St. Mira's College for Girls, Pune
(Autonomous-Affiliated to Savitribai Phule Pune University)
M.Com. Part I
Subject: Producation & Operations Management MCM 12003
Semester: I
Year: 2021-2022

Unit 1, 2, 3& 4: Study of Manufacturing Processes_FunctionalSkills

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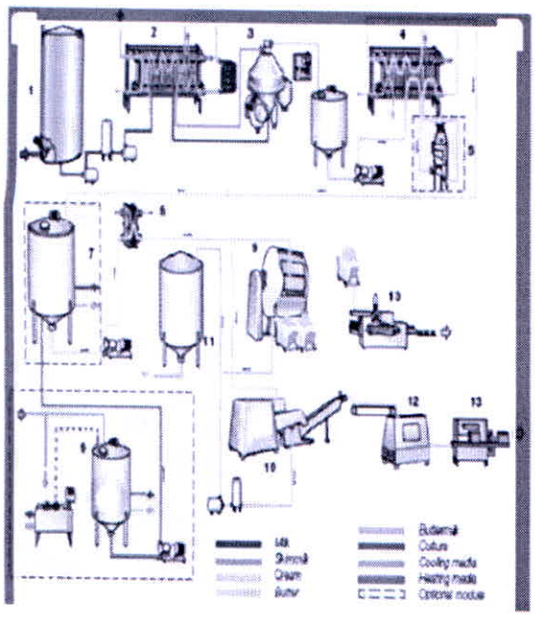
1) MANUFACTURING DETAILS



Product Manufactured: Milk (condensed and saturated) and other milk products like Butter, Bread Spreads, Cheese, Cheese Sauce · Paneer, Dahi, Beverage Range, Ice Cream (different flavors), Ghee, Milk Powders, Chocolates, Fresh Cream, Mithai Mate, Happy Treats, Happy Pro, Bakery Products, Amul Puffles, Peanut Spread, Panchamrit, sour cream, and Cattle feed.

Manufacturing Process: Continuous manufacturing system and type is mass and flow production. The plant layout is linc/ product-oriented.

Type of material handling equipment: The picture shows process and equipment required for the butter production arc Auto electronic milk tester, Bulk Cooler, Insulative tanker, Metrohm 702 SM Titrino Titrator and milk to scan (quality check), automatic bacteria clarifier, separator and Pasteurizer machines, cream buffer tank, churner machine, etc.

2) MANUFACTURING STEPS: (Steps involved in manufacturing the Amul product butter)

1- **Milk Collection:** In this process, 20 million liters of milk are collected from 3.6 million milk producers from cooperative societies that are ISO certified and are collected every day twice a day for 365 days.

2- **Milk Testing:** Once collected from the milk producers, it is then tested for quality purposes immediately at the village level, and then it is stored in a bulk cooler.

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2) MANUFACTURING STEPS: (Steps involved in manufacturing the Gold plus Float Glass Product)

1- **Raw material:** Pit sand and sodium carbonate, limestone along with dolomite salt cakes and carbon and recycled crushed glass.

2- Once raw materials are brought in from a storage area they are transferred to silos to make smooth, clear, virtually distortion-free float glass.

3- **Batch mixing:** The raw material is drawn in an appropriate proportion like sand grains from silos by mixing it with the help of hopper chutes and dust collectors and this mixture is known as the batch.

4- **Temperature monitoring:** Then the batch is processed to the melting furnace by belt conveyors, further the mixed batch from the batch house is laid into the furnace storage bin (amount of batch is controlled by the batch charger) and then in the temperature sensor to monitor the heat generated within.

5- **Melting and Refining:** Further to heat the furnace to the melting temperature i.e 1600 degrees Celsius, natural gas burners are used after which solid particles of batch melt and transform into a viscous liquid which flows through the mouth via the meltor area of the furnace for the refining.

6- Once done with refining the molten glass is stirred into a homogeneous mixture.

7- **Ribbon formation:** In the ribbon formation, from the melting furnace the liquid glass is flowed to the tin bath or flowed bath which is refilled with molten tin and forms a separate layer on the tin bath.

