

TO STUDY THE ANALYSIS AND MANUFACTURING
PREOCESS OF ICE CREAMs

PROJECT REPORT
SUBMITTED TO THE
JAIPUR NATIONAL UNIVERSITY, JAIPUR
IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF
BACHELOR OF TECHNOLOGY
(FOOD TECHNOLOGY)



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DECLARATION

I hereby declare that this submission is my own work and that to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

ISHITA SHARMA

(JNU-jpr-2019/00101)

CERTIFICATE – 1

This is to certify that the project work entitled “Studies on various processing, packaging and storage technologies of ice cream”, submitted in partial fulfilment of the requirements for the degree of bachelor of technology in Food Technology of the Jaipur National University, Jaipur, is a record of bonafide project work carried out by Ms. Ishita sharma has been approved by duly constituted committee after the oral examination in collaboration with external examiner.

ADVISOR

EXTERNAL EXAMINER

ACKNOWLEDGEMENT

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Ishita Sharma

November 24, 2021

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PREETI ICE-CREAMS AND FOODS

Omni Ice Cream in Jaipur is one of the leading businesses in the Ice Cream Manufacturers. Also known for Ice Cream Manufacturers, Ice Cream Distributors, Ice Cream Retailers, Ice Dealers, Rasgulla Manufacturers, Bikaneri Rasgulla Manufacturers, Kulfi Manufacturers, Ice Cream Cone Manufacturers and much more.

About us :

Preeti Ice Cream & Foods was established in 1994 by dairy technocrat Mr Om Prakash Gupta. The company started manufacturing a wide range of ice creams, premium and super-premium ice creams and ice cream cakes, under the brand name Omni Ice Cream, and since then has become one of the leading ice cream brands in Rajasthan. With significant penetration in Rajasthan, our products have also reached major parts of Uttar Pradesh, Madhya Pradesh, and Haryana. At Omni Ice Cream, we have been producing our exclusive range of ice creams and cakes for the food industry since 1995, maintaining a proud family heritage. Our ice cream is produced in small batches and always tastes fresh as we make each product more often. We are also famous for our outstanding customer service. We place our customers' needs first, and we pride ourselves on this, which ensures that each customer receives exceptional service every time they order.



Fig. 1:

[Factory logo]

Location and Overview:

Established in the year 2009, Omni Ice Cream in Sitapura Industrial Area, Jaipur is a top player in the category Ice Cream Manufacturers in the Jaipur. This well-known establishment acts as a one-stop destination servicing customers both local and from

other parts of Jaipur. Over the course of its journey, this business has established a firm foothold in it's industry. The belief that customer satisfaction is as important as their products and services, have helped this establishment garner a vast base of customers, which continues to grow by the day. This business employs individuals that are dedicated towards their respective roles and put in a lot of effort to achieve the common vision and larger goals of the company. In the near future, this business aims to expand its line of products and services and cater to a larger client base. In Jaipur, this establishment occupies a prominent location in Sitapura Industrial Area. It is an effortless task in commuting to this establishment as there are various modes of transport readily available. It is at Tonk Rd, 2 Circle, Sitapura Industrial Area, which makes it easy for first-time visitors in locating this establishment. It is known to provide top service in the following categories: Ice Cream Manufacturers, Ice Cream Distributors, Ice Cream Retailers, Ice Dealers, Rasgulla Manufacturers, Bikaneri Rasgulla Manufacturers, Kulfi Manufacturers, Ice Cream Cone Manufacturers.



Fig. 2
[Factory outlet]

Products and Services offered

Omni ice cream in Sitapura Industrial Area has a wide range of products and / or services to cater to the varied requirements of their customers. The staff at this establishment are courteous and prompt at providing any assistance. They readily answer any queries or questions that you may have. Pay for the product or service with

Chocolate cake
Red velvet cake, etc.



Fig. 4
[Black forest cake]



Fig. 5
[Golden fantasy cake]

