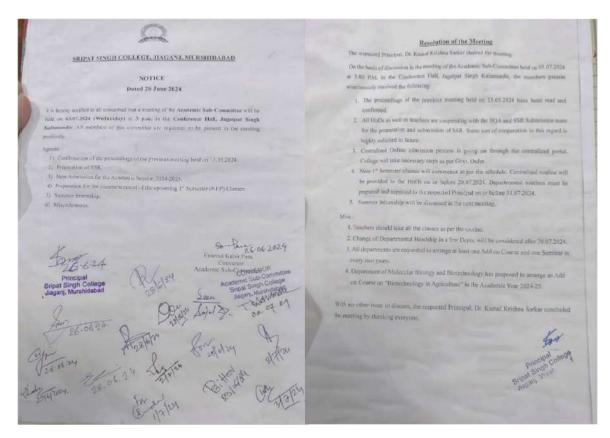
Report of Add on Course on Biotechnology in Sustainable Agriculture

The Department of Molecular Biology and Biotechnology (MBBT) successfully organized a 36-hour add-on course titled 'Biotechnology in Sustainable Agriculture.' The initiative was first proposed during a key meeting of the academic sub-committee held on 3rd July 2024, where the decision to introduce this course was made.



Meeting Notice and Resolution of Academic Sub-committee for MBBT Add-on Course

After that, a formal departmental meeting was held on 10th July 2024, where discussions took place on how to materialize this add-on course. During this meeting, it was decided that the course would have a total intake capacity of 25 students and would be led by a dedicated team of faculty members from the department. The roles were as follows:

- Coordinator: Dr. Abhishek Basu, Assistant Professor & HOD, Dept. of MBBT.
- Joint Coordinator: Dr. Bibhas Bhattacharyya, Associate GLI, Dept. of MBBT.
- Course Administrator: Ms. Debjani Mandal, Assistant Professor, Dept. of MBBT.
- Chief Instructor: Mrs. Sayantani Basu, SACT II, Dept. of MBBT.
- Organising Committee: Manali Biswas, SACT II, and Md. Samirul Islam, Dept. of MBBT.

MEETING ALSO	. 10.75		
Section to at Meetings 30 Section 10/07/2024 Those of Meetings 12/07/2024 Those of Meetings 12/00 PF1	971	0	Departmental Rodone and be published after publication of the Central moutine. The
House of Monthers Present	-		Pres day of individual faculty members
(Dicking Gentlembag)		0	Study visit to PHED, KUSUM Water treatment plant will be landwided with it semily sem offer 500 transport, 2024. Exact Note will be wififed Soon.
1 11 11 11 11 11 11 11 11 11 11 11 11 1		-	Portion book mothe University and seemed hydrocapped in the entire College overall resultations uncellent.
RESOLUTIONS ADOPTED		-	
Notice for meeting It is for the information of all Concerned that a meeting of Dept. of Mole who hold and mytechnology is Conversed on 10.07.; at 12 Noon in Dept. Research lab to dissurr about (1) Add-on-Courpe (2) Hudy-Visit (3) Result of 3rd Demester	100 A.		Add-on-Course on Biotechnology in Agriculturi will be Conducted by MBRT deft unth total intake capacity of 25 Haberts ocordinator — Dr. Abhishe Basu Joint Coordinator — Dr. Biblios Bhattachanger source Administrator - Jehnjam Mangal D Lief Manhammeter - Sargantani Basu Melitary January
A Departmental Coutine		E	Deputmental Magazine -
18 Departmental Magazine		-	vill be published when the Ruidance of
Abhishek Basw		N	18. Morali Biguras. Only Scientific Note
03/03/2024			ill be accepted. An e- magazine
Osfest very			with so an code will be released.
Manale Proman			
THE STATE OF THE S		M	embers present
	_ 10	-	
Bayantan Basu	- 1.		histole Basin.
3/7/24	-1.	-	Wan Prottackeryja.
21 7 64	- 1.	Sau	jantari Baru
Die COM C	-11-		nali Brown
Odiblan ColoMacRany ye.	-11-		- Mulab
3/7 24	160	MA.	Junious Were

