catholic priesthood it is still run by the Society of Jesus.



MAHABALESHWAR:

DAY 4: 28 SEP 2019

4)VENNALAKE:

Venna Lake is one of the major tourist attractions of [Mahabaleshwar](#) in [Maharashtra](#) state in [India](#). The lake was constructed by [ShriAppasahebMaharaj](#), who was Raja of [Satara](#) in the year 1942. The lake is surrounded by trees on all sides. Tourists can enjoy a boat ride over the lake or a horse ride next to the lake. A number of small eateries line the banks of the lake. The Mahabaleshwar city market and the S.T. bus stand is about 2 km (1.2 mi) from the lake and makes for a nice walk during the day.

Most tour operators include the Vennalake in their tours. Most buses, private vehicles will stop at the Vennalake on their way to Mahabaleshwar on request.

5)ARTHUR'S SEAT POINT:

Situated at an elevation of 1470 m above the sea level, Arthur's seat; which is popularly known as the Queen of all the points, is named after Arthur Malet who lost his wife and a month old daughter in a disastrous ferry accident in the Savitri River. After that, he used to sit here staring at the river and wish for their coming back to life. It is popular tourist destination who come here to have the glimpses of the geographical variance between the Konkan and Deccan territories of Mahabaleshwar. The point offers the amazing views of the Savitri Valley on the left and Brahma-Arayana Valley on the right. The Arthur's seat is considered to be one of the most beloved trekking spots for the adventure lovers. There are lot of natural goodies they can explore while trekking, few of them are the Window Point and the Tiger's Spring which is the source of Savitri river.



6) PANCHAGANGA & SHIVA TEMPLE:

At a distance of 6 km from Mahabaleshwar Bus Stand, Panch Ganga Temple is a holy site situated near Mahabaleshwar Temple at Old Mahabaleshwar in Satara district of [Maharashtra](#). The Panch Ganga Temple is constructed at the confluence of five rivers, Krishna, Venna, Savitri, Koyna and Gayatri. All the rivers come out from the mouth of a statue of a cow in this temple, thus the place being called PanchgangaMandir. The temple was constructed by Raja Singhandeo, the Yadava ruler of Devgiri in the 13th Century. In the 16th and 17th Centuries, Raja Chandarao More of Jaoli and the Maratha ruler Shivaji improved upon its structure on a large scale. The temple is dedicated to Lord Krishna and has a beautiful idol of him. The legend behind the temple is closely linked to Savitri's curse on the Trimurtis, Brahma, Vishnu and Shiva, who flow here as Koyna, Krishna and Venna rivers. It is a major religious site and is thronged by devotees throughout the year.



7) ELEPHANT'S HEAD POINT:

At a distance of 7 km from Mahabaleshwar Bus Stand, Kate's Point and Elephant's Head Point are the most picturesque viewpoints of Mahabaleshwar in Satara district of Maharashtra. It is among the best [tourist places in Mahabaleshwar](#). Kate's Point area has 3 points in total; they are Kate's Point, Echo Point and Needle Hole Point or Elephant's Head Point. Kate's Point is named after the then British governor Sir John Malcolm's daughter. The original name of the point is NakeKhind and is situated at an altitude of 1290 m. Dhom dam as well as peaks of Kamalgadh, Pandavgadh and Mandardeo can be seen from Kate's Point. Elephant's Head Point or Needle Hole Point is another popular vantage point in Mahabaleshwar, situated next to the Kate's Point. The overhanging cliffs of this point are similar to the head of an elephant and its trunk. Thus the point got its name as the Elephant's Head Point. One can see a natural rock formation with a hole in between, thus giving the name Needle Hole. Kate's Point and Needle Hole Point are often confused with Elephant Head Point which is near Lodwick Point. From this point, tourist can also get a view of the Sahyadri mountain range.



LONAVALA: DAY 5: 29-SEP 2019

8) TIGER'S POINT:

Tiger's Point or Tiger's Leap is a prominent vacationer attraction in Lonavala and offers extremely good views of the valley. If you appearance intently, you can see an impact of a tiger trying to leap throughout the valley, that is why the vantage point has earned its name. The echo produced by way of rocks falling into the crevasse is some other spotlight of this point. During monsoon, a small natural waterfall is fashioned close to date. If you're a nature lover, you are surely in for a deal with.

Tiger's Leap, also known as Waghdari, is a cliff-pinnacle with a sheer drop of over 650 m, offering a extensive view of the hills. The factor derives its call from its resemblance to the form of a leaping tiger. It gives marvelous perspectives of forests, lush greenery, waterfalls and lakes around. The sunrise and sundown perspectives from right here are spell binding. There is a small waterfall close to to this perspective, which flows all through the monsoon months most effective.

It serves the purpose of relaxing in the water better than Bushy dam, because the force of the fall is better. Also, after the short steep descent, the fall becomes a movement with a truthful amount of pressure to move all the manner down to the base of the Tiger's Leap. The web page is frequented with the aid of diverse travelers for indulging in journey sports like rafting, when the stream float is medium. Perfect for hiking, this web page encloses secure spots for viewing the valley and its nearby environment.

Weather: Summer 29°C to 33°C Winter 14°C to 20°C



9) **Bushi Dam:** Bhushi Dam is a masonry dam on the Indrayani River. It is one place in Lonavala which is bound to cheer you up during the monsoons which are the ideal time to visit the attraction. The overflowing water over the steps of Bhushi Dam and then through the rocky terrain make this place a hit among the people of nearby areas who throng in large numbers on weekends during monsoons. It tends to get so crowded that many individuals find it hard even to get a decent standing spot. Even though swimming is prohibited in the dam due to the inconsistent flow of the water, one can always enjoy on the steps.

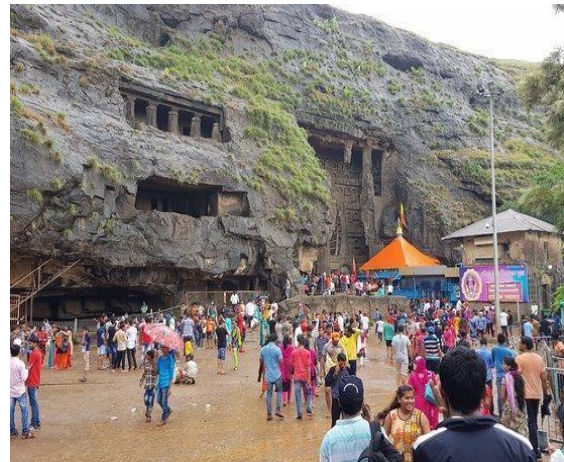


DAY 6: 30 SEP 2019

10) KARLA CAVES & EKVIRA DEVI TEMPLE:

Karla caves, carved from a rocky hillside, are among the oldest Buddhist cave shrines in India. It is located on the Pune-Mumbai highway at Karla, and if sources are to be believed, these are only a few among scores of other caves unearthed in Sahyadri Hills. Carved almost 2000 years ago around the 2nd century BC to the 5th century AD, this place constitutes an extensive collection of beautiful Chaityas (halls) and Viharas (monasteries) reflecting upon a journey of the past, narrating some amusing stories. A temple made of pillars from the Buddhist period has also been built recently at the entrance of the caves. The caves are also known as Karli Caves, Karle Caves or Karla Cells. If ancient sources are to be believed, the caves were of great importance to the Mahasamghika sect of Buddhism before they became relevant to Hinduism. The caves house a Buddhist monastery which is believed to have been built there around 2nd century BC. Also known as Veluraka in the olden times, the caves house a humongous 15 - meter pillar along with a temple dedicated to Goddess Ekveera. One can spot a major ancient trade route near the caves running towards east from the Arabian Sea into the Deccan. It is so because the early Buddhists used to settle the monasteries close to the major trading routes in order to provide shelters to the travelling traders. Owing to its historic significance, the cave complex is a protected monument under the Archaeological Survey of India.

