

DEPARTMENT OF HOME SCIENCE

SEMESTER 4

B.Sc. Hons (Food Technology)

DISCIPLINE SPECIFIC CORE COURSE

DSC FT10: Food Quality Management

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Theory	Tutorial	Practical/Practice		
FOOD QUALITY MANAGEMENT	4	3	0	1	XII Pass with PCM/PCB	NIL

Learning Objectives

- To appreciate the significance of food quality assurance in food processing.
- To comprehend approaches to Food Quality Management.
- To understand Food Quality Management during food production.

Learning Outcomes

After completing this course, students will be able to:

- Apply knowledge of food quality management in food value chain.
- Understand the dynamics and Techno- managerial approaches in the agri- food chain.
- Apply food recall and traceability protocols to assure food quality.
- Identify different contaminants formed during food production.

SYLLABUS OF DSC FT10

THEORY **Credits: 3; Hours: 45**

UNIT I: Introduction to Food Quality

15 Hours

Unit Description: This unit will provide concept of food quality management and assurance in the agri- food chain.

Subtopics:

- Definition of food quality: concepts, perception, attributes.
- Quality control and quality assurance.
- Food quality management functions.
- Food quality relationship and its management in the agri- food production chain.

UNIT II: Approaches to Food Quality Management.

15 Hours

Unit Description: This unit will provide insights on different approaches of quality management, food recall and traceability in the agri -food production chain.

Subtopics:

- Dynamics in the agri- food chain.
- Techno- managerial approach in Food Quality Management.
- Core developments in food quality management
- Food Recall
- Food Traceability

UNIT III: Food Quality Management during food production.

(15 Hours.)

Unit Description: This unit will provide information on contaminants formed during processing and packaging of foods. Major focus will be on emerging concerns with food contaminants.

Subtopics:

- Contaminants formed during processing & packaging – nitrosamines, acrylamide, aldehydes, benzene, dioxins, 3- mono chloro 1,2-propanediol (3-MCPD), furans, and methyl furans, VOCs.
- Persistent organic pollutants, PAH (Polycyclic Aromatic Hydrocarbons), Heterocyclic amines (HCAs), fumigants, autooxidation products.
- Emerging concerns in food- Microplastics, Bisphenol A, Endocrine Disruptors, hypersensitivities from food additives.

PRACTICAL
Credit : 1, Hours: 30

1. Determination of quality standards and inspection of various food grains- cereals and -nutri - cereals/millets.
2. Determination of quality standards and inspection of pulses.
3. Determination of quality standards and inspection of spices and condiments.
4. Perform qualitative tests for fats and oils.
5. Determination of non-permitted colours in fruits and vegetables.
6. Estimation of ammonia nitrogen in water.
7. Prepare an effective HACCP plan for any food commodity or process in the food chain.

Essential Readings

- Pieterel A, Luning. & Willem, J. Marcelis. (2009). *Food Quality Management Technological and Managerial principles and practices*. Wageningen.
- Lawley, R., Curtis, L., & Davis, J. (2012). *The food safety hazard guidebook*. Royal Society of Chemistry.
- DeMan. (2007). *Principles of Food Chemistry*. Springer, 3rd edition.

Suggested Readings

- Carol, E., Steinhart, M. and Ellin, D. (1995). *Food Safety*, Food Research Institute. New York: Marcel Dekker, Inc
- Shapton, D.A. and Shapton, N.F. (1998). *Principles and Practices for the safe processing of Foods*. CRC Press.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.