Meeting Notice and Resolution of Department for MBBT Add-on Course



Course Details

- Course Name: Biotechnology for Sustainable Agriculture
- · Course Type: Certificate
- · Course Duration: Six Weeks (36
- · hours)
- Eligibility Criteria: Honours and Major students of MBBT, Botany, Zoology with basic knowledge of Molecular Biology
- Intake Capacity: 30
- · Intake Method: First Come First Serve
- Inaugural Ceremony: 4th of October, 2024
- · Class Time: 10:00 a.m. 11:00 a.m.

Registration Link: https://forms.gle/kpbsU6KAy2tSREB76

Hands-on Training Session at Vivekananda Institute of Biotechnology, Nimpith

About us

Established in 1982, the Department of Molecular Biology and Biotechnology at Singh College is the only institution of its kind in Murshidabad. It has offered an honors program since 2004. Affiliated with the University of Kalyani, the department's students often excel and go on to pursue further studies at prestigious institutions such as IIT, IISER, and JNU.

Our Goal

Our Add-on Course in 'Biotechnology for Sustainable Agriculture' trains students in advanced techniques to enhance crop productivity using biotechnology, focusing on environmental conservation. The course equips students with practical skills for sustainable agricultural practices.

Chief Patron

Dr. Kamal Krishna Sarkar (Principal, Sripat Singh College)

IQAC Coordinator

Dr. Sagar Simlandy
(Associate Professor, Dept. of History, Sripat Singh College)

Course Coordinator

Dr. Abhishek Basu, Assistant Professor (HOD) Joint Course Coordinator Dr. Bibhas Bhattacharyya, Associate GLI

Course Administrator Ms. Debjani Mandal, Assistant Professor Chief Instructor Mrs. Sayantani Basu, SACT II

Organizing committee Mrs. Manali Biswas, SACT II

and Md. Samirul Islam

Department of Molecular Biology Biotechnology, Sripat Singh College

Certificate Course on Biotechnology for Sustainable Agriculture





Organized by

Department of Molecular Biology

&

Biotechnology

In collaboration with

IQAC

Sripat Singh College

Brochure of Add-on Course



SRIPAT SINGH COLLEGE

P.O. Jiaganj, Dist. Murshidabad, West Bengal, PIN 742 123 Phone: 03483-255351, Fax: 03483-256961

Fmail: sscollege 2009, a gmail.com, Web; https://www.sripatsinghcollege.edu.in

Notice

Date: 26-09-2024

This is to inform all the students of the Department of Molecular Biology and Biotechnology, Botany and Zoology (Honours and Major) that an Add course on 'Biotechnology for Sustainable Agriculture' will be held on and from 4th of October 2024. This program aims to equip participants with essential knowledge to enhance their understanding and practical skills to make agriculture more sustainable. Interested students are encouraged to register as soon as possible using the following link:

Registration Link

https://forms.gle/kpbsU6KAy2tSREB76

Student capacity- 30

For further details, please contact Dr. Abhishek Basu or Ms. Debjani Mandal, Department of Molecular Biology and Biotechnology, Sripat Singh College, Jiaganj

Frank

DR. KAMAL KRISHNA SARKAR Principal Sripat Singh College Jiaganj, Murshidabad The Department of Molecular Biology & Biotechnology, in collaboration with the Internal Quality Assurance Cell (IQAC) at Sripat Singh College, Jiaganj, Murshidabad, successfully announced an inaugural ceremony which was held on 4th October, 2024 at Rabindra Sabhakaksha, Sripat Singh College. Initially, the intake capacity was decided to be 25 students, but later it was increased to 30 students to meet high demand, with selections based on a first-come, first-serve basis. The was graced by the presence of Dr. Kamal Krishna Sarkar, Principal, and Dr. Sagar Simlandi, IQAC Coordinator. The event also featured an inaugural lecture by Md. Mehedi Hossain, Assistant Professor and Head, Department of Botany, Kabi Nazrul College, highlighting the significance of biotechnology in sustainable agriculture.



