

# FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme:	Bachelor of Technology (Computer Engineering)
Semester:	V
Course Code:	202070521
Course Title:	Fundamentals of Food Safety and Quality
Course Group:	Open Elective - I

# **Course Objectives:**

The learners will able to understand the importance of various issues related to food quality and safety. Overall understanding about how safe food is significant at social level. Moreover, the learners will get acquainted with national and international food regulatory authorities and their role.

# Teaching & Examination Scheme:

Contact hours per week			Course	Examination Marks (Maximum / Passing)				
Locturo	Tutorial	Dractical	Cradita	The	eory	J/V	/P*	Total
Lecture	Tutorial	Practical	creatts	Internal	External	Internal	External	TOLAT
3	0	0	3	50 / 18	50 / 17	-	-	100 / 35

\* J: Jury; V: Viva; P: Practical

# **Detailed Syllabus:**

Sr.	Contents	Hours					
1	Introduction: Food Quality Concept and definitions; Food Quality attributes -						
	Physical, Chemical, Microbial, Sensory and Nutritional; Quality Control, Quality						
	Assurance; Functions and Responsibilities of Quality Assurance in Food Industry.						
2	Importance And Significance of Microbes in Food Safety: Microbial spoilage of	10					
	foods Factors affecting kinds, numbers, growth and survival of microorganisms in						
	foods; Intrinsic factors; pH,, water activity, nutrients etc., Extrinsic factors: Relative						
$\square$	humidity, temperature, gaseous atmosphere; Chemical changes caused by						
	microorganisms.						
3	Food Safety: Meaning and Concept; Requirement and importance of food safety	10					
K	system; Principles of Food Safety; Challenges in Food Safety Management, Global						
$\square$	Food Safety Initiative, Personal Hygiene, Good Manufacturing Practices, Food						
	Traceability, Natural contaminants in food.						
4	Introduction to Food Laws National and International Food Laws: FSSAI: Need	07					
	of FSSAI, Responsibility of FSSAI, Food Business Operator Licensing and						
	Registration, General requirements of food labeling; AGMARK; Bureau of Indian						
	Standard Introduction to Codex Alimentarius Commission and European Union						
	Food Safety Authority.						

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5	Introduction to HACCP and ISO: Food Safety Management System (ISO 22000),	06
	Food Quality Management System (ISO 9000 Series), Food Hazards, Pre-requisite	
	programs, Principles of HACCP, Food Safety Policies in Food Industry.	
	Total	42

#### **Reference Books:**

1	Ronald H. Schmidt and Gary E. Rodrick. Food Safety Handbook. John Wiley & Sons, Inc.,
	Hoboken. New Jersey, USA
2	Food Safety and Food Quality by R.E. Hester and R.M. Harrison. Publisher Royal Society of
	Chemistry, Cambridge, UK
3	Quality Control for Food Industries by Krammer A. & Twigg B.A. Publisher AVI Publishing
	Co.
4	Foods Facts and Principles by N. Shakunthala Manay and M. Shadaksharaswamy Publisher
	New Age International (P) Ltd.).
5	Food Microbiology by Fraizer William C Publisher Mc-Graw Hill Publishing

#### Supplementary learning Material:

1	Food Fraud and Authenticity: Emerging Issues and Future Trends by Annemieke M.
	Pustjens, Yannick Weesepoel, Saskia M. Van Ruth in Innovation and Future Trends in Food
	Manufacturing and Supply Chain Technologies
2	Quality Management: Important Aspects for the Food Industry by Caroline Liboreiro Paiva.
	Available on https://www.intechopen.com/chapters/41652
3	Evaluation of food quality by Vaclavik VA, Christian EW, Campbell T. in Essentials of Food
	Science
4	https://fssai.gov.in/cms/food-safety-and-standards-regulations.php
5	https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food
	safety-modernization-act-fsma

# Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Industrial/ Field visits
- Course Projects

# Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %				larks i	n %	<b>R</b> : Remembering; <b>U</b> : Understanding; <b>A</b> : Applying;
R	U	A	Ν	Ε	С	N: Analyzing; E: Evaluating; C: Creating
30%	40%	10%	10%	10%	-	

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.



# **Course Outcomes (CO):**

Sr.	Course Outcome Statements	%weightage
<b>CO-1</b>	Conceptualize food quality and importance of quality in food industry	30
CO-2	Conceptualize food safety concept, measures and understanding its	30
	significance in society.	
CO-3	Understand important aspects of food microbiology.	20
CO-4	Know about national and international food standards and their role in	20
	ensuring food quality and safety	

Curriculum Revision:				
Version:	2.0			
Drafted on (Month-Year):	June-2022			
Last Reviewed on (Month-Year):	-			
Next Review on (Month-Year):	June-2025			



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