

**Semester-I**  
**Multidisciplinary Course**  
**Food and Nutrition**

**Course Outcome:**

- The students will get basic knowledge on macro and micro nutrients and different types of food and their nutritional contribution.
- The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

**Learning Outcome:**

- The students will learn the basic concepts in food, nutrition, and health.
- The students will gain an insight into the classification, functions, dietary sources, and daily requirements various nutrients.
- The students will understand about different food groups and their nutritional contribution

**Unit-I: Basic Concepts in Food and Nutrition**

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio-cultural.
- Food Groups- Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages:  
Dry methods - Frying, Sautéing, Parching, Roasting, Grilling/Broiling, Toasting, And Baking. Moist methods - boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

**Unit-II: Macro Nutrients**

- Carbohydrates- Introduction, classification, functions, dietary sources, and daily requirement.
- Proteins- Introduction, classification, functions, dietary sources, and daily requirement.
- Lipids- Introduction, classification, functions, dietary sources, and daily requirement.

**Unit-III: Micro Nutrients:**

- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.

- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Minerals (Calcium, Iron, Zinc, and Iodine)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.

**Text Books:**

- ✓ *Srilakshmi. B, Food Science, New Age International (P) Limited Publishers.*
- ✓ *Srilakshmi. B, Nutrition Science, New Age International Pvt. Ltd.*
- ✓ *N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and Principles, New Age International (P) Limited Publishers.*
- ✓ *Swaminathan. M, Advanced Text-Book on Food and Nutrition, Volume 1 and 2, The Bangalore printing and publishing co. LTD.*

**Reference Books:**

- ✓ *Bamji MS, Krishnaswamy K. Brahman GNV. Textbook of Human Nutrition, Oxford and IBH publish Co Pvt. Ltd.*
- ✓ *Norman. N Potter, Joseph H. Hotchkiss, Food Science, 5th edition, CBS Publishers, and Distributors.*
- ✓ *Mudambi S.R and Rajagopal M.V, Fundamentals of foods and Nutrition, New Age International Pvt. Ltd.*
- ✓ *Gopalan, C. Rama Sastry, B.V., and Balasubramanian, S.C., Nutritive value of Indian Foods, National Institute of Nutrition, ICMR, Hyderabad.*

**E-RESOURCES:**

- <http://www.nutrition.gov>
- <http://www.usda.gov>
- <http://egyankosh.ac.in>
- <http://ecourses.icar.gov.in>