Banner of the Seminar

Course: Biotechnology for Sustainable Agriculture

Course code: BSA 01

Course Duration: 6 weeks (36 hours)

Course structure: Theory (20 hours) + Practical (10 hours) + Hands-on-training (6 hours)

Mode of Instruction: Blended mode

Mode of Evaluation: Course end Examination + Participation in classes

Course Instructor: Ms. Debjani Mandal, Dr. Abhishek Basu, Mrs. Sayantani BasuandDr. Bibhas Bhattacharyya

Syllabus

Module 1: Plant growth promoting bacteria (PGPB), Rhizobium -isolation, identification, mass multiplication, Cyanobacteria (blue green algae), Azolla and Anabaena azollae association, nitrogen fixation, role of blue green algae and Azollain rice cultivation.

Module 2:Mycorrhizal association-types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth, and yield -colonization of VAM -isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

Module 3: Practical

- Preparation and sterilization of Media-Jensen's medium, Pikovskaya's agar, Aleksandrow agar.
- > Isolation of Nitrogen-fixing, Phosphate & Potassium solubilizing bacteria from soil.
- Preparation of Biofertilizer using Plant Growth Promoting Bacteria and Vermicompost.
- > Visit to an Organic Farm or Biogas Plant.

Module 4: Hands-on-training

> Preparation of Biofertilizer from plant growth promoting microorganisms isolated

bliskek Bagn.

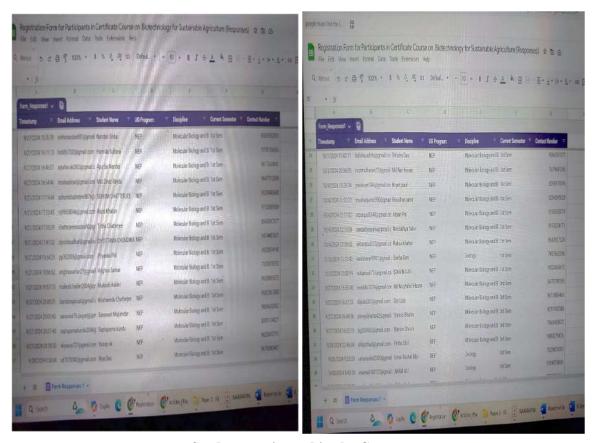
Dr. Abhishek Basu, Ph.D. Head and Assistant Professor Dept. of Molecular Biology & Biotechnology Clost Singh College, Jiaganj, MSD Remi Madah Assistant Professor

Dept. of Molecular Biology and Biotechnology Sripat Singh College, Jiagen, Mark DR. KAMAL KRISHNA SARKAR

