D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE

DEPARTMENT OF CHEMISTRY

REPORT ON

INDUSTRIAL VISIT TO AAVIN, VELLORE

DATE: 28.01.2025

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INDUSTRIAL VISIT TO AAVIN, VELLORE

Date: 28.01.2025

Time: 9.30 am

Class: I and III year B.Sc., Chemistry

Strength: 98 Students

Staff Accompanied: Dr.N. Dhanam, Dr. S. Sashikala and Dr. R. Arunadevi

Non-Teaching Staff: Mr. D. Babu and K. Jayavel (Lab Assistants)

As part of the industrial exposure and practical learning experience, I and III year B.Sc. Chemistry students visited the Aavin Milk Industry, Sathuvachari, Vellore to understand the various chemical processes involved in milk production, processing, and quality control. The visit aimed to bridge the gap between theoretical knowledge and industrial applications by providing students with firsthand insights into food safety standards, chemical testing, and the role of chemistry in the dairy industry.

Overview of the Dairy Industry and Processing Techniques:

The visit began with an introductory session where industry experts provided an overview of Aavin's operations, including milk collection, pasteurization, packaging, and distribution. Key topics covered included:

1. **Milk Collection and Testing**
    - Sources of milk procurement from farmers and cooperative societies.
    - Initial quality checks for fat content, pH levels, and microbial contamination.
2. **Processing and Pasteurization**
    - Step-by-step explanation of pasteurization techniques to eliminate harmful bacteria.
    - Homogenization processes to ensure uniform consistency and texture in milk products.
    - Use of preservatives and stabilizers for enhancing shelf life.
3. **Quality Assurance and Safety Measures**
    - Importance of maintaining hygiene and cleanliness in milk processing plants.
    - Laboratory testing for adulterants, bacterial load, and chemical contaminants.
    - Compliance with food safety standards and regulatory guidelines.

Role of Chemistry in Dairy Technology

The second part of the visit focused on the application of Chemistry in the dairy industry, highlighting analytical techniques and chemical principles used in milk processing. Key aspects covered were:

1. **Chemical Composition and Nutritional Analysis**
    - Understanding the chemical composition of milk, including proteins, fats, and carbohydrates.
    - Nutritional value assessment and enrichment techniques for fortified milk products.
2. **Quality Control and Analytical Techniques**
    - Spectroscopic and chromatographic techniques used in milk analysis.
    - Detection of adulterants such as starch, urea, and formalin in milk.
    - Importance of pH balance and acidity regulation in dairy products.
3. **Product Development and Innovation**
    - Research and development in new dairy products such as flavored milk, probiotic drinks, and dairy-based desserts.
    - Role of emulsifiers and stabilizers in improving texture and taste.
    - Sustainable packaging techniques and waste management in the dairy industry.

The industrial visit to Aavin Milk Industry provided B.Sc. Chemistry students with valuable insights into the role of Chemistry in dairy production and quality assurance. By gaining hands-on experience in chemical analysis and food safety protocols, students were able to connect their academic knowledge with real-world applications. The visit reinforced the importance of chemistry in the food industry and encouraged students to explore career opportunities in this field. Future visits to similar industries can further enhance their practical learning experience.

Student Participation and Feedback

The visit was highly interactive, with students engaging in discussions, observing laboratory testing procedures, and asking questions about real-world challenges in the dairy industry. Feedback from students highlighted the practical relevance of their chemistry coursework and its application in food technology. Many expressed interest in pursuing careers in quality control, food safety, and dairy product development.

PHOTOS

Manager, Aavin Staff explaining the milk processing on 28.10.2025

Group photo at Aavin, Vellore