Ekviradevi temple is situated near the Karla Caves in Lonavala, Ekvira Devi Temple or EkviraAai Temple is a Hindu temple especially revered by fisherfolk popularly called as Koli people. The shrine is located atop a tiny hill and can be reached by alighting about 200 steps. Legend has it that the temple was constructed by the Pandavas during their exile.



DATE	ACTIVITY	PLACE	NO STUDENTS
2 MARCH 2019	FRIENDS FOUNDATION	CHOWDARIGUDA	06
4 MARCH 2019	walkathon conducted by CARE HOSPITALS	HYDERABAD	03
10 ,11 MARCH 2019	PULSE POLIO PROGRAMME	ALWAL	2018-2019 BATCH
13 MARCH 2019	BACK TO SCHOOLPROGRAM	NEW BOWENPALLY	04
14 MARCH 2019	BLOOD DONATION CAMP	HYDERABAD	03
30 MARCH 2019	STUDENT PARTICIPATION IN VIRTUALLEARNING WORKSHOP	NARAYANGUDA	06
11 MAY 2019	VILLAGEADOPTION PROGRAM {kanukunta, MaisireddyPalli and konaipally}	ALWAL	05
21 APRIL 2019	AB BAS	LOYOLA ACADEMY	02
2 AUGUST 2019	CAREER TALK BY H.AMBIKA	LOYOLA ACADEMY	CLASS
28 AUGUST	CAREER TALK BY NANDINI,NAVIDA,ATHIYA	LOYOLA ACADEMY	CLASS
3 SEP 2019	CAREER TALK BY SOUMYA	LOYOLA ACADEMY	CLASS

INDUSTRIAL VISIT:

DATE	INDUSTRY	PLACE
16 MARCH 2019	SHIVA SHAKTI	SR NAGAR
4 SEP 2019	HINDUSTAN COCO COLA	MIYAPUR
24 SEP TO 26 SEP	NCMR-NCCS KF BIOPANTS NFCCI MITCON BIOTECH	PUNE

Environmental awareness activity {paryavaran samrakshan abhyas} Staff and student participation in 2019{photo gallery}



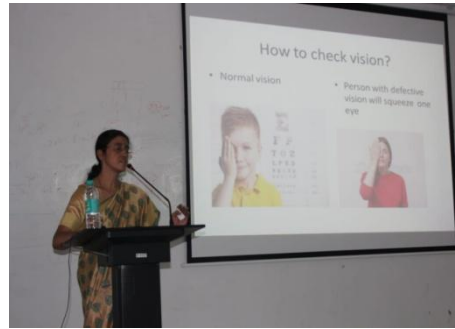


STUDENTS OF NMBT&AMBT ACTIVITIES DONE :

- students carried out surveys on solid waste management in villages.
- Rally on awareness activities on ban of usage of plastic, ecofriendly activities in daily human activities, recycle of waste material in villages.
- survey & awareness on Rain water harvestment to school children.
- M.Sc.BT staff participated in haritha haram program.

MEDIKOE-2020 MARCH 13TH&14TH(HEALTH AWARENESS LECTURES&FREE EYE&DENTAL,CHECKUP,GENERAL BODY DIAGNOSTIC TESTS FOR TEACHING&NONTEACHING STAFF OF LOYOLA ACADEMY)







REPORT: PROGRAM CONDUCTED FOR 2 DAYS MARCH 13TH&14TH2020

5 HEALTH AWARENESS TALKS BY EMINENT SPEAKERS ARE CONDUCTED DURATION 45 MIN EACH.

TOTAL NO PARTICIPANTS FOR EYE&DENTAL CHECK UP CAMP: MARCH 13H 130 STAFF& 27 STUDENTS

TOTAL NO PARTICIPANTS FOR GENERAL HEALTH DIAGNOSTIC TESTCHECK UP CAMP: MARCH 14H

TEACHING& NONTEACHING STAFF:116

Feed back:There has been an positive immense response from both Teaching &Teaching staff About 85%of staff attended for eye&dental check up &79% of staff attended for general health checkup.The health awareness talks were informative &aplluded by student participants.





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RALLY ON CORONA VIRUS:LOYOLA COLLEGE TO Z.P.SCHOOL ALWAL MARCH 6TH 2020



CORONA VIRUS AWARENESS TAKLK TO GOVT,SCHOOL STUDENTS ALWAL



Ambt students taking rally from Loyola Academy to IG.statue



Awareness talk about corona virus ah zphs school, alwal

● FACULTY ACHIEVEMENTS: Research & publications:

- **Published a research article, in JOURNAL OF SCIENTIFIC RESEARCH on**
“ SCREENING AND MOLECULAR CHARACTERIZATION OF ACTINOMYCETES FROM MANGROVE SOIL PRODUCING INDUSTRIALLY IMPORTANT ENZYMES”
- **Published a research article, as a special issue in JOURNAL OF ADVANCED SCIENTIFIC RESEARCH on “MEDIUM FORMULATION AND OPTIMIZATION OF CULTURE CONDITIONS TO MAXIMIZE PROTEASE PRODUCTION BY NOCARDIA SP.LCJ15A” .**
- **A research article has been recently accepted by INTERNATIONAL JOURNAL OF LIFESCIENCE AND PHARMA RESEARCH. Title of the**

manuscript: “Optimization of Protease Production by *Streptomyces* SP. LCJ1A Using Response Surface Methodology”

- **D.Gurudevi CONFERENCE PRESENTATIONS:2020-2021**

Name of the conference/Seminar	Title of the Paper	National/ International	Organizing College	Month/ Year
Current Science and Technology for Sustainable Society”	Antioxidant Assay in Zingiber officinale L. and Scavenging activity in cancer cell lines	International	Department of Botany, AV Kanthamma College for Women, Hassan, Karnataka, Department of Biochemistry, Aurora’s Degree & PG College, Hyderabad and Internal Quality Assurance Cell.	27 th & 28 th Nov-20

FDP’S AND WEBINARS ATTENDED BY MS. S.DHAVALA

Faculty achievements of Ms. S. Dhavala:

- Served as external examiner for R-DNA practical examinations of 2nd B.sc BIOTECH STUDENTS OF St. Francis college for women Begumpet in april 2018




S.No	DATE	NAME OF THE FDP/ WEBINAR ATTENDED
1	September 6-7 th , 2019	attended a FDP on “MOOCs for blended teaching and learning ”at Loyola College Chennai on 6 th and 7 th September 2019
2	June 3 -4, 2020	Attended Faculty Development Program on "Recent Trends in Molecular Biotechnology" June 3 & 4, 2020 by Department of Biochemistry, Ethiraj College for Women, Chennai

3	JUNE 8-13 2020	Attended one week FDP on “ADVANCED RESEARCH METHODOLOGY AND INNOVATIVE TEACHING PEDAGOGY” organized by Tulsiramji Gaikwad Patil College Of Engineering& Technology, Nagpur
4	JUNE 15-19, 2020	Attended FDP on “ ACTIVE LEARNING AND ADVANCED SCIENTIFIC COMPUTING METHODS” organized by Department of Physics, Loyola College, Chennai
5	Feb 14-15 2020	has attended “Faculty Development Programme on MOODLE” organized by Loyola Academy, Alwal, Secunderabad-10

