

17FT020 SUGAR AND CONFECTIONARY TECHNOLOGY

Hours Per Week :

L	T	P	C
3	1	-	4

Total Hours :

L	T	P	WA/RA	SSH/HSB	CS	SA	S	BS
45	15	-	15	30	-	5	5	-

Course Description and Objectives:

This course deals with bakery and confectionery sector of food processing. The objective of this course is to acquaint the students with preparation methods for various bakery and confectionary products, quality control aspects, processing parameters and handling of equipment's.

Course Outcomes:

The student will be able to:

- understand the role of various ingredients used in bakery and confectionary products.
- formulate ingredients and propose suitable methods for manufacturing of bakery and confectionary products.
- assess and control the processing and quality parameters of various bakery and confectionary products.

SKILLS:

- ✓ Prepare commonly consumed bakery products like bread and fermented foods, cookies, biscuits, cakes and Icing.
- ✓ Judge the quality of raw-materials.
- ✓ Determine heat transfer coefficients.
- ✓ Predict the physiochemical changes during processing.
- ✓ Handling of various bakery equipments.

UNIT-I

Introduction: Sugarcane and sugarbeet as sugar rawmaterials. Flowcharts for manufacture of Granulated sugar and Liquid sugars. Properties of Granulated sucrose and Liquid Sugars. Invert sugar and their characteristics. Speciality products of Sugar Industry. Back strap Molasses and its uses. Applications in animal feed

UNIT-II

Sugar production processes: Extraction of juice, extraction yields, drying and uses of Bagasse, Purification of juices-juice filtration and chemical purification, Clarification stages, Lime addition, pH control, Treatment of clarified juice, evaporation –multiple effect evaporators, Vacuum pans, Crystallization, Washing of sugar crystals and centrifugal separation/ dewatering of sugar and other related processes. Sugar Refining, Sugar analysis, Sugar recovery –improvement, Sugar balance, energy conservation, Sugar plant sanitation.

UNIT-III

Technology of Chocolate manufacturing: Ingredients and their role as food additives in chocolate manufacturing. Machineries involved in the process of manufacturing chocolates.

UNIT-IV

Technology of Confectionery manufacture: General technical aspects of industrial sugar confectionery manufacture, Manufacture of high boiled sweets – Ingredients, Methods of manufacture – Types – Center – filled, lollipops, coextruded products. Manufacture of gums and jellies –Quality aspects

UNIT – V

Manufacture of Miscellaneous Products: Caramel, Toffee and fudge – Liquorice paste and aerated confectionery, Lozenges, sugar pannings and Chewing gum, Countlines - Quality aspects

TEXT BOOKS:

1. E.B. Jackson: Sugar Confectionery Manufacture, Second edition, Aspen publishers Inc., 1999. Great Britain
2. Guilford L Spencer and George P. Made: Cane Sugar Hand Book (1993) JohnWiley and sons Inc. London
3. P. Manohara Rao: Industrial Utilization of Sugar Cane and its coproducts P.J.International Consultants, New Delhi.

REFERENCE BOOKS:

1. Maurice Shachman, Soft Drinks Companion: A Technical Handbook for the Beverage Industry, CRC press, Florida, USA (2005)
2. W.Ray, Junk & Harry M. Pancost: Hand Book of Sugars – for Processors, Chemists and Technologists: AVI Puvblishing, West port (1973)
3. Oliver Lyle: Technology of Sugar for Refinery Workers Chapman and Hall Ltd., (1950)
4. E.Hugott: Hand Book of Cane Sugar Engineering Elsevier Publishing/company, London (1986)

ACTIVITY:

- o Prepare a flowchart for production process of bakery and confectionary products keeping safety regulations in consideration