



DCT'S

Dhempe College of Arts and Science  
Miramar - Panaji, Goa

### Report on Industrial visit to Latambarcem Brewery under DBT star College Scheme

A field trip was organised to Latambarcem brewers, Bicholim, Goa, for the students of T.Y. B.Sc. Biotechnology on the 21<sup>st</sup> March 2024 from 10.00 am to 2.00 pm. The students were accompanied by teachers Dr. Niyati P. Hede and Dr. Amara Begum Mulla.

An R&D head from the brewery Dr. Dhaval Patel, guided us throughout the visit. We were taken to the production unit of the brewery, where beer production takes place. The production unit has a storage room for raw materials, i.e., malt, and barley, which is equipped with a dehumidifier. Beer is made up of barley or malt, water, yeast for fermentation and herbs, which give aroma and bitterness to the beer. The sweetness of barley depends upon the type of barley. To preserve the raw materials, they are kept in a dehumidifier which will remove all the moisture. They also have a separate storage room for chemicals and salt. The breakdown of malts takes place by mashtan, and then water is mixed and biochemical activities take place in the first tank; then extraction takes place in the second tank, it is autoclaved in the third tank, followed by the whirlpool tank. This is then cooled down, and fermentation takes place. The capacity of the tanks used is 2500 L and 5000 L. The fermentation of beer takes place in 7 to 9 days, and then maturation takes place in around 2 to 3 days. Once the fermentation of beer takes place, the temperature of the beer is brought down to 0°C for maturation to happen. Maturation takes place in brite beer tanks (BBT). There are three water tanks: hot water, ice water, and brew water. In addition, there are two labs, the Chemical technical analysis lab and the Microbiology R&D Lab. Once the beer is ready, the bottling occurs in the RFC; R stands for rinsing, F stands for filling, and C stands for capping. The capacity of the RFC machine is 3500 bottles. Once the bottling is done, a primary check is conducted, and the bottles are sent for pasteurisation. After pasteurisation, two bottles are taken from each batch, one for a physical test and the other for a microbial test to check the quality of the product. The bottles are then dried and placed through the sensor.



## Outcomes of Industrial Visit to Latambarcem Brewery

**Understanding of Beer Production:** Students gained insights into the process of beer production, including the role of raw materials such as malt and barley, fermentation with yeast, and the addition of herbs for aroma and bitterness.

**Storage and Preservation Techniques:** Students learned about the importance of storage and preservation techniques, such as using dehumidifiers to remove moisture from raw materials and maintaining separate storage rooms for chemicals and salt.

**Production Unit Operations:** Students observed the operations of the production unit, including milling of malts, biochemical activities in fermentation tanks, autoclaving, whirlpooling, and maturation in brite beer tanks.

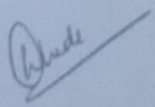
**Quality Control Measures:** Students were introduced to quality control measures such as primary checks after bottling, pasteurisation, physical and microbial testing of samples, and sensor-based monitoring.

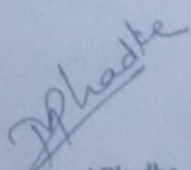
**Product Range and Brands:** Students learned about the various brands and products manufactured by the brewery, including alcoholic beers like Rocket Strong and Rocket Lager, as well as non-alcoholic options like Probiotic Kombucha and Green Tea Cocktail under the Borecha brand.

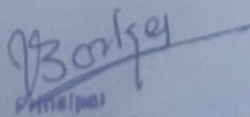
**Bottling and Packaging Processes:** Students observed the bottling process using the RFC machine (Rinsing, Filling, Capping), capacity of 3500 bottles, and post-bottling procedures including drying and sensor-based checks.

**Laboratory Facilities:** Students visited the Chemical Technical Analysis Lab and Microbiology R&D Lab, gaining exposure to analytical and testing procedures used in the brewery industry.

Overall, the field trip provided students with practical knowledge of brewery operations, quality control measures, and the diverse range of products in the beverage industry.

  
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