Liegen, morandab



Dr. Abhishek Basu, Course Coordinator, delivering his inaugural speech



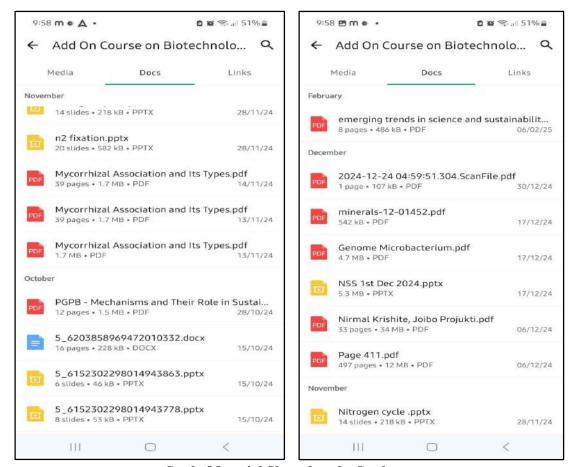
Students registered in the Course

Add on Course on Restautions of Sustainable Agric Factor - De Albertek Bases Deter Oc. 11.2029 Topic - Plant Germate Remoting Bealons and its Attendance NAME ROLL HO NAME ROLL HO SIGNATURE ROLL HO NAME ROLL HO SIGNATURE ROLL ROLL ROLL SOM SIGNATURE ROLL ROLL ROLL SOM SIGNATURE ROLL ROLL SOCIATION SIGNATURE ROLL ROLL SOCIATION SIGNATURE ROLL R	Topic: Myconthizal faxonomy and VAM Sold: 20-11-2024 Sold: Alternamec: Sold: NAME 1. Bitha Shil. 2022 BIOM0005-2011 Bitha Sold: To 2023 BIOM0005-2011 Bitha Sold: To 2024 BIOM005-2011 Bitha Sold: To 3024 BIOM005-2011 Bitha Sold: To 3025 BIOM0005-2011 Bitha Sold: To 3025 BIOM005-2011 Bitha Sold: To 3026 BIOM005-2011 Bitha S
Add on Course on Richamology for Suthinable Teacher: Her Manual Prisuses Class f: Theory: Time: I has Topic: Mesoger Praction Date: 28-11-24 Blad Mark Description Date: 28-11-24 Blad Africa Charley Description Charles Description Charley Description Charles Description Charles Description Charley Description C	Teacher - Dr. Abbishake Bagner Teacher - Dr. Abbishake Bagner Class 13: Theory Time: 2 hours Topic Plant Growth from the special of Right ligand culture by Braderial of Sham Chatterial 2023/2000/166 Throught of Sham Chatterial 2023/2000/166 Throught of Right of Right of Right Sham Chatterial 2023/2000/166 Bircher of Right of Ri

Snapshots of Attendance Sheet

The theory and practical classes of the course were meticulously designed to provide detailed theoretical knowledge, hands-on training, and one-to-one student-teacher interactions. Dr. Abhishek Basu, Dr. Bibhas Bhattacharyya, Mrs. Manali Biswas, and Mrs. Sayantani Basu delivered a series of lectures on various topics, including Plant Growth Promoting Bacteria (PGPB), Rhizobium isolation, identification, mass multiplication, Mycorrhizal associations, VAM, Cyanobacteria (blue-

green algae), Azolla and Anabaena azollae associations, nitrogen fixation, and the roles of bluegreen algae and Azolla in rice cultivation.



Study Material Shared to the Students

Rigorous practical sessions were conducted by Dr. Abhishek Basu, focusing on the preparation and sterilization of media, including Jensen's medium, Pikovskaya's agar, and Aleksandrow agar. These sessions also included the isolation of nitrogen-fixing, phosphate-solubilizing, and potassium-solubilizing bacteria from the soil.





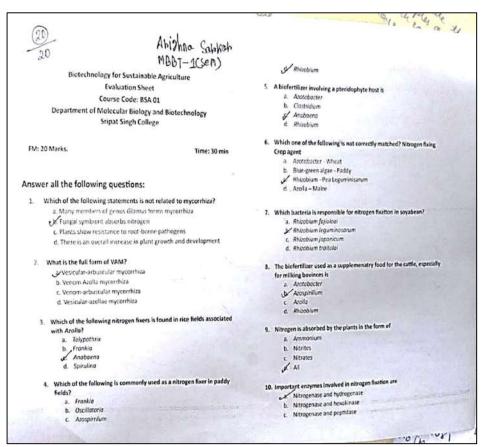
Some Glimpses of their Practical Classes

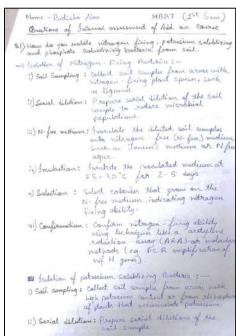
Additionally, students gained valuable experience in the preparation of biofertilizers using plant growth-promoting bacteria, as well as in studying plant growth promotion both in vitro and in pot culture with the use of bacterial biofertilizers in our departmental laboratory. They also familiarized themselves with the process of vermicompost production and further enriched their knowledge through a visit to an organic farm at Murshidabad Krishi Vigyan Kendra, Bhagabangola.



