



CRITERION	II	Teaching-Learning and Evaluation
KEY INDICATOR	2.3	Teaching - Learning Process
METRIC	2.3.1	Student-centric methods such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences:

DEPARTMENT OF CHEMISTRY (AIDED)

(ACADEMIC YEAR 2022-2023)

Introduction:

In the traditional approach to college teaching, most class time is spent with the professor lecturing and the students watching and listening. The students work individually on assignments, and cooperation is discouraged. Learner-centered teaching methods shift the focus of activity from the teacher to the learners.

These methods include:

Active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class

Cooperative learning, in which students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability

Inductive teaching and learning, in which students are first presented with challenges. Inductive methods include inquiry-based learning, case-based instruction, problem-based learning, project-based learning, discovery learning, and just-in-time teaching.

Learner-centered methods have repeatedly been shown to be superior to the traditional teacher-centered approach to instruction, a conclusion that applies whether the assessed outcome is short-term mastery, long-term retention, or depth of understanding of course material, acquisition of critical thinking or creative problem-solving skills, formation of positive attitudes toward the subject being taught, or level of self-confidence in knowledge and skills.



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NO.	LEARNING METHODS	PROGRAMME
1	PARTICIPATIVE LEARNING METHODS	INDUSTRIAL VISITS

PARTICIPATIVE LEARNING

Participative Learning – 1

Programme Name: Industrial Visit BSc of 2021-24 Batch on March 24, 2023, to SCIRE SCIENCE, KINFRA HIGH TECH PARK Main Road, HMT COLONY North Kalamassery, Kochi.

Programme Objectives:

- To provide students with hands-on experience and the opportunity to observe and understand the practical application of theoretical concepts learned in classrooms.
- To help students grasp the workflow in industrial operations, including quality control, supply chain management, and production management.
- To develop analytical and observational skills as students relate on-site experiences with theoretical knowledge.
- To provide clarity on various career paths and job roles available in the industry, helping students make informed career choices.
- To boost students' enthusiasm and commitment to their field of study by demonstrating its practical relevance and impact.



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Programme Report: The Industrial Visit of BSc Chemistry (Aided) 2021-24 batch took place on 24-3-2023. We, the teachers [Teachers in charge: Dr. Digna Varghese, Dr. Arun S and Dr. Jibin A. K] and the students, started from college at 9 am and reached SCIRE SCIENCE, KINFRA HIGH TECH PARK Main Road, HMT COLONY North Kalamassery, Kochi at 10 am. We were given brief introduction about the SCIRE by Dr. M. V. Mahesh Kumar and Dr. Jomon P Jacob (Spiceor Bionutralitews).

SCIRE SCIENCE is an entity which involves in Life Science Research & Development, Publications and Conference Series. SCIRE SCIENCE stands TO KNOW THE SCIENCE by supporting the scientific minds in THINKING, LEARNING, HYPOTHESIZING, TESTING, RESEARCHING, FINDING, SHARING, PUBLISHING & IMPLEMENTING. Scire Science R & D Essentials is looking forward to attaining a vital step towards scientific excellence through incessant research in the research unit of BioNest- KRIBS, Kalamassery to provide the best products and services to the society by all means. Technical expertise of RGCB along with State-of-the-art facilities provided by BioNest-KRIBS will leverage the potential of the output coming from Scire Science R & D Essentials. Scire Science Publications consists of Journal, Newsletter and Academic Books, is supporting researchers and authors with rapid review and processing.

SCIRE SCIENCE is working for the goal of joining the hands those are in the field of science as contributor or receiver to get excellence in the productivity, which leads to technology transfer and outstanding deliverables through Scire Conference and workshops Series (SciCon Series). SCIRE SCIENCE is outshining by being Next Step towards Scientific excellence through global networking of scientists, Professors, Researchers, Academicians, Educationists, Policymakers and Industrialists and resourcing them at proper phase. We believe exchanging of thoughts and sharing of ideas will always open up novelty in the science and technology of medical, environmental, nutritional, geographical fields as well as engineering, entertainment and arts zones, since everything is being in science and pursuing on scientific facts. Our Scire Interactome Forum is such an initiative which focuses specifically on the above goals. Members of the forum can avail



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various platforms provided by Scire Science and other collaborated organisations to Scire, to express, communicate and exchange their Scientific Ideas.

During the visit we had the opportunity to see the working of various instruments used in scientific research:

- Gravity Sedimentation Centrifuge
- Phyto Chemistry Extracting
- Spray dryer
- Spectrometer
- High performance liquid chromatography
- Liquid Chromatography mass spectrometer
- PCR
- RPCR
- Genetic analyzer

Through this industrial visit, we got a new exposure to different types of instruments and procedure in the field of research and development of various products. We got an idea about the initial stage in development of various products. It gave us better knowledge and we could understand the vital role in hosting such facilities for upcoming manufacturers. We had a great experience and memorable day.

Programme Outcome:

- Ability to relate theoretical concepts to practical applications observed during the visit.
- Understanding of industry standards, safety practices, and regulatory compliance.
- Higher engagement in academic projects and research, inspired by real-world applications and innovations observed during the visit.
- Enhanced ability to think critically and solve real-world problems, with a practical understanding of industry challenges and solutions.



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Geotagged photos:



Participative Learning – 2

Programme Name: Industrial Visit MSc of 2021-23 Batch on June 9, 2022, to Kanan Devan Hills Plantations Company Private Limited” Madupatty, Idukki.

Programme Report: As a part of study tour, we the students of first MSc Chemistry, Christ College (Autonomous) Irinjalakuda conducted an industrial visit to “Kanan Devan Hills Plantations Company Private Limited” Madupatty, Idukki. 15 students accompanied by 2 faculties Dr.Arun.S and Dr.Jibin.A.K visited the industry on 9th June 2022. KDHP is a privately owned Indian consumer goods and tea plantation company headquartered in Idukki district, Kerala. The company was formed in 2005 post the exit of Tata Tea from its plantations in Munnar. The company retail its products under the brand name Ripple Tea. An industry person guided the students and gave information on the entire process of conversion of tea leaves to tea powder. We



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got the opportunity to visualise various machineries and it's functioning. Wide varieties of tea powder were shown to us for examining and later he explained them in detail. The process of production includes withering, rolling, fermentation, drying and sorting.

Geotagged photos:



PRINCIPAL

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