Course Description & Objectives:

Introductory course to processing of food materials. Students, after taking this course, will be able to understand the basic properties of food materials for better preservation and use.

Course Outcomes:

After completion of this course students will be able to:

1. concentrate on basic properties of food materials
2. apply the properties on industrial scale
3. have basic knowledge about food laws
4. use the food laws in different food industries.

Unit I: Physical and Thermal Properties:

Importance of engineering properties of biological materials, Study of different physical and thermal characteristics of important biological materials like shape, size, volume, density, roundness, sphericity, surface area, specific heat, thermal conductivity, thermal diffusivity, etc.

Unit II: Rheological and Aerodynamic Properties:

Measurement of colour, flavour, consistency, viscosity, texture and their relationship with food quality and composition. Rheological characteristics like stress, strain time effects, rheological models and their equations. Aerodynamic characteristics and frictional properties.

Unit III: Applications of Engineering Properties:

Application of engineering properties in handling processing machines and storage structures. Concept, objectives and need of quality, quality control, methods of quality control, sampling.

Unit IV: Quality Control and Assurance:

Purpose, sampling techniques, requirements and sampling procedures for liquid, powdered and granular materials, sensory quality control, panel selection methods, interpretation of sensory results in statistical quality control, TQM and TQC, consumer preferences and acceptance.
Unit V : Food Laws:
Food Laws and Regulations in India. Food grades and standards BIS, AGMARK, PFA, FPO, CAC (Codex Alimentarius Commission), sanitation in food industry, GMP, HACCP (Hazard analysis and critical control point) and ISO 9000 Series.

TEXT BOOKS:

REFERENCES: