GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3131405
Semester – III
Subject Name: Introduction to Food Processing Technology

Type of course: Professional Course

Prerequisite: Nil

Rationale: The main objective of introducing this subject in the degree course of food processing technology is to expose the student with fundamental knowledge on processing and preservation of foods. The students will also get exposed to fundamentals of heat transfer and mass transfer and present status of food industries in India.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE (V)	PA (I)	
4	1	0	5	70	30	0	0	100

Content:

Sr. No.	Content	Total Hrs
1	**Engineering units and Dimensions** Base units, Derived units and Supplementary units	**03**
2	**Indian Food Industry** Present status, opportunities and challenges, sectors of Indian food industry, government initiatives for growth of food industry.	**10**
3	**Fundamentals of Mass and Energy balance** Application of mass and energy balances in food engineering operations	**08**
4	**Units Operations** Equipment and Machinery deployed in food processing Industry, Cleaning, Grading, Peeling, Cutting Balancing, Pulping, Size reduction, Separation and Drying	**07**
5	**Food Deterioration, Preservation and Processing** Basic concepts, factors affecting the food deterioration and different preservation techniques	**11**
6	**Food Standards and Quality Evaluation** Regulatory aspects of food marketing, need for evaluation , methods of food evaluation	**03**
7	**Steam Tables, Psychometric Chart** Basic methods and applications	**04**

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Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
30%	**40%**	**8%**	**10%**	**7%**	**5%**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Get acquainted with the status and scope of Indian food industry	20
CO-2	Understand the basic engineering principles involved in processing of food	30
CO-3	Know the basic principles of food spoilage and the methods of food preservation	30
CO-4	Get aware about the mass and energy balances in various food processing operations.	20

List of Open Source Software/learning website:

- http://foodscience.uark.edu/
- http://www.ucc.ie/en/ace-dfsct/
- http://www.sciencedirect.com/science/book/
- http://ciftinnovation.org/food-processing