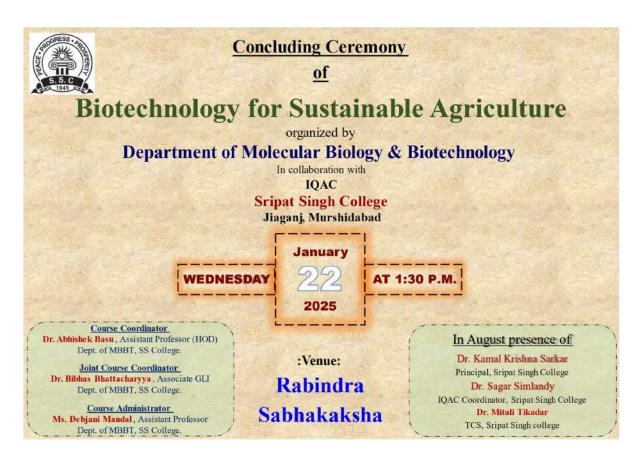
Field Visit to Organic Farm with Teachers

The students were evaluated based on their performance in MCQ tests and through assignments. Among the participants, Shreya Bhatta and Deb Naha were recognized as the joint best performer for their outstanding efforts. Course completion certificate was given to all the students.





Sample Pics of Their Assessments



Banner of Closing Ceremony



Sample Copy of The Certificate









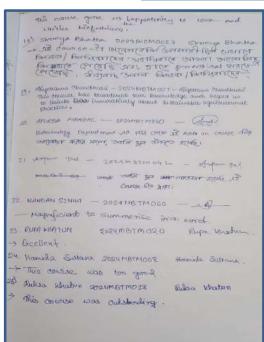
Certificate Distribution to the Students

The students highly appreciated the classes and provided positive feedback about the Add on Course. They also demanded for more of such courses. The course ended with the valedictory session by Ms. Debjani Mandal.

```
Feed back of the Add-on-Coun
        During Concluding tersmony
      on 22.01. 2025 at 1.00 p.m. in Rabindra Sabiakakaka.
         Swipat Single College
  1. Hasanungaman sk 2029 Brottoc 30 3nd sem_
    As whoo good.
  2 pulash see - soossiomoogs - and seem .
 3 Dip Late - 2023 810 Moore - 302 sem
 4. Bikmam Glosh 2028BJomoobs - 3nd sem
     Excellent
5. Md. Malum Holder ansstromocol - and Remoster
  very executent
 Atishna Sahkah 2024MBTM041 - 1st sem
 - Excellent
in ma. Mushahid Hearn 2023 BIOM 007) - 304
> Negy very Nice
de Tuetha tehatterju - 2029 MB TMO33 - 1st sem - a luced experience mond.
```

2024MBTM813 was a normook shida Wethoch Cold and a chart are consisted and before that are consisted and consist Feedland D. Antele Chiente 11) Biddle Don 2024MBTMOOG After claim the centre I feel this lest will believe a lat in flavor to help athere in need those who are related to the billy processed. with bidestimately present.

5) Superprise minds: 2021/methods days greater as the transfer area order contact of the contact 13) Inigenka Pal 2020 MAT MOLS Prigante Int.
- 1887 math - 1889 - wordt wordt der grow 200 Int. Projunte Pal of keyel and assumer on a keyel Paul a most four better. To most note offens a stratula ones morro at most are whole E SELECTION THOUSAND OF EL NANA Sankan 201385 OMCOGO Nitrika Sankan of The course is very helpful for dus. we can use this top in our fecture. Righa shit 2023BI MOOO5 Buthashit. This course is very knowledgeble and helpful and we large many think it Fried From sous mones fry to Texture



Valuable Feedbacks of Participants



Ms. Debjani Mandal, Course Administrator, delivering her valedictory speech

Course Outcomes:

- The program successfully enhanced students' understanding of biotechnological applications in sustainable agriculture.
- Participants gained practical experience in isolating nitrogen-fixing bacteria and preparing biofertilizers.
- The course included hands-on training and one-to-one student-teacher interactions.
- Practical sessions involved media preparation, vermicomposting, and visits to an organic farm.
- Students acquired skills and knowledge to tackle agricultural challenges using biotechnological solutions.