ELEMENTS OF THE FACTORY

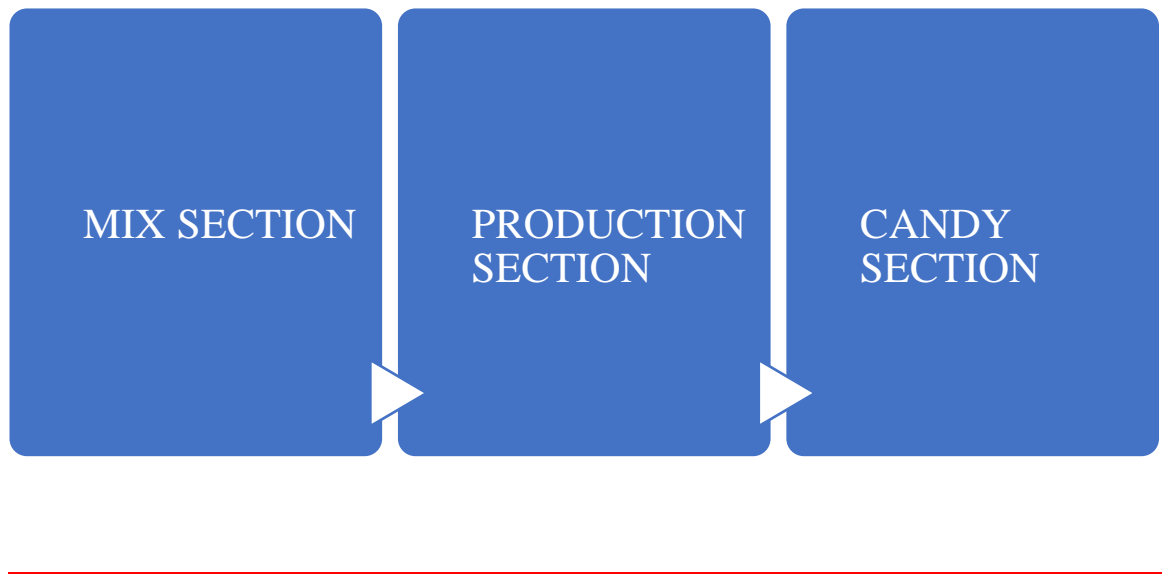


FIG. 6

[Sections of the factory]

MIX SECTION

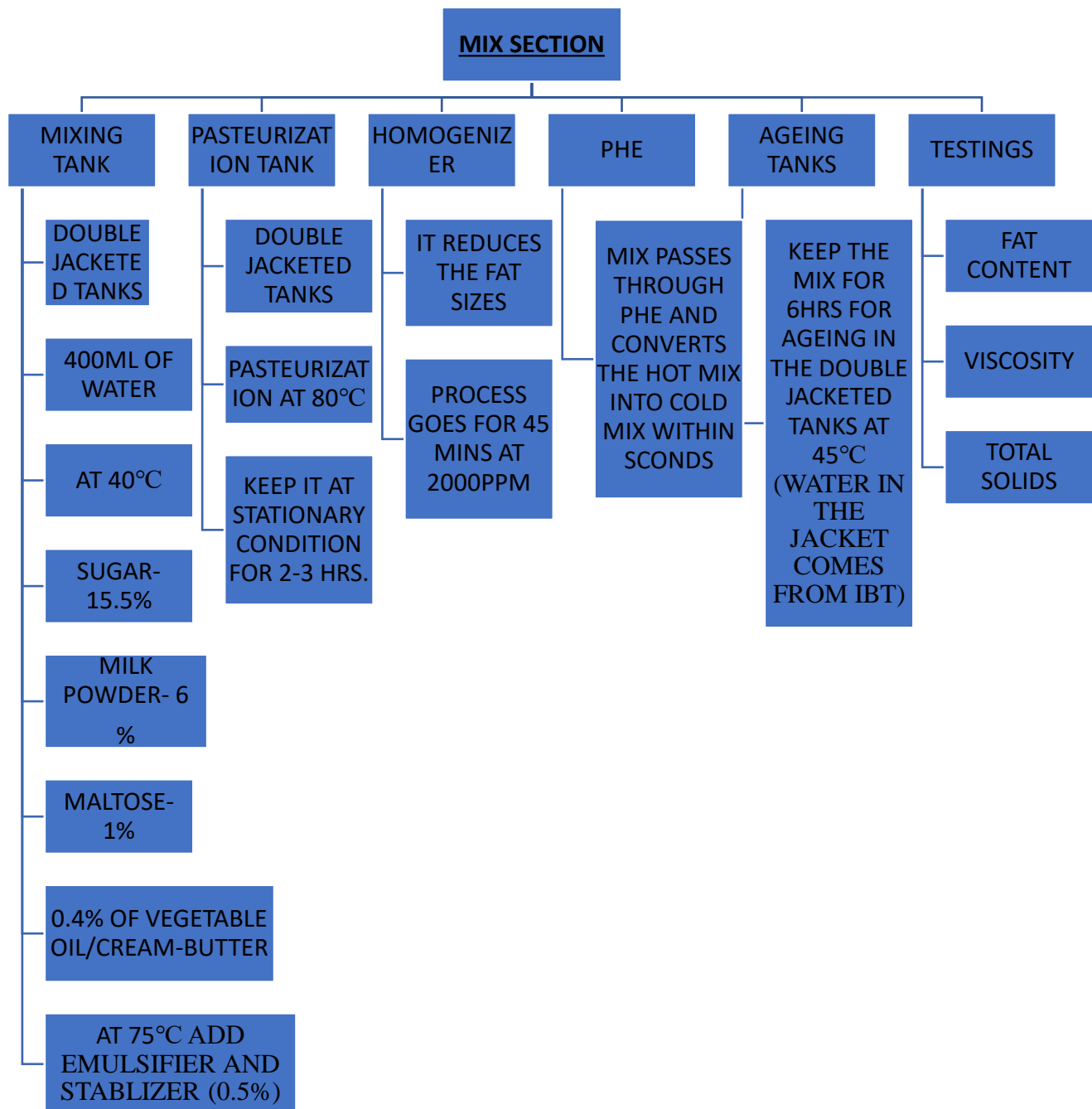


Fig. 7
[Flowchart for mix section]

