

COMMON POOL OF GENERIC ELECTIVES (GE) COURSES

GENERIC ELECTIVE (GE FT 03) : 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	Department offering the course
		Lecture	Tutorial	Practical/ Practice			
Sensory Evaluation of Food	4	3	0	1	Class XII	NIL	Home Science

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:

Students will be able to:

1. Recognize basic tastes and derived tastes in food.
2. Describe flavours, colours and texture in foods.
3. Comprehend concept of sensory panels and various instruments used in assessing the quality parameters of food.

SYLLABUS OF GE FT01

THEORY (Credits 3; Periods 45)

UNIT I: Taste

12 Hours

Unit Description: Chemistry of five basic taste and their perception through tongue

Subtopics:

- Introduction and importance of taste
- Structure and physiology of taste organs- tongue, papillae, tastebuds, 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 recognition threshold
- Taste measurement-Electronic Tongue.
- Taste abnormalities

UNIT II: Odour

11 Hours

Unit Description: Identification of various types of odour's their perception and measurement.

Subtopics:

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

UNIT III: Colour

11 Hours

Unit Description: Various attributes of colour and their objective measurement in foods.

Subtopics:

- Introduction 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

11 Hours

Unit Description: Concept of texture and its objective assessment. Rheology of all food groups and instruments used.

Subtopics:

- 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; Periods 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.
- Flavour 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.
- Texture Profile Analysis of any food product- cookies/ biscuits/chips/fruits.
- Measurement of colour by using Tintometer/ Hunter Colour Lab etc.

Essential readings:

1. Rao, E. S. (2013). Food Quality Evaluation, Variety Books, New Delhi
2. DeMan, J. (2007). Principles of Food Chemistry, 3rd ed., Springer.
3. Meilgaard. (1999). Sensory Evaluation Techniques, 3rd ed. CRC Press LLC.

Suggested readings:

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

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