

Course code	Course Title	C	H	I	E	T
17P3BNM1	FOOD SCIENCE Non-major elective	4	4	25	75	100

Objective:

To make the available knowledge of various food items and their importance to students whose major study of interest is not botany.

Learning Outcome:

Prepared the students to be competitive for the entry level food science positions in private and public sectors and also for an advanced degree in a food science and technology programmes.

Unit I (15 hr)

- a. **Definitions:** Food - food science – nutrients – nutrient status – mal nutrition – under nutrition – over nutrition – balanced diet – calorie – hunger – hidden hunger – appetite --obesity – health – organic food – junk food. Importance of food to stay fit for a healthy life.
- b. Nutritional classification of foods – energy yielding – body building – protective foods.
- c. **Cooking methods:** Moist and dry heat methods – merits and demerits.

Unit II (20 hr)

- a. **Cereal and cereal products:** Composition and nutritive value of rice, wheat, maize and locally available millets – e.g., kambu, raagi, thinai, saamai and varagu.
- b. **Pulses and Nuts:** Composition and nutritive value – factors affecting cooking quality of pulses. Germination of whole grams (sprouts).
- c. **Fats and oils:** Types and sources (plant and animal), nutritive value of common fats and oils, reuse of oils, smoking temperature, rancidity of fat, LDL – HDL – transfats – omega 3 fats. Importance of oil extraction through traditional methods (marasekku oils)
- d. **Dietary fibre** – sources and nutritional significance.
- e. **Minerals, vitamins and trace elements:** Sources, deficiency and excess of the following: Sodium (Na), Potassium (K), Phosphorous (P), Iron (Fe), Zinc (Zn), Selenium (Se), Iodine (I); Vit. A, B, C, D, E and K.
- f. **Water** – Need, daily requirements and water balance.

Unit III (15 hr)

- a. **Vegetables and Fruits:** Classification, nutritive value and general account of changes during cooking of vegetables and storage.
- b. **Milk and milk products:** Composition and nutritive value, milk products – butter, cheese, curd, ghee, paneer and ice cream
- c. **Egg and fleshy foods:** Composition and nutritive value of egg, fish and poultry (chicken).
- d. **Beverages:** Composition and nutritive value, Non- alcoholic e.g: coffee and tea, aerated drinks and alcoholic beverage - wine .
- e. **Spices and condiments** used in Indian cookery and their medicinal uses – spices - turmeric, tamarind, black cumin, pepper, fenu greek, ginger, coriander, mint and condiments - asafoetida, cardamom, cinnamon, cloves, nutmeg, fennel, mace, poppy seeds (kasa kasa).

Unit IV (5 hr)

Preparation of : 1. Raagi halwa 2. Ulundankali 3. Kambu porridge 4. Sesame balls 5. Peanut chikkies.

Unit V (5 hr)

- a. Basic concepts of diet therapy: Therapeutics adaptations of normal diet – palaeo and warrior diet.
- b. Healthy foods for weight management and food guide pyramid.
- c. Importance of proper sleep.
- d. Sanitation and hygiene in food and kitchen.

References

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