MIX SECTION

Starting off with the mixing tank, it is that part of the mix section where all the processes of ice cream making commence. First of all, 400 ml of water is poured in double jacketed tanks. Once the temperature of the water in the tank reaches 40 degrees Celsius, the other ingredients are added. The dry ingredients such as sugar, stabiliser, emulsifier, maltose and milk powder are added through the venturi meter while the palm oil being the wet ingredient, is added directly into the tank. The ingredients are blended together till the temperature of the mix reaches 75 degrees Celsius. After reaching the desired temperature, the mix is transferred to the pasteurization tank. In a batch of 700 kg, 400 litres water, 75 kg milk powder, 100 kg sugar, 15 kg maltose and 55 kg palm oil are added. Pasteurisation tanks are double jacketed tanks. Pasteurisation occurs at 80 degrees Celsius for 25-30 seconds. Then the mix is kept at stationary condition for 2-3 hours. After keeping the mix at for a while, it is transferred to the homogenizer. The work of the homogenizer is to reduce the size of the fat globules. The homogenization process goes on for 45 minutes at 2000 pressure. After the process of homogenization, the mix passes on to the double jacketed ageing tanks where it is kept for 6 hours at 4-5 degree Celsius. Water in the jacket comes from IBT (Ice Building Tank). Ageing the mix cools it down before freezing allows milk fat to partially crystallise and gives the proteins stabilizers time to hydrate

PROCESSING SECTION



Fig. 8

[Flowchart for Production Section]

PRODUCTION SECTION

Production section is a salient feature of the ice cream industry. First step of the production area starts with the flavouring tanks. The colours and flavours that are to be added in the ice-creams are primarily added to the flavouring tanks. Temperature of the continuous freezer is -3 to -5 degree Celsius. Whenever the toppings are to be added in the gallon, they are put in the fruit freezer so that they get mixed with the ice-cream and eventually get filled in the gallon. For example: - the butterscotch crunch squares added in the butterscotch ice-cream. Moving on to the filling and packaging, it is done manually. After packaging, the ice-cream goes to the hardener room for hardening the ice-cream at -30 degree Celsius for at least 8-10 hours. After the process of hardening, the ice-creams are packed and transferred to the cold storage at -20 to -25 degree Celsius till the time of dispatch. The temperature of the dispatch vehicle is set at -10 to -15 degree Celsius. After the necessary desired temperature is reached, 4-4 crates are carried at a time and passed to the vehicle through the small window. And eventually the products reach the market where they are kept in the deep freezer

CANDY SECTION



Fig. 9 [Flowchart for Candy Section]

CANDY SECTION

Candy section starts with the candy machine. Water in the candy machine comes through water pipes and gets cooled down by the condenser. Then 25 ml of mix is poured in the mould which gets hardened at -4 degree Celsius. After that, the sticks are placed in the moulds. And finally, the candy gets freeze at -35 degree Celsius. Now the hot water system increases the temperature to -18 degree Celsius and the candy gets demoulded. According to the observations, the filling to demoulding time is approximately 5 minutes. For the chocolate coating, the temperature of the chocolate paste is 35 degrees Celsius. After the process of demoulding the candy is dipped into the chocolate paste as per flavour. Then it automatically gets freeze at room temperature. After getting freeze with the paste, the candy comes to the conveyer machine. Moving on to the packaging, the sensor is set at the size which we want for packaging and it automatically gets cut accordingly. Sealing and cutting heater temperature is set at 135 degrees Celsius and finally the candy gets packed. At last, they are stored in the cold storage at -18 degree Celsius. A vehicle is needed for dispatch, the temperature of which should be set at -10 to -15 degree Celsius. As the vehicle reaches the required temperature, the candies are transferred (4-4 crates) at a time through the small window

CONCLUSION

To conclude I would say that industrial training programme in preeti ice cream and foods gave opportunities to trainees to prepare themselves to work in food industry in the future. Preeti ice cream and foods pvt lmt has a lot of dedicated employees that helped make the industrial training programme a success. It encouraged employees and trainees to think strategically about distribution and marketing. In a nutshell this internship has been an excellent and rewarding experience. I can conclude that I gained new knowledge and skills and i can confidently assert that knowledge to contribute to future in devious. At last, this internship has given me new insights and motivation to pursue a career.