SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE (AUTONOMOUS)

(Accredited by NAAC)

SUNDARAKKOTTAI, MANNARGUDI-614 016.

TAMILNADU, INDIA.

PG AND RESEARCH DEPARTMENT OF MICROBIOLOGY

INDUSTRIAL VISIT REPORT

BIOFARM/ TROPICAL BIOSCIENCE PRIVATE LTD, COIMBATORE

28.01.2026 to 30.01.2026

The PG and Research Department of Microbiology organized a three-day Industrial Visit and Training programme on **Bioentrepreneurship and Product Development** from **28.01.2026 to 30.01.2026** for **II M.Sc. Microbiology students (24 students)** at **Biofarm & Tropical Bioscience Private Limited, Coimbatore**. The programme provided students with valuable practical exposure through direct interaction with industry professionals, hands-on training, and an understanding of industrial working methods and employment practices. The visit also facilitated effective relationship-building between the academic institution and the industry, thereby enhancing students' industry readiness and entrepreneurial skills.**Day -I – 28.01.2026 – Fungal and Bacterial Culture Laboratory, Molecular Technique**

First day, we went to Fungal culture production unit. In this unit, Dr.Nivetha explained the method for the production of biocontrol agents. Fungal cultures are produced and exported to foreign countries are used as biocontrol agents namely *Trichoderma, Paecilomyces* and *Verticillium.* We have seen fungus fermentation using cheap raw material ragi and rice as the substrate. He also demonstrated the spore production, harvesting and formulations.

In the last session we have seen Probiotics fermentation. Dr. C, Socrates clearly explained the cultural characteristics of *Lactobacillus* and *Bacillus*. He also demonstrated the Upstream and Downstream process in fermentation technology. We have seen various fermentation unit, harvesting methods such as centrifugation and filtration methods, centrifuges, cell extractor and purifier. We also visited chemistry lab. They also demonstrated freeze drying and lyophilization method.

Subsequently, Dr. Rajavignesh explained various molecular biology techniques, including DNA amplification, agarose gel electrophoresis, and gene cloning. Mr. T. Gopalakrishnan demonstrated the process of bioinsecticide production and protein separation using SDS–PAGE. The students also observed the Bt toxin (Cry gene protein) bands through SDS–PAGE analysis using a gel documentation system.

Day II – 29.01.2026 – Fermentation Unit- production of biofertilizer, culture medium preparation and Microalgal production.

Second day, Director Dr. Radhakrishnan given brief introduction about the Company, and their Bio Products. He Clearly explained about the need for the development of agricultural products, farmers problems, environmental pollutions and role of microbes in waste degradation.

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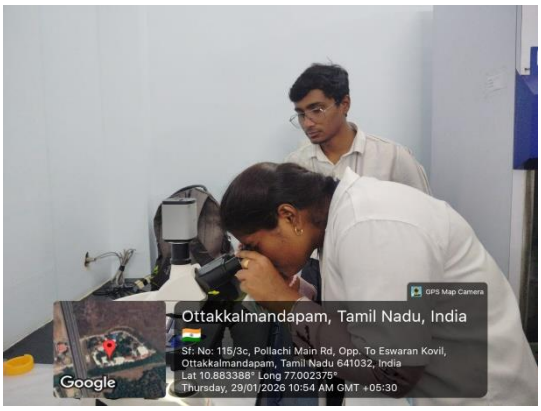
In the next session he has demonstrated the production of VAM spores using root organ culture in tissue culture medium. We have seen microscopic observation of VAM sopres, infection thread – fungal hyphae. He also explained the different type of formulation of VAM spores using vermiculite and lignite carrier material.

In Afternoon session Lab Technician explained the screening method for the selection of Biofertilizer organism and Mass multiplication method. Then we have entered into Large scale fermentation unit of NPK Biofertizers namely *Rhizobium, Azospirillum,Pseudomonas, Azotobacter* and *Bacillus.* In this regard recovery and field application of biofertilizer was also demonstrated by in charge of fermentation unit.

Day III- 30.01.2026 – Sea weed production unit, green house and seed treatment method

Third day, Dr. Vinitha explain the sea weed production and applications of green house. We learned about different types of greenhouses such as naturally ventilated and climate-controlled greenhouses. The role of temperature, humidity, light, and irrigation systems in plant growth was explained. Modern techniques like drip irrigation, fertigation, use of growth media, and pest management under greenhouse conditions were demonstrated. In the seed treatment unit, we learned about various seed treatment methods used to enhance seed performance. Chemical treatments using fungicides and insecticides, biological treatments using biofertilizers and biocontrol agents, and physical methods were explained.



In the seaweed production unit mainly focuses on the cultivation and processing of commercially important seaweeds such as *Gracilaria*, *Gelidium*, *Kappaphycus*, and *Sargassum*. Students were introduced to different types of seaweeds—red, brown, and green algae—and their industrial significance.

Next briefly explain the introduction about the Company, and their Bio Products. He Clearly explained about the need for the development of agricultural products, farmers problems, environmental pollutions and role of microbes in waste degradation.

Outcome of this Industrial Visit

- The visit helped students gain first-hand knowledge of the functioning of industries.
- It provided opportunities for students to plan, organize, and actively engage in experiential learning both inside and outside the classroom.
- The programme offered students insight into the real-time working environment of the industry.
- It enabled students to envision their future roles and career prospects in the professional world.
- Students gained practical exposure to product development processes and quality control of finished products.
- The visit helped students understand the correlation between academic subjects and their industrial applications.

Head of the Department **Principal**