S.NO	NATIONAL/ INTERNATIONAL	FDP/ SEMINAR/ WORKSHOP / QUIZ	NO.OF DAYS	DATE	NAME OF THE INSTITUTION	PARTICIPATION / COMPLETION
1.	INTERNATIONAL	ONLINE RESEARCH METHODOLOGY WORKSHOP	3	12-04-20 20 to 14-04-20 20	REST SOCIETY FOR RESEARCH INTERNATIO NAL	COMPLETED
2.	NATIONAL	ONLINE G.K. QUIZ	1	2020 MAY	LAXMAN DEVRAM SONAWANE COLLEGE	COMPLETED

FACULTY ACHIEVEMENTS V.V.S.CHALAPATHI RAO

WEBINAR ON

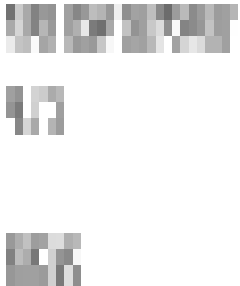
3.	NATIONAL	BIOTECHNOLOGICAL AND NANOTECHNOLOGICAL APPLICATION FOR MARINE BIORESOURCES AUGMENTATION	6	04-05-2020 to 09-05-2020	SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY	PARTICIPATED
4.	NATIONAL	FDP ON EMERGING AND NON-EMERGING INFECTIOUS	1	06-05-2020	LITTLE FLOWER DEGREE COLLEGE-HYDERABAD	PARTICIPATED
5.	INTERNATIONAL	FDP ON HUMAN WELL-BEING	1	07-05-2020	LITTLE FLOWER DEGREE COLLEGE-HYDERABAD	PARTICIPATED
6.	NATIONAL	WEBINAR ON GLYCOPROTEINS ROLE IN CELLULAR PHYSIOLOGY & BIOCHEMISTRY	1	09-05-2020	BHAVANS VIVEKANANDA COLLEGE	PARTICIPATED
7.	INTERNATIONAL	  	1	11-05-2020	LOYOLA ACADEMY	PARTICIPATED

8.	NATIONAL	ONLINE QUIZ ON "COVID-19	1	11-05-20 20	VAAGDEVI COLLEGE OF	PARTICIPATED
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FACULTY ACHEIVEMENTS OF Mr.V.V.S.Chalapathi Rao



		GENERAL AWARENES S			ENGINEERIN G	
9.	NATIONAL	FDP ON ROLE OF TEACHERS IN QUALITY ENHANCEMENT & ACCREDITATION	8	11-05-20 20 to 18-05-20 20	KRISTU JAYANTI COLLEGE	PARTICIPATED
10.	NATIONAL	WEBINAR ON "OVER COMING COVID-19"	1	13-05-20 20	BHAVANS VIVEKANAN DA COLLEGE	PARTICIPATED

11.	NATIONAL	FDP	2	13-05-20 20 to 14-05-20 20	NORTH STORM ACADEMY	PARTICIPATED
12.	NATIONAL	WEBINER ON CHEMISTRY AGAINST COVID-19	1	14-05-20 20	LITTLE FLOWER DEGREE COLLEGE-HY DERABAD	PARTICIPATED
13.	NATIONAL		1	16-05-20 20	AISSMS AND ISB&M COLLEGES	PARTICIPATED
14.	NATIONAL	WEBINAR ON IMPORTANCE OF BIODIVERSITY	1	16-05-20 20	AURORA COLLEGE	PARTICIPATED
15.	NATIONAL	WEBINAR ON SIGNALLING NETWORKS IN CANCER	1	18-05-20 20	LITTLE FLOWER DEGREE COLLEGE-HY DERABAD	PARTICIPATED

16.	NATIONAL	WEBINAR ON COVID-19 LOCKDOWN A CHALLENGE OR OPPORTUNITY	1	18-05-2020	SMT RADHABAI SARDA ARTS& SCIENCE COLLEGE	PARTICIPATED
17.	NATIONAL	FDP ON OUTCOME BASED EDUCATION	1	18-05-2020	INPODS ED-TECH	PARTICIPATED
18.	NATIONAL	WEBINAR ON ONLINE SOFTWARE TOOLS FOR REMOTE TEACHING	1	18-05-2020	AURORA COLLEGE	PARTICIPATED
19.	NATIONAL	FDP ON MANAGING ONLINE CLASSES AND CO-CREATING MOOCS: 2.0	14	18/5/2020-3/6/2020	RAMANUJAN COLLEGE	COMPLETED
20.	NATIONAL	WEBINAR ON CHALLENGES AND OPPORTUNITIES IN RESEARCH	4	19-05-2020 to 22-05-2020	SHRI GURU RAM RAI UNIVERSITY	PARTICIPATED

21.	INTERNATIONAL	WORKSHOP ON RESEARCH METHODOLOGY	7	19-05-2020 to 25-05-2020	UNIVERSITY OF MUMBAI	COMPLETED
22.	NATIONAL	WEBINAR ON MOLECULAR DIAGNOSTICS IN DETECTION OF ANIMAL DISEASE CAUSING PATHOGENS	1	25-05-2020	ST. FRANCIS COLLEGE FOR WOMEM	PARTICIPATED
23.	NATIONAL	WEBINER ON PROTEOMICS BIOLOGICAL APPLICATIONS	1	27-05-2020	LOYOLA ACADEMY	PARTICIPATED
24.	INTERNATIONAL	WEBINAR ON COVID PANDEMIC, MEDIA AND SOCIAL DISTACING	1	27-05-2020	AUXILIUM COLLEGE	PARTICIPATED
25.	NATIONAL	FDP ON "CBP FOR TEACHERS DURING & POST COVID-19	2	28-05-2020 to 29-05-2020	GODAVARI INSTITUTE OF ENGINEERING AND TECHNOLOGY	PARTICIPATED

26.	NATIONAL	WEBINAR ON REORIENTING ACADEMIC LEADERSHIP	1	30-05-2020	TEZPUR UNIVERSITY	PARTICIPATED
27.	NATIONAL	FDP ON ICT BASED TOOLS AND APPLICATIONS	7	27-05-2020 to 02-06-2020	BSVS ED. LEARNING CENTER	PARTICIPATED
28.	NATIONAL	FDP ON MANAGING ONLINE CLASSES	14	18-05-2020 to 03-06-2020	UNIVERSITY OF DELHI	PARTICIPATED
29.	NATIONAL	QUIZ ON OUTCOME BASED EDUCATION AND ACCREDITATION	1	1/6/2020	SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING	COMPLETED
30.	NATIONAL	SEMINAR ON WORLD ENVIRONMENTAL DAY	4	2/6/2020-5/6/2020	INSTITUTE FOR OCEAN MANAGEMENT	PARTICIPATED
31.						
32.	NATIONAL	FDP ON E-LEARNING	6	8/6/2020-13/6/2020	ARAVALI COLLEGE	COMPLETED

33.	NATIONAL	FDP ON ADVANCED RESEARCH METHODOLOGY AND INNOVATIVE TEACHING PEDAGOGY	6	8/6/2020-13/6/2020	TULSIRAMJI GAIKWAD PATIL COLLEGE	PARTICIPATED
34.	INTERNATIONAL	WEBINAR ON 'HOW TO GET RESEARCH GRANTS FROM UGC, AICTE'	1	9/6/2020	MBITS & MAHATMA GANDHI UNIVERSITY	PARTICIPATED
35.	NATIONAL	WEBINAR ON BIOTECHNOLOGICAL AND IMMUNOLOGICAL PERSPECTIVES OF PANDEMIC DISEASE	2	9/6/2020-10/6/2020	ADITANAR COLLEGE	PARTICIPATED
36.	NATIONAL	WEBINAR ON 'HOW TO BUILD STRONG IMMUNITY THROUGH DIET AND LIFESTYLE'	1	12/6/2020	AURORA'S DEGREE & PG COLLEGE	PARTICIPATED
37.	NATIONAL	WEBINAR ON RESEARCH METHODOLOGY	2	12/6/2020-30/6/2020	LOYOLA COLLEGE, CHENNAI	PARTICIPATED

