

Sugar Technology 3(2-1)

Theory

Sugar industry in Pakistan. Sugarcane and sugar beet: production, quality. Indigenous technology for small scale sugar production: *gur*, *khund*, *shakar*. Raw sugar manufacturing: unit operations - juice extraction, purification, heating, evaporation, crystallization, crystallization in motion. Refining: affination, clarification, decolorisation, crystallization, centrifugation, drying. Bagging, storage. Factors affecting sugar processing. Quality criteria: raw and refined sugar. Specialty sugar products: brown or soft sugar, liquid sugar. Sugar industry byproducts and their uses.

Practical

Analysis of sugar cane, sugar beet for TSS, pH, fiber, ash and polarization. Extraction and clarifications of raw juice. Analysis of sugar and its intermediate products. Inversion of sugar. Visit to sugar industries.

Books Recommended

1. Asadi, M. 2007. Beet sugar handbook. John Wiley & Sons, Inc., New York, USA.
2. Chen, J.C.P. 2007. Meade-Chen cane sugar handbook. John Wiley & Sons, Inc., New York, USA.
3. Chen, C.C. 2000. Handbook of sugar refining: a manual for the design and refining facilities. John Wiley & Sons, Inc., New York, USA.
4. Lionnet, G.R.E. 1999. Sugar technology for students. Lang Fred, Durban, South Africa.

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