

Beverage Technology 3(2-1)

Theory

Beverage industry in Pakistan. Beverages: classification – still, carbonated, alcoholic. Beverage ingredients: water, fruit components, sweeteners, flavorings, colorings, preservatives. Manufacture of soft drinks and fruit juices: mixing, pasteurization, homogenization, filling, packing and storage.

Carbonation: History, CO₂ gas volume. Soft drinks and fruit juices: ingredient specifications, manufacturing problems, changes in color, appearance, flavor. Packaging: types, interactions. Shelf life Issues: microbiological problems. Bottled water: legislation, water treatment, filling, quality issues. Fermented beverages: introduction, types, role of microorganisms. Regulations and standards. Statutory requirement: labeling, nutrition claims.

Practical

Water treatment and analysis. Preparation and preservation of fruit pulps and juice concentrates. Formulation and preparation of carbonated beverages. Analysis of beverages: chemical, microbiological, sensory. Manufacture of fermented beverages and synthetic drinks. Visit to beverage industries

Books Recommended

1. Ashurst, P.R. and Hargitt, R. 2009. Soft drink and fruit juice problems solved. Woodhead Publishing. Ltd., Abington, Cambridge, UK.
2. Shachman, M. 2000. The soft drinks companions: A technical handbook for the beverage industry. CRC Press Taylor & Francis Group, Boca Raton, Florida, USA.
3. Varnam, H.A. and Sutherland, J.M. 1999. Beverages: technology, chemistry and microbiology. CRC Press Taylor & Francis Group, Boca Raton, Florida, USA.

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