

**GENERAL ELECTIVE COURSE**  
**GE FT08: Sensory Evaluation of Food**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Sensory Evaluation of Food	4	3	0	1	Grade XII Pass	

**Learning Objectives**

1. To understand sensory organs and their role in sensory evaluation
2. To obtain a basic knowledge of objective and subjective evaluation of food
3. To know the importance of sensory panels and testing methods.
4. Understanding the application of sensory evaluation in food industry.

**Learning Outcomes**

1. Learners will have an insight of 4 basic tastes and derived tastes in food.
2. Basic understanding of flavours, colours and texture in foods.
3. Concept of sensory panels and various instruments used in assessing the quality parameters of food.

**SYLLABUS**

**THEORY**  
**(Credits 3; Hours 45)**

**UNIT I: Taste**

**9 Hours**

- Introduction and importance of taste
- Structure and physiology of taste organs- tongue, papillae, taste buds, salivary glands
- Mechanism of taste perception
- Chemical dimensions of basic tastes- sweet, salt, sour, bitter and umami
- Factors affecting taste quality, reaction time, taste modification,

- absolute and recognitionThreshold
- Taste measurement-Electronic Tongue.
- Taste abnormalities

#### UNIT II: Odour

9 Hours

- Introduction, definition and importance of odour and flavor
- Anatomy of nose, physiology of odour perception
- Mechanism of odour perception
- Odour classification.
- Odour measurement-GC-MS, Electronic Nose
- Olfactory abnormalities

#### UNIT III: Colour

9 Hours

- Introduction, definition and importance of colour.
- Dimensions and attributes of colour, appearance factors, gloss etc.
- Perception of colour
- Colour abnormalities
- Measurement of colour; Munsell colour system, Tintometer, CIE colour system, Hunter colour system.

#### UNIT IV: Texture

8 Hours

- Introduction, definition and importance of texture
- Phases of oral processing
- Texture perception, receptors involved in texture perception
- Texture classification
- Texture measurement – basic rheological models, forces involved in texture measurement
- Some objective methods of texture evaluation of foods- TPA, mixograph, Extensigraph, amylograph, spreadimeter, compressimeter etc.

#### PRACTICAL

(Credit 1; Hours 30)

- Training of sensory panel.
- To perform recognition and sensitivity tests for four basic tastes.
- To perform analytical tests of sensory evaluation.
- Recognition tests for various food flavours.
- Flavor defects in milk.
- Sensory evaluation of dairy products-milk/cheese/butter/ice cream.
- Extraction of pigments from various fruits and vegetables and study the effect of temperature and pH.
- Measurement of colour by using Tintometer/ Hunter Colour Lab etc.

#### Essential Readings

- DeMan, J. (2007). Principles of Food Chemistry, 3rd ed., Springer.

- Meilgard. (1999). *Sensory Evaluation Techniques*, 3rd ed. CRC Press LLC.
- Rao, E. S. (2013). *Food Quality Evaluation*, Variety Books.

#### **Suggested Readings**

- Amerine, Pangborn.& Roessler. (1965). *Principles of Sensory Evaluation of Food*. London: Academic Press.
- Harry, T., Lawless, Barbara. & P. Klien. (1991). *Sensory science: Theory and Applications in FOOD*. Marcel Dekker, Network.
- Rao. E.S. (2014) *Food Quality testing and Evaluation- Sensory Test Instrumental Techniques*. New Delhi: Variety Book Publishers Distributors.