

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: VII

FOOD PROCESSING TECHNOLOGY

Subject Name: **Food Packaging Technology**

Subject Code: **171401**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam (E)		Mid Sem Exam (Theory) (M)	Practical (Internal)
				Theory	Practical		
4	0	2	6	70	30	30	20

Sr. No	Course Content	Total Hrs.
1.	Introduction: Important functions of package, Packaging Materials and Various Package Forms, Pouches and Tubes. Classification of Packaging Materials.	05
2.	Manufacturing Process Outline: Advantages and Disadvantages of the following Packaging Materials: Rigid Packaging Materials, Rigid Plastic Packages, Metal Containers, Wooden Boxes and Crates, Solid and Corrugated Fibre Boards Cartons, Molded Paper Containers, Vegetable parchment Paper.	08
3.	Properties, Advantages and Limitations: Properties, Advantages and Limitations of the Following Packaging Materials; Glass, Aluminium and Aluminium foil, Metal Tin Containers, Paper and Paperboard, Laminates and Multilayer Composition, Retortable Pouches Plastic Films- LDPE and LLDPE, HDPE, PVC, PS, PP, BOPP, Nylon Ionomers, Rubber Hydrochloride Natural and PVD, EVA Polyester, Cellulose Acetate, PET, Blister packaging, Aseptic packaging, Logistical Packaging.	11
4.	Use of Packaging Materials: Packaging Materials Used for and Criteria for Selection of Packaging Materials for the following Foods: Fruit Products, Vegetables Products, Fish and Fish Products, Meat and Meat Products, Beverages Carbonated, Malted Milk Products, Tea coffee, Alcoholic Beverages Confectionery- Fat and Oil, Dairy Products, Frozen Vegetables, Fatty Biscuits, Cakes, Bread, Milk and Milk Products, Food Grains, storage and handling of packaging material.	10

5.	Packaging Machinery: Form Fill and Seal Machines, Gravitational and Volumetric filling, Filler for pasty products, Filler for dry product, Piston Type filling system. Label and Labelling: Label, Types of label, Importance of Nutritional Labelling. Packaging Design: Packaging Design Considerations, Cushioning Materials & their properties. Testing & Identification: Testing and Identification of Packaging Materials.	10
6.	Packaging and Shelf Life of Food Product: Factors controlling shelf life of packaged food product, Shelf life estimation in dehydrated food product.	03
7.	Recent Trends In Food Packaging: Edible packaging, Active Packaging, Modified atmosphere packaging, RFID indicators.	03

Reference Books:

1. Fundamentals of Food packaging by Payne FA
2. Food Packaging by Stanley S
3. Hand book of packaging by Indian Institute of Packaging
4. Food packaging and preservation by M. Mathlouthi. Blackie Academic & Professional