38.	NATIONAL	FDP ON LEVERAGING THE SECRET OF QUALITY RESEARCH	3	12/6/20 20-14/6/ 2020	CHRD	PARTICIPATED
39.	NATIONAL	FDP ON METHODOLOGY AND DATA INTERPRETATION OF ANALYTICAL INSTRUMENTATION TECHNIQUES	5	15/6/20 20-19/6/ 2020	SATYABHAMA INSTITUTE	PARTICIPATED
40.	INTERNATIONAL	FDP ON RECENT TRENDS IN SCIENCE AND TECHNOLOGY	6	15/6/20 20-20/6/ 2020	SURESH GYAN VIHAR UNIVERSITY	PARTICIPATED
41.	INTERNATIONAL	FDP ON ACADEMIC WRITING AND OPPORTUNITY FOR THE PUBLICATION	1	17/6/20 20	SNS INSTITUTIONS	PARTICIPATED
42.	NATIONAL	FDP ON SKILL DEVELOPMENT AND COMPETENCY ENHANCEMENT	2 WEEKS	17/6/20 20-30/6/ 2020	GOVT. DEGREE COLLEGE, WARANGAL	PARTICIPATED

		FOR COLLEGE TEACHERS				
43.	NATIONAL	WEBINAR ON QUALITY RESEARCH AND ITS OUTPUT	1	19/6/2020	JAIN UNIVERSITY	PARTICIPATED
44.	NATIONAL	WEBINAR ON IMPACT OF COVID-19 PANDEMIC ON ENVIRONMENT AND FUTURE PROSPECTS	1	21/6/2020	NREC COLLEGE	PARTICIPATED
45.	INTERNATIONAL	WEBINAR ON COVID-19 A PANDEMIC ON CORONA VIRUS PROGRESS IN THERAPEUTIC AND VACCINE DEVELOPMENT	1	22/6/2020	ST.PIOUS COLLEGE	PARTICIPATED
46.	INTERNATIONAL	FDP ON EDUCATIONAL STRATEGIES FOR UNIVERSAL LEARNERS	3	22/6/2020-24/6/2020	VELS	COMPLETED
47.	NATIONAL	WEBINAR ON INTERPERSONAL SKILLS	1	26/6/2020	LITTLE FLOWER COLLEGE	PARTICIPATED

48.	NATIONAL	WEBINAR ON PHYTOTHERAPE UTICS - IMMUNO BOOSTERS TO	1	29/6/20 20	AMS COLLEGE	PARTICIPATED
		COMBAT BACTERIAL AND VIRAL DISEASES				
49.	INTERNATIONAL	WEBINAR ON HOW TO BECOME EFFECTIVE STATISTICIANS	1	29/6/20 20	KASTURBA GANDHI COLLEGE	PARTICIPATED

Mr.V.V.S.Chalapathi Rao Head,Post Graduate Department of Biotechnology is Selected as Digital Content Resource Person (e content contributor) by National council of Educational Research &Training (NCERT),Central board of Secondary Education (CBSE) New Delhi as well as State Council of Educational Research &Training (SCERT) Telangana for Vidyadaan 2.0 program.

He Contributed e content material for Energitised Textbooks comprising of (Videos, Teaching Resource materials, Explanatory notes, Lesson plans, Padogogy flow, Teaching methods, Curoosity Question set, Teaching Methods for Subjects: Science, Biological science, Environmental science of both NCERT, State boards of Delhi, Maharashtra Telangana, Andrapradesh, Kerala.

The following e content designed by him received appreciation by State Resource Group experts (SRG) and rated as"Good".

1.Science, Class 6 ,7 & 8 of Jammu &Kashmir Board of Secondary Education.(JKBOSE) 42 Videos,1explanatory resource and 1 lesson plan were approved by CBSE and uploaded in DIKSHA Website of Ministry of Education, Government of India.

2.Lesson plans, Learning outcomes, Explanatory videos ,practice question set for Environmental science Class 3,4&5 were approved by CBSE and uploaded in DIKSHA Website of Ministry of Education, Government of India. For DIET ([District Institute Of Education And Trainings, Kulgam](#), Jammu Kashmir State Curriculum.

3. His Explanatory video our foods for General Science class 6 SCERT Curriculum, Telangana is the First one to be selected and uploaded in DIKSHA Website of Ministry of Education, Government of India.

Currently he is uploading e content for biology subject class 11&12, E content for Disaster management subject of class 11 &12,

4. Biological science Explanatory videos class 8,9,&10 for website of Directorate of school education, Hyderabad, Telangana.

5. More projects done by him are under review at present.

FACULTY ACHEIVEMENTS OF Fr. Dr. L. Joji Reddy

- As a resource person delivered a talk on “signaling networks in cancer” hosted by Little flower degree college on 18th May 2020**
- consultant and Resource person for initiating NAAC institutional Accreditation organized by Little flower quality assurance cell on 25th June 2020**
- was appointed as an assistant coordinator for “Jesuits in science and technology Forum”**

- attended a webinar organized by Mizoram University on “clinical trials and drug development” and business communication for professional graduates” held on 4th June 2020
- Resource person for a webinar conducted by Little flower degree college, Uppal, on “Ethics of NAAC”
- attended a webinar on NAAC ACCREDITATION INTRODUCTORY WEBINAR” organized by IQAC marian college kuttikkanam on 22nd May 2020

FACULTY ACHIEVEMENTS:Dr.CH.SIRISHA

2	14 th and 15 th February 2020	Dr. Ch. Sirisha has attended “Faculty Development Programme on MOODLE” organized by Loyola Academy, Alwal, Secunderabad-10
3	7 th , June 2020	Dr. Ch. Sirisha has participated “Faculty Development Programme, webinar on “Reverse Genetics in Genomic Era” by Dr.Konda Aravind Kumar, Scientist, ICAR-Indian Institute of Pulses Research, Kanpur organised by Department of Biotechnology

S. No	DATE	NAME OF THE FDP/ WEBINAR /PAPERS ATTENDED
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1	7th, June 2020	Dr. Ch. Sirisha has participated “Faculty Development Programme, webinar on “Reverse Genetics in Genomic Era” by Dr. Konda Aravind Kumar, Scientist, ICAR-Indian Institute of Pulses Research, Kanpur. Organised by Department of Biotechnology
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Dr.Sirisha as Department of Biotechnology Consultant:

1. Dr. sirisha chittala is working as a Biotech consultant in SPIL DBT team, for the Department of Biotechnology, New Delhi since January 2020.

The Department of Biotechnology, Ministry of Science & Technology, Government of India has commissioned M/s Spectrum Planning (India) Limited (SPIL) to undertake a study on these findings and recommendations were developed through the vetting of variety of methodologies for assessing and evaluating **"Socio-Economic Impact Assessment & Analysis of the various Schemes and Programs of Department of Biotechnology."** In support of this, I

Dr Sirisha Chittala in the team working as Biotechnologist and visited reputed institutions, and reviewed resource persons: List of the Institutions and Resource persons,

Kindly fill out the data collection formats prepared by the Experts Team from M/s Spectrum Planning (India) Limited in consultation with DBT Advisers. The Study Team will also require contact details of the beneficiaries of the Project for analyzing the socio-economic impact of DBT supported projects.