8- **Solidifying:** Once the melted liquid glass is cooled down it turns into a solidifying smooth distortion-free fine glass sheet (produces thick glass sheet of 2.00 to 25 mm with the desired width up to 3660 mm) and then the quality (width or thickness) is tested via the operator in the control room. Thus, it produces 470 metric tons per day.

Asst. Prof. Shanthi Fernandes(Subject Teacher)

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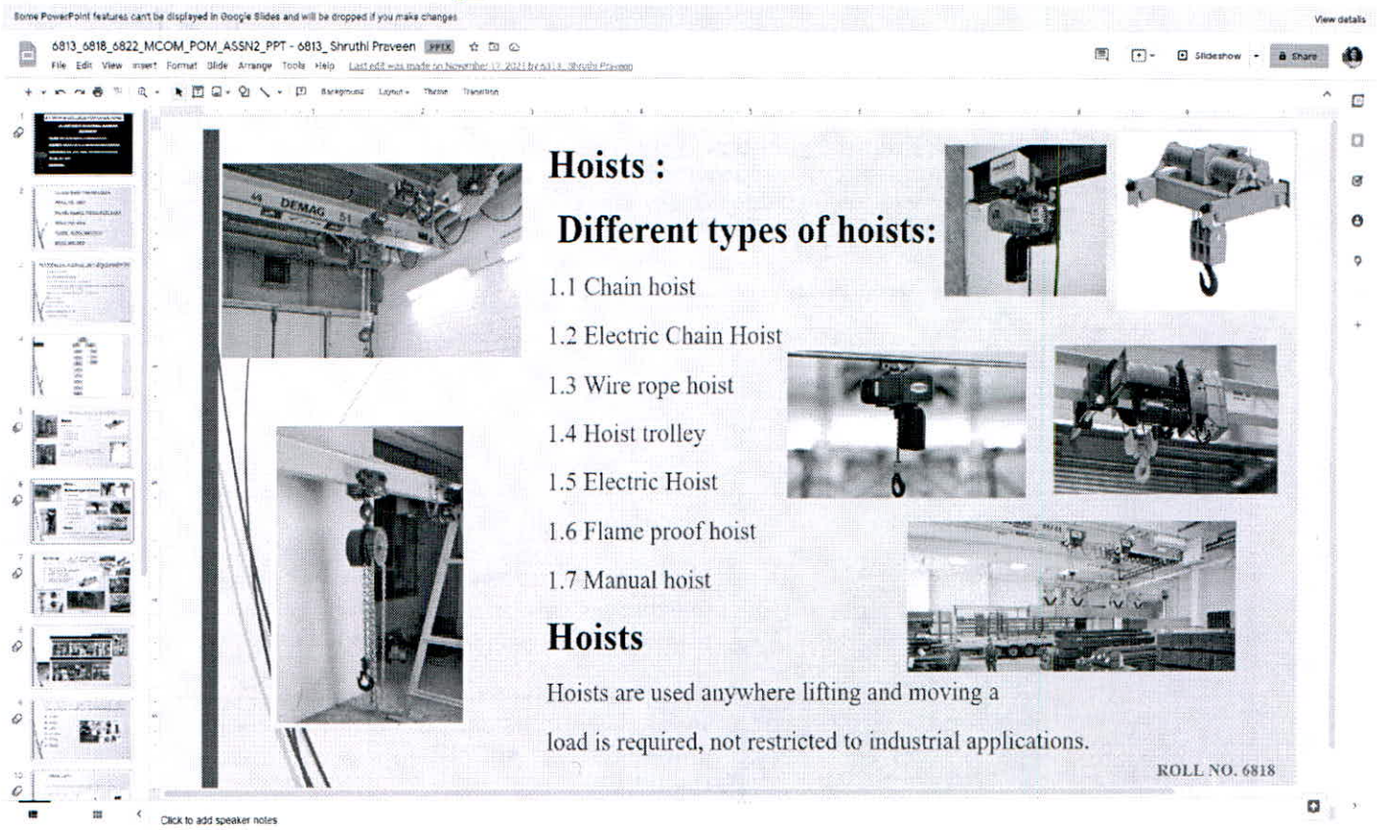
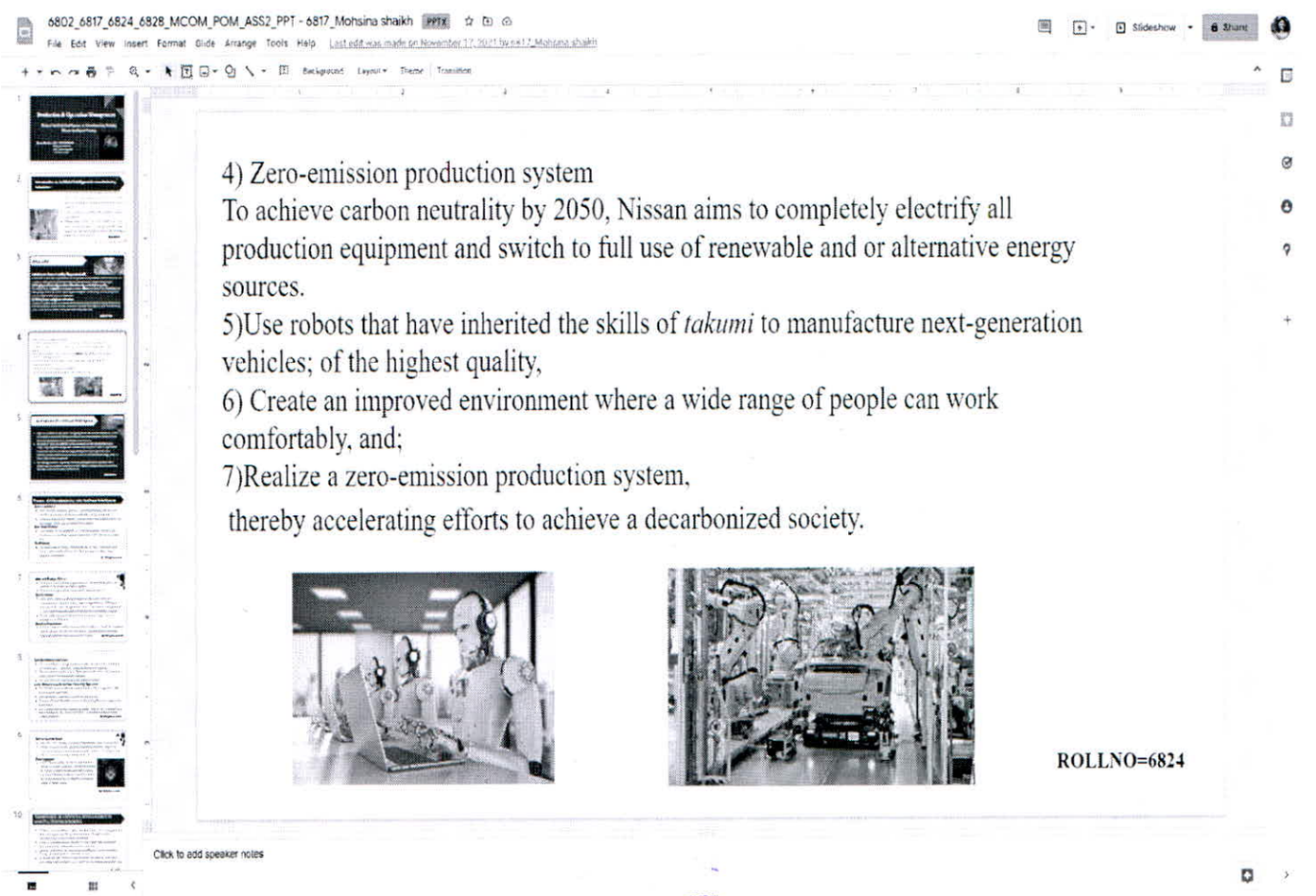
Unit 3: PPT on Material Handling_Functional Skills & Presentation Skills



Unit2 & 4: PPT on AI in Manufacturing_Funtional, Presentation & IT Skills



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