III Year B.Tech. Food Tech. I-Semester L T P To C 4 0 - 4 4

FT307 BAKERY AND CONFECTIONERY PRODUCTS

Course Description & Objectives

This course will train the students in Bakery & Confectionery sector of food processing.

By the end of the course, the students will have knowledge about different raw materials used and their role and different equipment, processing of different Products and their packaging & Quality maintenance.

Course Outcomes:

By the end of the course, the students will have

1. Knowledge in the areas of Bakery and Confectionary product processing

UNIT I- Introduction to bakery and confectionary

History of Bakery and Confectionery - Present Trends - Prospects - Nutrition facts of Bakery& Confectionery goods. Raw materials used in Bakery - Flour - Types of flour - Flour characteristics - Water -Sources - Functions - Usage of Water; Salt - Role of Salt. Yeast, Yeast Production - Enzymes - their functions indough. Sugar and Milk - Properties and Role of milk and Sugar in Bakery. Leavening agents - What are leaveningagents? - Different Leavening agents - their functionsin Baking Industry. Spices used in baking and their functions; flavoring - Nuts and fruits - their function in breadmaking.

UNITII- Unit operation in bakery and Setting up bakery industry

Food colors; Setting materials - types - their function in baking; Cocoa and Chocolate. Bakery unit operationsincluding mixing - fermentation - Proofing - baking. Formula construction and computation of yeast raised products; types of breads, bread faults and remedies. Biscuits - Ingredients - Types of biscuits - Processing of biscuits - faults&Remedies. Cream crackers, soda crackers, wafer biscuits & matzos, puff biscuits. Hard sweet, Semi Sweet andGaribaldi fruit sandwich biscuit. Short dough biscuits, Wafers. Cakes - types - Ingredients - Processing of cakes -Problems - Remedies. Pizza and pastries - their ingredients and Processing. Setting up of a Bakery Unit – Bakeryequipment required - types - Selection – Maintenance- Bakery norms and Standards. Types of confectionery - Basic technical considerations of confectionery - TSS, pH,Acidityand ERH.

UNIT III- Bakery Raw Materials

Raw materials - types of sugar, granulated, caster, liquid brown sugars, molasses, microcrystalline sugars - their role in confectionery. Alternative bulk sweeteners - Glucose, fructose, lactose, sugar alcohol,sorbitol, xylitol,Isomalt, poly dextrose - their role in confectionery. Enzymes - used in syrup production - used in gelling –enzymesused in whipping. Agar-agar, Alginates, carrageenan, Gelatin, Acacia gum - Gum Arabic, Pectin, tragacanth,Xanthan gum, Egg albumen and Gelatin as a whipping agent. Milk protein, soya protein, oils, fats related productsand their role in confectionery. Food colors&flavors.

UNIT IV- Chocolate Processing

Chocolate processing - Different steps involved in chocolate processing - Ingredients, mixing refining. General technical aspects of Industrial sugar confectionery, composition effects, and changes, of state. Boiled sweets -

classification - Ingredients used in the preparation - Caramel, toffee andfudge - Processing. Processing of liquorice paste, cream paste and aerated confectionery products - Ingredients- theirfunction - Ingredients and Processing

UNIT V- Confectionery products and Quality Standards

Tablets, Lozenges, Sugar panning tablets, granulated confectionery, medicated confectionery - Ingredients andProcessing. Chewing gums, fondants, Marzipan - Ingredients & Processing. Crystallized confectionery - Processing -Ingredients and their functions. Quality and standards/ Regulations to be followed in the Bakery Industry andpackaging requirements. Quality and standards/regulations to be followed in the confectionery Industry andpackaging requirements

TEXT BOOKS

1. US wheat Associates .Baker's Handbook on Practical Baking
2. John Kingslee .A Professional Text to Bakery and Confectionery. New Age International, NewDelhi. EBJackson. Sugar Confectionery Manufacture. Aspen Publications