Please provide the Study Team with a copy of the Consolidated Project Progress Report for review and analysis.


Members of the Study Team will visit/contact selected PIs and beneficiaries/stakeholders for further discussions and the necessary data collection.

I shall be grateful, if the necessary assistance is extended to the Study Team from M/s Spectrum Planning (India) Limited, for facilitating the "Socio-Economic Impact Assessment & Analysis of the various Schemes and Programs of Department of Biotechnology."

With Regards,

Encls: As Above

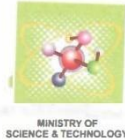
Yours Sincerely,


(Radha R. Ashrit)

Website: <http://www.dbtindia.nic.in> <http://www.btisnet.gov.in>
दूरभाष / Telephone : 24363012, 24362329 फेक्स / Fax : 011-24362884



Radha R. Ashrit
Statistical Adviser
Tel-24363656



भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
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ब्लॉक-2, 7 वां तल, सी.ओ.ओ. कम्प्लेक्स

लोदी रोड, नई दिल्ली-110003

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE &
TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
Block-2, 7th Floor C.G.O. Complex
Lodi Road, New Delhi-110003




TO WHOMSOEVER IT MAY CONCERN


As you are kindly aware, the Department of Biotechnology, Ministry of Science & Technology, Government of India has engaged M/s Spectrum Planning (India) Limited, Faridabad for carrying out a study on "Socio-Economic Impact Assessment & Analysis of the various Schemes and Programs of Department of Biotechnology."

As a part of this exercise, the representatives of M/s Spectrum Planning (India)

The **Department of Biotechnology, Ministry of Science & Technology, Government of India** has commissioned M/s Spectrum Planning (India) Limited (SPIL) to undertake a study on these findings and recommendations were developed through the vetting of variety of methodologies for assessing and evaluating "**Socio-Economic Impact Assessment & Analysis of the various Schemes and Programs of Department of Biotechnology.**" In support of this, I

Dr Sirisha Chittala in the team working as Biotechnologist and visited reputed institutions, and reviewed resource persons: List of the Institutions and Resource persons,

S. No.	Date of Visit	Resource Person	Name of the Institute	Proof of the Event
1	15.02.2020	Padma Sri. Dr. D Balasubramanian & Dr. Shivaji	L.V. Prasad Eye Institute, Hyderabad	
2	15.02.2020	Dr. Rakesh Mishra, Director	Centre For Cellular and Molecular Biology, Hyderabad	
4	27.02.2020.	Dr. Manojit Pal, Dr. Kishore Parsa, Dr. Parimal Misra, Dr. Pushkar Kulkarni, Dr. Kiranam Chatti	Dr. Reddy's Institute of Life Sciences, Hyderabad	
5	30.07.2020.	Dr. Nuzhat Aziz,	Fernandez Hospital Pvt. Ltd, Hyderguda, Hyderabad	Through Online mode interaction
6	31.07.2020.	Dr. Liza Suri Rajasekhar,	Nizam's Institute of Medical	Through Online mode interaction

			Sciences, Punjagutta , Hyderaba d.	
7	21.09.2020	Hari Krishna Pothina, Managing Director,	Microsun Bioplants, Ravalkole, Medchal, Medak dt	

Faculty Achievements D.Gurudevi

NPTEL MENTOR

- Certificate of Appreciation from **NPTEL-SWAYAM** as Mentor for **BIOMEDICAL NANOTECHNOLOGY** Online Certificate Course for the year 2020 from **Jan-Dec-2020**

Resource person to Other colleges:

- As a **Resource Person** delivered a **Guest lecture** on the Topic -“ **Cell Cycle and Cancer** ” **On 16/04/2021 for M.Sc Biotechnology Students** at Jahnvi Degree & P.G College, Affiliated Osmania University, Hyderabad.
- As a **Resource Person** delivered a **Guest lecture** on the Topic -“**Apoptosis and its role in Diseases**” **On 17/04/2021 for M.Sc Biotechnology Students** at Jahnvi Degree & P.G College, Affiliated Osmania University, Hyderabad.

As Question paper setter:

S.No	Year	Description of Role	Department & College
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1.	<u>2020-2021</u>	Mrs, D. Gurudevi was appointed as Question Paper setter and Evaluator for P. G (Genetics, Biochemistry, Cell biology, Molecular Biology, r-DNA Technology, Industrial Biotechnology, Medical Biotechnology) & U. G (Genetics, Biochemistry, Microbiology, Medical Biotechnology, r-DNATechnology, Animal Biotechnology, Molecular Biology,) for Govt.City College, Nayapool, Hyderabad from 2015 to 2019.	Department of Biotechnology, Govt.City College, Nayapool, Hyderabad
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D.GURUDEVI FDP ATTENDED(2021-21)

S.No	Name of the FDP	Organising College	Month/Year
2.	INSILICO DRUG DEVELOPMENT	LOYOLA ACADEMY	May-21
3.	Academic Writing & Research Ethics	Janatha College & Don Bosco College Cental Library,Itanagar	Jun-20
4.	Advanced Research Methodology & Innovative Teaching Pedagogy	TULSIRAMJI GAIKWAD-PATIL College of Engineering and technology, Nagpur.	Jun-20
5.	Creation of webinars During Covid-19 Pandemic	Little Flower Degree College, Hyderabad	Apr-20

- **Workshops Attended-2020-2021**

S.No	Name of the Workshop	Organising College	Month/Year
1.	Techniques in Molecular Biology-A Virtual Laboratory insight	University College for Women	Aug-20
2.	Molecular Communication for wireless Body Area Networks	Aurora's Degree & p.g College	1-Jun-20

- **Conferences/Seminars Attended**
 - **2020-2021**

Research publications:

Students & Faculty Achievements: Dr. Sirisha

PROCEEDINGS

**2nd PURE EARTH ENVIRONMENT
CONFERENCE 2021**

Focal Theme: ENVIRONMENT AND HEALTH



Organised by



PURE EARTH FOUNDATION

In Association with



PROCEEDINGS OF
**2nd PURE EARTH ENVIRONMENT CONFERENCE
2021**

FOCAL THEME
ENVIRONMENT AND HEALTH

24th April 2021
at
Hyderabad

Organised by:



Pure Earth Foundation

In Association with:

**Centre for Innovation in Public Systems
eSupport Solutions Private Limited
Tribal Welfare Department, Government of Telangana
Galaxy Technocom
Asset Telematics Private Limited
Dharani Engineers & Contractors
Centre for Environment and Development**

Proceeding of the
Pure Earth Environment Conference, 2021

Editors
Shri K.K. Pappan
Dr. K. Jayachandra
Shri Subhash Singh

Published by



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PS Nagar, Masab Tank, Hyderabad-500028

Design & Pre-press
Ms. Kamya Sharma

S.No	Name of the conference/Seminar	National/International	Organising College	Month/Year
1	Molecular Mechanism Involved in T- Cell Signalling	International	Srimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai.	Jul-20
2	Current Science and Technology for Sustainable Society”	International	Department of Botany, AV Kanthamma College for Women, Hassan, Karnataka, Department of Biochemistry, Aurora’s Degree & PG College, Hyderabad and Internal Quality Assurance Cell.	Nov-20
3	Novel Biotechnological approaches to combat emerging Diseases with Special Focus on SARS Associated Coronavirus Therapeutics	International	Presidency College, Tamilnadu	Jun-20
4	Nano Materials & Detection Techniques of Covid-19	International	Babu Shivanath Agrawal P.G college, Mathura	Jun-20
5	Molecular Communication for wireless Body Area Networks	International	Aurora's Degree & p.g College	Jun-20

