

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 4

FOOD PROCESSING TECHNOLOGY

Subject Name MATERIALS AND MANUFACTURING OF FOOD EQUIPMENT

Sr.No	Course contents
1.	Material Properties: Thermo-physical & mechanical properties of materials like ferrous metals, alloys & polymers.
2.	Structural Properties: Properties of materials under load & their suitability for specific applications.
3.	Polymers: Definition, Mechanism of polymerization. Applications in food industry.
4.	Plastics, Elastomers & Rubbers: Introduction and applications. Composite materials.
5.	Orthographic Views: Conversion of pictorial views into orthographic views.
6.	Sectional views of objects: Principles, Standards & Conventions.
7.	Joints & Couplings: Screw threads, Screw fastenings, Pin & Cotter joints, Shaft couplings.
8.	Production Drawings: Basic concepts and terminologies.
9.	Introduction to Assembly Drawings: Heat exchangers, Evaporators, Condensers, Pumps & Valves etc.
10.	Basic Sheet Metal Operations: Heat treatment processes, Gas welding & cutting operations.
11.	Welding: Electric arc welding, Resistance welding, Electro-beam welding, Forge welding, Friction welding, Diffusion welding & Explosion welding.

Reference Books:

1. Elements of Material Science, Lawrence H Van Vlack; Addison Wesley.
2. Mechanics of Structures Vol.-I, Junnarkar & Shah; Charotar Publishing House.
3. Machine Drawing, N.D.Bhatt & V.M.Panchal; Charotar Publishing House.
4. Welding Processes & Technology, Parmar R.S; Khanna Publisher.
5. Manufacturing Technology: Foundry, Forming & Welding.
P.N.Rao; Tata McGraw Hill Publishing Company.
6. Material Science, Narula & Gupta; Tata McGraw Hill Publishing Company.
7. Process Equipment Design, M.V. Joshi and V.V. Mahajani, McMillan India Ltd.