6	Globalisation lockdown -A boon for Environment Protection	National	Sarojini Naidu Vanitha Maha Vidyalaya,Hyderabad	Jun-20
7	Impact of covid-19 on Environment	National	Gayatri Vidya Parishad College, Vishakapatnam	Jun-20
8	Drug Repurposing & Novel Therapies Against SARS-Cov-2	National	Telangana Social Welfare Residential Degree College for women	Jun-20
9	Funding Projects,Consultancies & Book Writing	National	Vimal Jyothi Engineering College ,Kannur	Jul-20
10	Recent Biotechnological Tools for Crop Improvement	National	Acharya N.G Ranga Agricultural University,Guntur	Jun-20
11	Feature extraction Techniques in Medical Imaging	National	CMR Engineering college,Hyderabad	Jul-20
12	Post covid19: Sustainable Environmental Management	National	Govt. City College, Hyderabad	Jul-20
13	Covid19:A view on Vaccine Production	National	Gitam University, Bengluru	Jun-20
14	Interpersonal Skills	National	Little Flower Degree College,Hyderabad	Jun-20
15	Research & Publication	National	Sarojini Naidu Vanitha Maha Vidyalaya,Hyderabad	Jun-20
16	How to Improve Teaching Skills	National	MLR Institute of Technology	Jun-20
17	Computational Drug Discovery on Viruses	National	Aurora's Degree & PG College, Hyderabad	Jun-20
18	New Dimensions of Biology	National	Aurora's Degree & PG College, Hyderabad	Jun-20
19	Technologies to fight corona Virus:Issues & Oppurtunities	National	Aurora's Degree & PG College, Hyderabad	Jun-20
20	How to build Strong Immunity through Doiet & Lifestyle	National	Aurora's Degree & PG College, Hyderabad	Jun-20
21	Role of Science & Technology in Mitigating Covid-19	National	Little Flower Degree College,Hyderabad	Jun-20

Challi havaa mastani***Firoz Alam, *Seshabala, P, and *Sirisha, Ch****Student, PG-Biotechnology, Loyola Academy, Old Alwai, Secunderabad.
* Faculty of Environmental Sciences, Loyola Academy, Old Alwai, Secunderabad.***Abstract**

Fossil fuels have been the most significant energy resources for long time and supply more than 67% of the world electric energy needs. On the other hand, the electricity generation from renewable sources is less than 3%. The industrialization of modern civilization demands more electricity than ever, which leads to significantly increased consumption of fossil fuels if alternate technologies are not explored. The present study mainly focuses on instrumentalizing the alternate energy source such as wind to generate electricity. The main idea is to make use of wind energy (mechanical) to rotate the turbines fitted on the cars, on and between two adjacent bogies of the train which in turn produce electrical energy which can be further used by car and train to fulfil its basic needs.

Keywords: Fossil Fuels, alternate energy sources, Wind energy, Energy consumption

Introduction:

Fossil fuels have been the most significant energy resources for long time and supply more than 67% of the world's electric energy needs. On the other hand, the electricity generation from renewable sources is less than 3%. The industrialization of modern civilization demands more electricity than ever, which leads to significantly increased consumption of fossil fuels contributing Greenhouse gases which in turn triggers Global warming if alternate technologies are not explored.

In the current scenario, from the past few decades the world has seen lots of abrupt climate changes due to Global warming. This is not the consequence of a single day but many of our day-to-day life activities combinedly led to the problem of Environmental destruction. Which now became a concern globally. People from all over the world has involved and extended their services in healing the 'Mother Earth' the way it was before. Moreover recently, many eco-friendly strategies have come up to prevent environment pollution which goes hand in hand with the nature without exploiting it or destroying it. The use of innovative eco-friendly technologies helps to attain Environmental Sustainability.

The main objective of the research study is to avail the benefits of nature in a sustainable manner and try to reduce the maximum utility of non-renewable energy resources. In addition, to use the conventional method of energy production coupled

with innovative eco-friendly technology of 21st century, focusing on efficient way to generate electricity. The present paper mainly focuses on instrumentalizing the alternate energy source such as wind to generate electricity.

Materials & Methodology**Materials Required:**

1. Alcoa Prime 2v-22v 3000 rpm (or higher rpm) micro motor
2. Wind turbine.
3. Alternator generator.
4. Rechargeable battery.
5. Wires.

Experimental Design**For car:**

The devices for generation power from the moving car have to be arranged in the following way i.e., **Alcoa Prime 2v-22v 3000 rpm** micro motor + wind turbine + alternate generator. Later the turbines are to be set on the roof of the car (turbines facing forward) by connecting the necessary connections with the battery and are allowed to rotate with a minimum speed of 10km/hr.

For trains:

The devices for generation power from the moving car have to be arranged in the following way i.e., **Alcoa Prime 2v-22v 3000 rpm** micro motor + wind turbine + alternate generator. Later the turbines are to be set on the roof of the car (turbines facing forward) and also in between the bogies of the train (turbines facing downward) by connecting the necessary connections with the battery and are allowed to rotate with a minimum speed of 10km/hr.

Methodology

The present paper mainly focuses on instrumentalizing the alternate energy source such as wind to generate electricity. The basic principle behind the design is that the intensity of wind with which the moving vehicle is coming in contact involves in generation of electricity. The wind energy (Mechanical energy) experienced by the moving vehicle rotates the turbines fitted on the cars, on the train bogies and between two adjacent bogies of the train will in turn produce electrical energy. This energy can be used further by the car or train to full fill its basic needs. Simultaneously, the use of curved solar panels on the car instead of the metallic roof will also generate good amount of electrical energy. Since a small turbine when rotated for 1 hour gives 40

watts of energy. As per 2016 statistic there are 230 million vehicles in India produces an enormous amount of energy. Similarly, the turbines that are fitted between the bogies and on the roof of the trains; the amount of energy produced will be very high. Moreover, the maintenance of the turbines is very low. The main idea is to produce energy in a traditional way using the principle of windmills, as they require greater speed of wind to produce appreciable amount of energy which further helps in combating Global Warming

Results and Discussion**Working Principle of Small turbine****1.Cars**

Approximately INDIA has 210023289 vehicles (4-wheelers) in use.

1 small turbine produces 40W energy in an hour.

Therefore, $210023289 \times 40W = 6.7 \times 10^{10} \text{ W/hour}$

$(6.7 \times 10^{10}) \times 24 = 1.6 \times 10^{12} \text{ W/day}$

**2. In Trains**

Approximately 20000 train in use.

$20000 \times 50 \text{ bogies} = 1000000 \text{ bogies}$

$1000000 \times 4 \text{ turbines} = 4000000 \text{ (turbines on the roof [1])}$

Gap between adjacent bogies = $1000000 - 1$

= 999999 gaps

$999999 \times 8 \text{ turbines} = 7999992 \text{ turbines (2)}$

Add 1 and 2nd eqⁿ = $4799992 \text{ turbines in total}$

$4799992 \times 40 = 1.9 \times 10^{10} \text{ W/hour}$

$(1.9 \times 10^{10}) \times 24 = 4.6 \times 10^{11} \text{ W/day}$



Turbines in between the bogies of the train(top view)

➤ Energy generation:

- ~1.6046x10¹² W/day can be generated in a single day
- If these techniques are applied to other modes of transports also the production of energy will be enormous.

☐ Monetary saving:

- This method is just a onetime investment and 100% return will be there with minimal maintenance charge.

• It can be used on any mode of transport hence can be used by all class of people.
(On average a small rural village uses 1896kw/day and the amount of energy produced by this method (i.e. 1.6046x10¹² W/day) can be used to light approx. 4 villages per day.)
The amount of energy that will be produced when the turbines that are been fit on the top of the car working at optimum conditions will produce ~ 1.6 x 10¹² W / day whereas the amount of energy that will be produced by the turbines that are being fit on the train bogies and in between the bogies when working at optimum conditions will produce ~ 4.6x10⁹ W / day.

The total amount of energy produced when we combine the individual energies produced by the turbines on car and on train bogies is 1.6046x10¹² W / day.

Since in this modern era, the advanced where technology provides us unique and different models of transportation making very convenient to us to use these modes of transportation without giving a second thought. Unfortunately, this transportation requires fuels to run which are very limited on the earth's surface.

By the application of the above method, one can cut down the utility of fuel by involving the same fuel for energy production i.e., Fuel utility for two purposes, one to run transportation vehicle and other to produce the extra energy but rotating the turbines above it.

The turbines above the cars sure will give more resistance to the vehicle and it would require more energy to drive it but in India we apply more brakes than accelerating the vehicle and this resistance will be compensated by helping in the retardation of the vehicle.

The difference is that, when we compared it to the conventional turbines used in windmills it requires high speed wind to rotate it, as well it covers large area & maintenance is quite expensive but on the contrary in the above method the turbines

are being pushed into the air, installation space required is less eventually the maintenance is low. In simple terms when you go on a long drive the amount of fuel consumed will be compensated by the amount of energy produced by the turbines on the top of the vehicle.

Such high amount of energy is produced in a single day, when implement on a large scale, then each and every house within India can have electricity free of cost.

Conclusions:

Fossil fuels have been the most significant energy resources for long time and supply more than 67% of the world electric energy needs. On the other hand, the electricity generation from renewable sources is less than 3%. The present study mainly focuses on instrumentalizing the alternate energy source such as wind to generate electricity. From the research study it reveals that the amount of energy that will be produced when the turbines fit on the top of the car working at optimum conditions will produce ~ 1.6 x 10¹² W / day whereas the amount of energy that will be produced by the turbines fit on to the train bogies and in between the bogies when working at optimum conditions will produce ~ 4.6x10⁹ W / day.

The total amount of energy produced when we combine the individual energies produced by the turbines on car and on train bogies is 1.6046x10¹² W / day.

From the experimental data one can conclude that the process is simple and involve in maximum benefits in meeting the next generation energy demands as well serve combating Global Warming also to avail the benefits of nature in a sustainable manner and try to reduce the maximum utility of non-renewable energy resources.

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3. https://www.researchgate.net/publication/302968947_Generation_of_Electrical_Power_by_a_Wind_Turbine_for_Charging_Moving_Electric_Cars
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11. <https://contest.techbriefs.com/2016/entries/sustainable-technologies/7157>

Biofertilizers: A Promising Tool in Agriculture

¹Vandana, K. ²Prathyusha, S. ³Seshabala, P. and ⁴Shrisha, Ch

^{1,2}Students, PG Biotechnology, Loyola Academy, Old Alwal, Secunderabad

^{3,4}Faculty of Environmental Sciences & Biotechnology, Loyola Academy, Old Alwal, Secunderabad

Abstract

Bio-fertilizers supplement chemical fertilizers for meeting the integrated nutrient demands of the crops. It contains nitrogen, phosphorus, organic carbon, sulphur, hormones, vitamins, enzymes and antibiotics which helps to the quality and quantity of the yield. Biofertilizers restore normal fertility to the soil and make it biologically alive; they boost the amount of organic matter and improve soil texture and structure. Blue Green Algae (BGA) has been recommended as a biofertilizer as it fixes the atmospheric nitrogen soil. Hence, by adding BGA as a biofertilizer to the soil, the activity of the plant can be improved and also can prevent environment pollution. The present study focuses on preparation of BGA from various sources and its effects on seed Germination.

Keywords: Biofertilizers, BGA, Organic Compost, Plant Growth

Introduction

Biofertilizer refers to natural fertilizers which consists of living microbial inoculants of bacteria, algae, fungi alone or in combination and they increase availability of nutrients to the plants in an eco-friendly manner. These are biodegradable, non-toxic and not chemically synthesized. Biofertilizers usually contains microorganisms living or latent cells. The most commonly used microorganisms in Biofertilizer are Cyanobacteria, Mycorrhizal fungi, phosphate solubilizing bacteria, Nitrogen fixing cyanobacteria, potassium solubilizers and other useful microorganisms. Biofertilizers enhances the nutrient availability and keep the soil environment rich in all kinds of macro and micro nutrients via nitrogen fixation, release of plant growth regulating substances, phosphate and potassium solubilisation or mineralization, production of antibiotics and biodegradation of organic matter in the soil. Since many years, chemical fertilizers have helped farmers increase crop production to meet the increasing demand. However, the overuse of these chemical fertilizers is harmful as they are toxic and cause air, surface and ground water pollution; and also deplete minerals from the soil leading to soil pollution. Therefore, there is a need to switch on towards organic farming which involves the use of 'Biofertilizers'.

Nowadays, in this modern era there developed a consciousness and tendency towards sustainable agriculture, avoiding the use of chemical products. In this sense, the use of Biofertilizer enhance growth of crops naturally is one of the most promising alternatives. In nature, there are a number of useful soil microorganisms which can

help plants to absorb nutrients. Their utility can be increased with human intervention by selecting useful microorganisms, culturing them and using them as biofertilizers. Biofertilizers fix atmospheric nitrogen in the soil and root nodules of legume crops and make it available to the plant. They solubilise the insoluble forms of phosphates like tricalcium, iron and aluminium phosphates into available forms. They scavenge phosphate from soil layers. They produce hormones and anti-metabolites which improves plant. They decompose organic matter and help in mineralization in soil. When applied to seed or soil, biofertilizers increase the availability of nutrients and increase the yield by 10 to 25% without causing any harm to the soil and environment. In contrast to chemical fertilizers, biofertilizers adds natural nutrients to soil, increases soil organic matter, improves soil structure, improves tilth of the soil, increase water holding capacity, reduces soil crusting, reduces erosion from wind and water and usually involves in consistent release of nutrients to the plant naturally making a very promising tool to promote plant growth.

The present study focuses on preparation of BGA (Blue green algae) from various sources and its effects on seed Germination of Mustard and Fenugreek and their growth developments.

Materials & Methodology

Sample collection

Collection of seeds

Mustard and Fenugreek Seeds were selected because the growth of them is fast (2-4 weeks) and can be grown in room temperature. Mustard and fenugreek seeds can be raised on variety of soils. Both of them are well adapted to loamy soil and are very sensitive to water logging. The seeds were collected from the locally available nursery at Suchitra Circle.

Soil collection

Soils having 7-8 PH are considered as best for the growth of Mustard and Fenugreek Seeds. The Soil Sample for the experimental purpose was collected from the nearby nursery at Suchitra Circle. The Soil collected was sieved to maintain a uniform pore size of the soil. The physical parameters like water holding capacity, and Bulk density of the soil were analysed. The pH and Temperature were also checked to carry further experimental procedure and was found to be neutral and Moderate temperature which helps the plant growth.

Preparation of BGA

5 gm of top soil was taken from a paddy field and added in to a 100ml of Fogg's medium in a flask. The flask was shaken well and incubated at room temperature. Later, the illumination of 1500 lux was provided to the culture to increase the algal growth. The algal culture was then transferred to 10ml of water in a tube with the

help of a loop. Tube has to be shaken well so that algal filaments can be separated. The content was serially diluted. Every dilution drop was inoculated into Fogg's medium to establish algal growth. The process was executed in a Petri dish.

Preparation of Control

The controls for the experimental process were maintained in two replicates. The Collected soil sample was filled in two pots and labelled as Control C1 and Control C2.

Preparation of Test Pots

The Experimental pots for the Study were also maintained in two replicates. The Collected soil sample was filled in four different pots, two each for Mustard seeds and Fenugreek seeds respectively. The Experimental Pots of Mustard were labelled as M1, M2, M3 and M4 while Fenugreek were labelled as F1, F2, F3 and F4.

Application of BGA to Test Pots

0.1 g of BGA was applied for both the replicative experimental pots of Mustard (M1& M2) and Fenugreek Seed (F1&F2). BGA fixes atmospheric nitrogen in soil and promotes the seed germination as well the plant growth. Along with BGA, the natural NPK sources (Nitrogen source-coffee grounds, Phosphorus source- cucumber wastes, Potassium source- banana peel) were also added to the other experimental replica pots of Mustard and Fenugreek seeds labelled as M3, M4 and F3, F4 respectively.

Methodology

The germination of seeds was observed continuously comparing with control to check the role of BGA in promoting the seed germination of fenugreek and mustard seeds. These plants were dugout after 5 weeks for measuring parameters such as shoot length and dry weight. Length of the plant was measured by a measuring scale. Dry weight of the plant was determined after drying the plant in an oven at 80°C. The experiment was done at room temperature (20-25°) and was kept under sunlight for 3-4 weeks and results were been noted down.

	FENUGREEK	MUSTARD
CONTROL	No BGA fertiliser	No BGA fertiliser
SAMPLE-1	BGA fertiliser was added	BGA fertiliser was added
SAMPLE-2	BGA+ natural NPK was added	BGA+ natural NPK was added

Table-1 Application BGA and Natural NPK materials into Experimental Pots

(37cm) , and lowest plant length was observed in control and sample-1 F1 30cm and 31cm respectively

BGA was added because BGA are nutritious natural products rich in essential amino acids, γ -linolenic acid (GLA), fibres, B vitamins, calcium, phosphorous, iron, pigments such as β -carotene, xanthophylls, and chlorophyll, and other bioactive compounds which increase the growth of the plant. The nutrients that are required by crops in the largest amounts are N, P and K, they are often considered as the most important nutrients. For that reason, the growth is prominently increased due to the addition of natural NPK to the plant.

The three samples were taken i.e., control (BGA was not added), sample1(BGA was added), sample2 (BGA+natural NPK was added). The plants were assessed for 3-4 weeks and was observed that there was high growth rate in sample 3 when compared to control and sample1. Organic fertilizers is more environmentally friendly, but it also takes more time for the nutrients of these fertilizers to reach the plant. This seems to be a disadvantage, but because of the gradual release of the nutrients the risk of over-fertilization is very small in contrast to chemical fertilizers. Organic fertilizers strengthen the natural processes on the land and feed not only the plant, but also the soil. This creates a versatile soil life making plants visibly more vital and resilient. Chemical fertilizers are uniform and constant in composition and work faster than organic fertilizers because they almost immediately dissolve in water. However, they work for a short time. That's why they cannot provide plants with the necessary nutrition for a long time. Also, no organic material is added to the soil, so the soil life will not be enriched or stimulated. Because chemical fertilizers are very salty, they extract the moisture from the soil.

Conclusion

Blue Green Algae (BGA) has been recommended as a biofertilizer as it fixes the atmospheric nitrogen soil. Hence, by adding BGA as a biofertilizer to the soil, the activity of the plant can be improved and also can prevent environment pollution. From the research study among the three samples which were taken i.e., control (BGA was not added), sample1(BGA was added), sample2 (BGA+natural NPK was added). The plants were assessed for 3-4 weeks and was observed that there was high growth rate in sample 2 when compared to control and sample1making it more environmentally friendly. Organic fertilizers can play a role in agricultural practices to grow crops in a more sustainable way. They have several advantages over chemical fertilizers.

DRATSUM

	CONTROL		SAMPLE 1 (BGA)		SAMPLE2 (BGA+NPK)	
	C1	C2	M1	M2	M3	M4
DRY WEIGHT (gm)	25	25	25	26	30	28
LENGTH (cm)	35	35	39	40	45	46

Table-2 Dry weight of Mustard Plants

FENUGREEK

	CONTROL		SAMPLE 1 (BGA)		SAMPLE2 (BGA+NPK)	
	C1	C2	F1	F2	F3	F4
DRY WEIGHT (gm)	16	16	16	15	20	21
LENGTH (cm)	30	30	31	31	37	35

Table-3 Dry weight of Fenugreek Plants

Discussion and Results

The growth of the plants was observed in the Control C1 &C2 there was a normal growth as there were no enhanced nutrients to promote seed germination as well the plant growth. While Comparing control with Sample 1 (BGA)and sample 2(BGA+NPK) of Mustard and Fenugreek, there is a change in the length and also the weight of the plant from the above tables2&3. By these observations it is concluded that the potentiality of the BGA fertiliser was increased by adding natural NPK to the BGA fertiliser.

Dry Weight

From the Table-2 it was observed that the BGA and NPK response on dry weight was significant. The highest Dry weight was observed in sample-2 M1 (30 gm). In contrast the lowest dry weight was found in sample-1 M1 (25 gm) while from the Table-3 it was observed the BGA and NPK response on dry weight was significant. The highest Dry weight was observed in sample-2 F2 (21 gm). In contrast the lowest dry weight was found in sample-1 F2 (15 gm)

Plant Height of Mustard

The plant height of mustard was significantly influenced by NPK and BGA as shown in the table-2. The maximum plant length was recorded in sample 2 M2 (46cm) , and lowest plant height was observed in control and sample-1 M1 35cm and 39cm respectively. The plant height of fenugreek was significantly influenced by NPK and BGA as shown in the table-3. The maximum plant length was recorded in sample-2 F1

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Nmbt students with the support and guidance of Dr,Sirisha and sesha bala presented a research paper titled Chali hava mastani by feroz alam at International conference on Pure earth environment conducted by pure earth foundation on April 24th 2021.Hyderabad.

NMBT Student K.vandana ,Dr.seshabala,Dr.sirisha presented a paper on

Biodeversity a promising tool of agriculture received 2nd prize presented at International conference on Pure earth environment conducted by pure earth foundation on April 24th 2021,Hyderabad.

Research &publications(2020-21)

Faculty:S.Dhavala

- Published a research article, in JOURNAL OF SCIENTIFIC RESEARCH on “ SCREENING AND MOLECULAR CHARACTERIZATION OF ACTINOMYCETES FROM MANGROVE SOIL PRODUCING INDUSTRIALLY IMPORTANT ENZYMES”
- Published a research article, as a special issue in JOURNAL OF ADVANCED SCIENTIFIC RESEARCH on “MEDIUM FORMULATION AND OPTIMIZATION OF CULTURE CONDITIONS TO MAXIMIZE PROTEASE PRODUCTION BY NOCARDIA SP.LCJ15A” .
- A research article has been recently accepted by INTERNATIONAL JOURNAL OF LIFESCIENCE AND PHARMA RESEARCH. Title of the manuscript: “Optimization of Protease Production by *Streptomyces* SP. LCJ1A Using Response Surface Methodology”

